

TEXAS STATE TECHNICAL COLLEGE

# STUDENT HANDBOOK & CATALOG

2023–2024



[tstc.edu](https://tstc.edu)

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# Catalog and Student Handbooks

## 00. Handbook Home

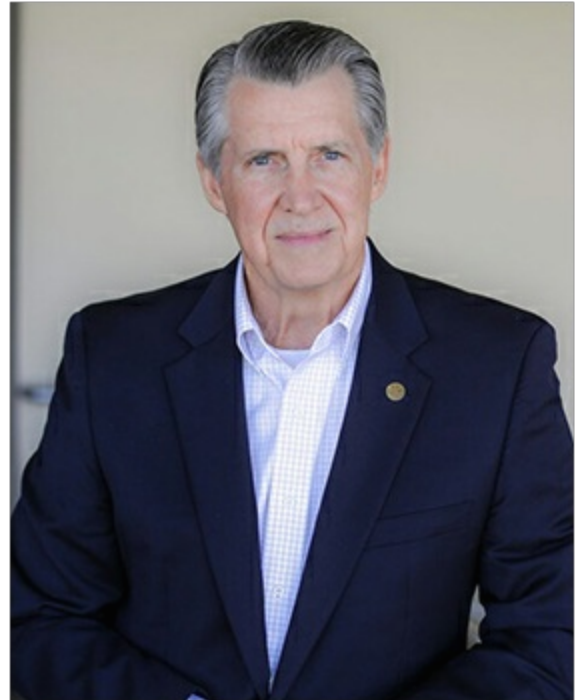
### Message from the Chancellor

Texas State Technical College (TSTC) is not your typical kind of college, and I can't resist telling people about that fact!

TSTC was established more than 50 years ago to help create a strong Texas. At the time, Governor John Connally predicted that we would become "the most sophisticated technical-vocational institute in the country." TSTC is living true to that vision with 10 campuses in Abilene, Breckenridge, Brownwood, East Williamson County, Fort Bend County, Harlingen, Marshall, North Texas, Sweetwater and Waco.

Indeed, with a statewide role and mission, TSTC is doing what we were created to do. We are efficiently and effectively helping Texas meet the high-tech challenges of today's global economy in partnership with business and industry, government agencies and other educational institutions.

TSTC graduates are highly valued by business and industry for their work ethic, knowledge and workplace skills. Whether a student is considering upgrading their skills or just starting on a new career path, one of the many TSTC campuses is a great place to prepare for a great-paying job in the vibrant Texas economy.



Regards,

Mike Reeser

Chancellor & CEO

## 01. About the Catalog & Student Handbook

### About the Catalog & Student Handbook

## 2023-2024 Catalog & Student Handbook

The Texas State Technical College Catalog and Student Handbook includes everything you need to know about TSTC. This catalog is in effect for new students entering TSTC in the 2023-2024 academic year and for any TSTC student returning in the 2023-2024 academic year whose catalog has expired. It was prepared from existing policies and information obtained from the appropriate TSTC officials and is the document of authority for all students.

You may follow the degree plan requirements described in the catalog in effect at the time you first enrolled at TSTC, or you may choose to follow the degree plan requirements of a later catalog in effect during your enrollment, as long as the program of study is still offered, the catalog is not more than five years old and you have officially declared the corresponding major.

TSTC reserves the right to make changes in the regulations and offerings announced in this catalog as circumstances require. Each semester the College posts an online schedule listing courses to be offered. Not all courses listed in this catalog are offered each semester. This information is made available to students as early as possible prior to the beginning of each semester.

### How to Use this Catalog

This catalog is a description of the academic programs, policies and facilities of Texas State Technical College (TSTC). It also describes the many resources we provide to assist you with achieving your academic and career goals, including free advising and tutoring services.

TSTC maintains an open-admissions policy providing higher education to all persons who can benefit from its programs and courses. You may complete a [TSTC application](#) at any time during the year. Additionally, you will always have access to advisors and faculty members who can help you make good decisions for your future. We look forward to serving you as you become a TSTC student!



## 02. Academic Calendar

### Academic & Events Calendar

Find important dates and events at [tstc.edu/events](https://tstc.edu/events).

<b>FALL 2023</b>	<b>23/FA Semester</b>
August 1, 2023	Payment Deadline
August 25, 2023	Fall Registration Ends
August 28, 2023	First Class Day
September 4, 2023	Student and Staff Holiday (Labor Day)
September 12, 2023	Official Census Date (11th Class Day)
October 2, 2023	First Class Day - 10 week session
October 10, 2023	Official Census Date (7th Class Day) 10 Week Session
October 16, 2023	Priority Registration Begins 24/SP Veterans and Dependents (New or Current), and Prospective Spring 2024 Graduates
October 20, 2023	Mid-Term Grades Due
October 23, 2023	Early Registration Begins 24/SP (Continuing Students only)
November 3, 2023	Mid-Term Grades Due for 10-Week Session

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November 10, 2023	Last Day to Drop with a "W"
November 13, 2023	Registration Begins 24/SP (New Students)
November 20, 2023	Last Day to Drop with a "W" 10-Week Session
November 23-24, 2023	Student and Staff Holiday (Thanksgiving Holiday)
December 5, 2023	Final Exams Begin
December 8, 2023	End of Semester classes (Classes may continue beyond this date as scheduled, e.g., Saturday)
December 11, 2023	All Final Grades Due by 10 a.m.

### **SPRING 2024      24/SP Semester**

December 11, 2023	Payment Deadline
January 5, 2024	Spring Registration Ends
January 8, 2024	First Class Day
January 15, 2024	Student & Staff Holiday
January 23, 2024	Official Census Date (11th Class Day)
February 12, 2024	First Class Day for 10-Week Session
February 20, 2024	Official Census Date (7th Class Day) 10-Week Session
March 1, 2024	Mid-Term Grades Due
March 4-8, 2024	Spring Break Week: Waco
March 11-15, 2024	Spring Break Week: Abilene, Breckenridge, Brownwood, East Williamson County, Fort Bend County, Harlingen, Marshall, North Texas, Online Programs, Sweetwater
March 25, 2024	Early Registration Begins 24/SU & 24/FA (Continuing Students & New Parents only)
March 22, 2024	Mid-Term Grades Due for 10 Week Session
April 1, 2024	Last Day to Drop "W"
April 8, 2024	Last Day to Drop with a "W" 10-Week Session
April 8, 2024	Registration Begins 24/SU & 24/FA (All Students)
April 23, 2024	Final Exams Begin
April 26, 2024	End of Semester (Classes may continue beyond this date as scheduled, e.g., Saturday classes)
April 29, 2024	All Final Grades Due by 10 a.m.

### **SUMMER 2024      24/SU Semester (15 weeks)**

April 8, 2024	Payment Deadline
May 3, 2024	Summer Registration Ends
May 6, 2024	First Class Day Summer 2024
May 21, 2024	Official Census Date (12th Class Day)
May 27, 2024	Student and Staff Holiday
June 10, 2024	First Class Day for 10-Week Session
June 17, 2024	Student and Staff Holiday
June 26, 2024	Official Census Date (12th Class Day) 10-Week Session
June 28, 2024	Mid-Term Grades Due (15-week Semester)
July 4, 2024	Staff & Student Holiday (Independence Day)
July 12, 2024	Mid-Term Grades Due for 10-Week Session
July 19, 2024	Last Day to Drop with "W"
July 29, 2024	Last Day to Drop with a "W" 10-Week Session
August 13, 2024	Final Exams Begin
August 16, 2024	End of Semester (Classes may continue beyond this date as scheduled, e.g Saturday classes.)
August 19, 2024	All Final Grades Due by 10 a.m.

Note: Information applies to a 15-week semester for Fall, Spring and Summer. Contact the Executive Registrar for mini or flex sessions.



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\*Evening and weekend classes on or around holidays may be rescheduled or canceled at the request of the college and approval of the Vice Chancellor.

Mid-term dates and Last Day to Drop with a "W" will vary depending on the length of the class/section. Verify class information with the instructor for courses with start and end dates that differ from the calendar listed above.

- Official Day is 11th class day for Fall and Spring semesters and 12th class day for Summer semester.
- Refund Schedule will be 14th day for 70%, 19th day for 25%.
- Prorate payment due date to 19th day.
- Student and Staff Holidays are subject to change.

### 03. About the College

#### 01. TSTC Mission

The Texas State Technical College mission is defined by the Texas State Legislature and published in Vernon's Texas Education Code (TEC) Section 135.01:

Texas State Technical College System is a coeducational two-year institution of higher education offering courses of study in technical-vocational education for which there is a demand within the state of Texas.



The Texas State Technical College System shall contribute to the educational and economic development of the state of Texas by offering occupationally oriented programs with supporting academic coursework, emphasizing highly specialized advanced and emerging technical and vocational areas for certificates or associate degrees. The Texas State Technical College System is authorized to serve the state of Texas through excellence in instruction, public service, faculty and manpower research, and economic development. The system's economic development efforts to improve the competitiveness of Texas business and industry include exemplary centers of excellence in technical program clusters on the system's campuses and support of education research commercialization initiatives. Through close collaboration with business, industry, governmental agencies and communities,

including public and private secondary and postsecondary educational institutions, the system shall facilitate and deliver an articulated and responsive technical education system.

In developing and offering highly specialized technical programs with related supportive coursework, primary consideration shall be placed on the industrial and technological manpower needs of the state. The emphasis of each Texas State Technical College System campus shall be on advanced or emerging programs not commonly offered by public junior colleges.

#### 02. Vision & Values

##### Vision

Texas State Technical College is a leader in strengthening the competitiveness of Texas business and industry by building the state's capacity to develop the highest-quality workforce.

##### Values

##### Excellence

Being held to and delivering a higher standard to our co-workers, ourselves, our students and Texas.

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## **Accountability**

Doing what needs to be done and being transparent about the resulting successes and failures.

## **Service**

Delivering genuine experiences to fulfill the needs of our customers.

## **Integrity**

Doing what is right and not wavering.

### **03. History of Texas State Technical College**

Texas State Technical College (TSTC) was established in 1965 as the James Connally Technical Institute (JCTI) of Texas A&M University to meet the state's evolving workforce needs. This college was located in Central Texas at the former James Connally Air Force Base in Waco. At the time, Gov. John Connally predicted that it would be "the most sophisticated technical-vocational institute in the country."

In 1967, JCTI expanded to include a South Texas campus in Harlingen. In 1969, the colleges separated from Texas A&M University and became an independent state system, with the name Texas State Technical Institute (TSTI) and its own Board of Regents. An additional campus was created in 1970 in the Texas Panhandle and in Sweetwater in West Texas. As the demand for quality technical education continued to grow, campuses were established in Abilene (1985), Breckenridge (1989), Brownwood (1991), Marshall (1991), East Williamson County, North Texas (2013) and Fort Bend County (2016). In 1991, TSTI was renamed Texas State Technical College.



Today, serving as the state's college for workforce and economic development, TSTC offers new, emerging and customized curriculum at 10 locations in Abilene, Breckenridge, Brownwood, East Williamson County, Fort Bend County, Harlingen, Marshall, North Texas, Sweetwater and Waco. In addition, programs and customized training are offered at partnership centers throughout the state.

TSTC's statewide role and mission is to efficiently and effectively help Texas meet the high-tech challenges of today's global economy in partnership with business and industry, government agencies and other educational institutions. TSTC has high graduation rates, exceptional postgraduate success rates and an outstanding record in graduating individuals from diverse cultural and socioeconomic backgrounds. Students are served through traditional degree programs, short-term continuing education and corporate training programs.

Among TSTC's strengths are its emphasis toward hands-on learning and its strong relationships with business and industry, state-of-the-art laboratories, residential campuses and student-centered philosophy.

TSTC believes in people and their desire to be responsible and productive citizens. TSTC believes that technology is a force to be explored and channeled by people in a productive and responsible manner for the benefit of all humankind. Therefore, TSTC believes that all people should be provided with the educational opportunity to learn the skills necessary to perform meaningful work and pursue their goals as responsible citizens contributing to the welfare and success of their families, communities, state, nation and world.

### **04. Locations**

From north to south and everywhere in between, we have a campus that's just right for you. With state-of-the-art technology training and the skills to lead you to your next career, TSTC has a location to fit your needs.

With 10 locations throughout Texas, TSTC is where you are. In addition, programs and customized training are offered at partnership centers throughout the state. [Come see for yourself.](#)

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### Campus Locations

#### **Abilene East**

2082 Quantum Loop  
Abilene, TX 79602

#### **Abilene Downtown**

650 E. Highway 80  
Abilene, TX 79601

#### **Breckenridge**

415 N. Breckenridge  
Breckenridge, TX 76424

#### **Brownwood**

305 Booker St.  
Brownwood, TX 76801

#### **East Williamson County**

1600 Innovation Blvd (CR 108)  
Hutto, TX 78634

#### **Fort Bend County**

26706 Southwest Freeway  
Rosenberg, TX 77471

#### **Harlingen**

1902 N. Loop 499  
Harlingen, TX 78550

#### **Marshall**

2650 East End Blvd., South  
Marshall, TX 75672

#### **North Texas**

119 North Lowrance  
Red Oak, TX 75154

#### **Sweetwater**

300 Homer K. Taylor Drive  
Sweetwater, TX 79556

#### **Waco**

3801 Campus Drive



## 05. Governance and Accreditation

### Governance

Texas State Technical College (TSTC) is governed by a nine-member [Board of Regents](#) and operates under the leadership of the chancellor and chief executive officer, whom the board appoints. Board members are appointed by the governor to six-year staggered terms and are confirmed by the state Senate. The board meets a minimum of four times a year to enact policies and take actions that support the successful operation and management of the college.

### **TSTC Chancellor and Chief Executive Officer**

Michael L. Reeser

### **TSTC Administration**

Gail Lawrence

Deputy Chancellor

Jonathan Hoekstra

Executive Vice Chancellor & Chief Operating Officer

Rick Herrera

Senior Vice Chancellor & Chief Campus Expansion Officer

Michael Bettersworth

Senior Vice Chancellor & Chief Marketing Officer

### **TSTC Board of Regents**

Tiffany Tremont, Chair

Curtis Cleveland, Ex Officio

Keith Honey

Tony Abad

Lizzy de la Garza Putegnat

Charles "Pat" McDonald

Kathy Stewart

Ron Widup

Robb Misso

### Accreditation

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Texas State Technical College (TSTC) is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award associate degrees. Degree-granting institutions also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of TSTC may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling 404-679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org)).

As a regional accreditor, SACSCOC affirms the accreditation of an institution as a whole. Information about the accreditation status of TSTC can be found on the [SACSCOC website](http://www.sacscoc.org). The procedure for filing a complaint against the College is detailed on SACSCOC's [Complaint Procedures Against SACSCOC or its Accredited Institutions Policy Statement](#). Filing a complaint with SACSCOC should only address significant, documented, alleged noncompliance with the SACSCOC accreditation standards, policies or procedures. SACSCOC expects individuals to attempt to resolve the issue through all means available to the complainant, including following the institution's own published

[grievance procedures](#), before submitting a complaint to SACSCOC.

TSTC is also a member of the American Association of Collegiate Registrars and Admissions Officers.

### **The following programs are accredited by the:**

American Dental Association Commission on Dental Accreditation

- Dental Hygiene

Commission on Accreditation for Health Informatics and Information Management Education

- Health Information Technology

Accreditation Review Council on Education in Surgical Technology and Surgical Assisting in collaboration with Commission on Accreditation of Allied Health Education Programs

- Surgical Technology

Committee on Accreditation of Educational Programs for Emergency Medical Services Professions in collaboration with Commission on Accreditation of Allied Health Education Programs

- Paramedic

Automotive Service Excellence Education Foundation

- Auto Collision & Management Technology (excludes Tesla ATC specialization program)
- Automotive Technology (excludes Tesla ATC specialization program)

### **The following programs are approved by the:**

Texas Board of Nursing

- Registered Nursing (Associate Degree Nursing)
- Vocational Nursing

Texas Department of State Health Services

- Emergency Medical Services

### **The following programs are certified by the:**

Federal Aviation Administration (FAA)



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- Aircraft Airframe Technology
- Aircraft Powerplant Technology
- Aircraft Pilot Training Technology

### **The following programs are endorsed and/or recognized by the:**

North American Process Technology Alliance

- Process Operations Technology

Texas Skills Standards Board

- Biomedical Equipment Technology
- Cybersecurity
- Electrical Lineworker Technology
- Process Operations
- Wind Energy Technology

### **The following program is designated by the:**

National Security Agency and Department of Homeland as a National Center of Academic Excellence in Cyber Defense

- Cybersecurity (Harlingen campus)

## **06. Equal Opportunity Statement**

Equal opportunity shall be afforded to all TSTC employees and applicants for admission or employment regardless of race, color, religion, sex (including pregnancy, gender identity and sexual orientation), parental status, national origin, age, disability, genetic information (including family medical history), political affiliation, military service, or other non-merit-based factors.

TSTC is committed to building and maintaining a learning/working environment that reflects diversity and improves opportunities for all, including all qualified individuals with disabilities. As part of this commitment, policies and procedures will ensure that individuals with disabilities are not subjected to discrimination or denied full and equal access to programs or services offered by TSTC. TSTC will afford reasonable accommodations upon self-disclosing to the designated offices/personnel (in accordance with Part 84 of Title 45, the regulation implementing Section 504 of the Rehabilitation Act of 1973). We invite employees with disabilities that require reasonable accommodations to contact the TSTC Human Resources office. Students with disabilities that require reasonable accommodations can contact the TSTC Access and Learning Accommodations office.

TSTC reserves the right to limit the enrollment of any program and to make any changes in the provisions of this catalog when such action is deemed to be in the best interest of the student or TSTC. In keeping with the policies of the TSTC Board of Regents and in conformance with the laws of the state of Texas, TSTC reserves the right to change any of this catalog's provisions, without notice or obligation. This catalog is not a legal document and does not constitute a contract between TSTC and the user.

## **07. Instructional Philosophy**

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TSTC trains students to be employees for tomorrow's careers, helping to strengthen the economic competitiveness of Texas and improve the lives of its people. TSTC believes in "learning by thinking and doing." Its curricula prepares students with the technical knowledge, skills and abilities they need to be successful in their chosen careers. TSTC's faculty is highly qualified, with years of business and industry experience in their respective fields. TSTC's facilities and equipment provide students with significant opportunities to apply what they learn.



### 08. The TSTC Foundation

The TSTC Foundation supports TSTC's 10 campus locations, its students, career programs, faculty and staff. Its purpose is to support the critical needs of students through scholarships, emergency aid, tools and equipment and to provide funds to enhance TSTC's ability to provide new and emerging technical programs to support the Texas workforce. This support is used to help improve student success, strengthen the technology in labs, and provide flexibility to the priorities of the college to support the state's growing workforce demands. The TSTC Foundation is a 501(c)3 not-for-profit organization for the sole benefit of TSTC and its students.



### 09. Industry Advisory Committees

Industry Advisory Committee members guide curriculum development by advising faculty on the latest skills, knowledge, and abilities that employees need. Effective program advisory committees create and maintain partnerships between TSTC and the industries and communities we serve. It is the dialogue between advisory committee members and the faculty/administrators that provides valuable, real-world input into the workplace that students will enter. This partnership fosters a shared responsibility for preparing students for a place in today's workforce and society.

## 04. Student Recruitment

### 01. Student Recruitment

#### Campus Tours

Whether you're a prospective student, an applicant, a family member or friend, Texas State Technical College welcomes you to tour a campus near you and the program of choice prior to enrolling.

To schedule a tour visit: [tstc.edu/visit-campus-form](https://tstc.edu/visit-campus-form)

## 05. Enrollment Information

### 01. Eligibility Requirements

#### General Requirements

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It is the policy of Texas State Technical College (TSTC) that the College admit applicants who declare their intention to enroll in the College. Applicants are allowed to enroll in their selected program upon satisfactory completion of all enrollment and program entrance requirements.

Equal opportunity shall be afforded within Texas State Technical College to all employees and applicants for admission or employment without regard to race, color, religion, gender, national origin, age, genetic information, disability or veteran status.

### Categories

Prospective students shall be admitted to TSTC as regular students under the following conditions:

- A. **High School Graduate** - A student shall be admitted upon proof of graduation from an accredited high school with submission of an official high school transcript. A student who graduated from a homeschool shall be admitted once a notarized record of the completed high school equivalent work and the date of successful completion is submitted. This work shall be consistent with TEA minimums for high school completion.
- B. **College Transfer** - A student shall be admitted who had prior attendance at a regionally accredited college or university. A transfer student shall be admitted upon receipt of official transcripts from all previously attended institutions of higher education. Official high school transcripts may also be required for financial aid purposes. Transcripts shall be considered official only when they are signed by the registrar and bear the seal of that college or university and have been received through the mail, hand delivered in a sealed envelope or received through Standardization of Postsecondary Education Electronic Data Exchange (SPEEDE).
- C. **General Education Development Test (GED)** - A student shall be admitted upon successful completion of the GED or a recognized equivalent as certified by a state education agency or a state authorized examination that the state recognizes as the equivalent of a high school diploma. A student shall be admitted upon receipt of official GED score report or scores from a state-authorized examination that the state recognizes as the equivalent of a high school diploma.

### Individual Approval Categories/Exceptional Admissions

Prospective students may be granted exceptional admission if they do not qualify under one of the previous categories for regular admission. Students may be admitted under one of the two following Individual Approval categories:

- A. Individual Approval A:
  - i. Students age 16 or older who are graduates of an unaccredited high school may be admitted through exceptional admission.
  - ii. Students age 17 or older who are attending a course of instruction to prepare for the high school equivalency examination and/or who are considered to be concurrently enrolled in high school or homeschool may be admitted through exceptional admission. High school counselor or parent recommendations shall be required.
  - iii. Students 18 or older without a high school diploma or CHSE/GED may be admitted through exceptional admission.
- B. Individual Approval B:
  - i. Dual enrollment students who are currently attending a high school and do not have a diploma or GED may be admitted through exceptional admission.

### Enrollment Procedures

- A. Submit an Application for Admissions form, which includes core residency questions and a declaration of intent to enroll as a degree-seeking or non-degree-seeking student. All applicants applying for admissions to the College shall be required to complete the information regarding felony charges on the Application for Admissions form. Applicants who answer "Yes" will be required to complete a "Supplemental form" and may be required to submit additional documentation.
- B. Submit applicable documents based on the appropriate admission category.
- C. Comply with applicable testing requirements:
  - i. Submitting TSI Assessment test results; or
  - ii. Submitting documentation of TSI exemption or waiver; or
  - iii. Taking the TSI Assessment test.
- D. Submit compliance with any immunization-related requirements as specified by law.
- E. Submit proof of compliance with any established and approved program entry level standards.

Note: All new students are encouraged to attend New Student Orientation.

All documents submitted by applicants who do not register for the term indicated on the admission application will be retained for one year in the Office of the Registrar. At the end of one year, all records are discarded unless the applicant has notified the Enrollment Center of continued interest in attending TSTC. All documents become the property of TSTC

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and are not returned to the students.

### Former TSTC Students

College credit students who were previously enrolled at TSTC, but have not attended TSTC for more than one year, must reapply by completing the admission enrollment procedures and providing the appropriate required documents.

- A. Reapplying for admission after an interruption of enrollment of more than one year prior;
- B. Comply with applicable testing requirements;
- C. Comply with any immunization related requirements as specified by law;
- D. Submissions of official transcripts for any College/University previously attended, TxCHSE or High School transcript.

Note: Students who have an interruption or break in the enrollment of more than one year at TSTC and return later to complete their program of study may be required to update their program of study due to changes in the curriculum or modality.

### Campus Immunizations

Students who will be attending classes on campus and are ages 22 or younger are required by Texas state law to obtain the Bacterial Meningitis vaccination. Additional vaccinations or boosters may be required for admission into specific programs. Students are encouraged to contact their programs of interest for further details.

## 02. Academic Fresh Start

Texas Senate Bill 1321, entitled "Right to an Academic Fresh Start", allows a person who is a resident of Texas to apply for admission and not have coursework completed 10 or more years prior to the date of anticipated enrollment included as consideration in the admission decision. This allows the student to begin a new course of study with a clear academic record.

- A. This is an all-or-nothing option. Students are not able to pick and choose which courses to ignore and which courses to count. This option clears only the student's academic record. If the student chooses the "Academic Fresh Start" option, the student does not receive any credit for any courses taken 10 or more years prior to the re-enrollment. This means that:
  - i. Courses taken previously cannot be used to fulfill new prerequisite requirements.
  - ii. Courses taken previously cannot be counted toward a new degree.
  - iii. Courses taken previously will not be counted in the student's GPA calculation.
- B. The student must still complete the usual admissions process, including providing information on all colleges or universities previously attended and provide official copies of transcripts from all schools attended.
- C. Once the "Right to an Academic Fresh Start" provision has been claimed, and the student has enrolled, the provision cannot be reversed.

Note: "Academic Fresh Start" does not apply to the Standards of Academic Progress for Financial Aid. Therefore, students may not qualify for financial aid based on prior academic performance.

## 03. Registration for Classes

After the requirements are met and the required procedures completed, students may register for credit classes. Consult with your faculty advisor or enrollment coach to review the TSTC course schedule for more information on these classes. Registration for Workforce Training and Continuing Education programs are different from those described in this section. Contact the Workforce Training and Continuing Education Office for more information.

TSTC reserves the right to cancel a scheduled class due to insufficient enrollment, instructional capacity or other institutional need. TSTC will notify students of cancellations and issue refunds for canceled classes.

### Change of Personal Information

Students are responsible for maintaining accurate personal information on their educational records to ensure communication with college departments. Official changes to personal information are made at the Enrollment Center on a data change form -- although changes of address, email address and telephone numbers may be made online by accessing Student Self-service. Some changes require additional documentation, as outlined below. All changes are processed immediately upon receipt.

- Name changes can be submitted to the Enrollment Center. Students must provide legal documentation, such as an original marriage license or certificate, passport, court order, divorce decree, birth certificate or naturalization papers. A driver's license or Social Security card will not be accepted. Name changes for graduation candidates must be completed by the census date of the semester the student is eligible for graduation.
- Social Security number changes must also be completed in person at the Enrollment Center. The student must present an original Social Security card as documentation.

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### 04. Restricted Admission Programs

The following programs at TSTC have additional application requirements, such as additional immunizations, occupational licenses (HB1508), exams, criminal background checks, drug screenings and prerequisite courses. Visit the program website for more information.

- [Aircraft Pilot Training Technology](#)
- [Auto Collision & Management Technology - Tesla specialization program](#)
- [Automotive Technology - Chrysler & Tesla specialization programs](#)
- [Chemical Dependency Counseling](#)
- [Dental Hygiene](#)
- [Emergency Medical Services](#)
- [Health Information Technology](#)
- [Industrial Systems - Advanced Manufacturing Technology](#)
- [Nursing](#)
- [Surgical Technology](#)

### 05. Dual Enrollment Courses

The TSTC Dual Enrollment program provides an opportunity for high school students to earn college and high school credit simultaneously while still in high school. High school partners must have an official partnership with TSTC by way of a Memorandum of Understanding and meet applicable eligibility requirements for students to enroll in courses. Active dual enrollment students are to abide by the rules and regulations set forth in this catalog and Student Handbook. For more information, visit the [Dual Enrollment](#) website or contact the Dual Enrollment Office by phone at 254-867-3089 or by email at [dual.enrollment@tstc.edu](mailto:dual.enrollment@tstc.edu).



### 06. Veteran Services

Veteran Services will serve as a centralized point of contact to assist active duty, veterans and their family member navigate college resources to ensure a successful college experience. The Veteran Services staff serve as advocates for student veterans and act as liaisons between the student and other college offices, community resources and the Veteran Affairs Department.



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The following services are provided by Veteran Services:

- Application support for FAFSA, admissions, Hazlewood and GI Bill®.
- College policies and procedures support.
- On-campus job information and referral.
- Veteran benefits information and assistance.
- Referrals for veterans and their dependents.
- Educationally related printing and faxing support for veterans and their dependents.
- Assistance with scholarship searches and application process.
- Referral to campus Advocacy and Resource Center.
- Tutoring support and referral.
- Computer lab access and support.
- Academic advisement support.
- College credit evaluation support.

### Veterans Guide For Success

#### Step 1:

**[Apply for admissions](#) and complete the required admissions process.**

Veterans are recommended to check their residency status with the Enrollment Center.

If Texas is your home of record and you have been discharged within 12 months, please submit a copy of your DD214 (member 4) to the Enrollment Center. Please visit [www.collegeforalltexas.com](http://www.collegeforalltexas.com) to view other residency waivers available for service members, veterans and/or their dependents.

An acceptance letter containing your student ID number will be mailed to you.



#### Step 2:

**Apply for your GI Bill® and/or Texas Hazlewood Act.**

Apply for your GI Bill® benefits online at [www.va.gov](http://www.va.gov).

- Form 22-1990 for veterans using (Chapter 30, 33, 1606).
- Form 22-1900 for veterans using Veteran Readiness and Employment, Chapter 31.
- Form 22-1990e for dependents and spouses using Post 9/11 GI Bill® (Chapter 33) transfer of entitlement.
- Form 22-5490 for dependents and spouses using Dependents' Education Assistance (Chapter 35).

You will receive a Certificate of Eligibility letter from the Veterans Administration in four to six weeks. Please submit a copy of your Certificate of Eligibility to the Veteran Services Office.

If you have previously used your GI Bill® benefits at another school, then you will have to complete a transfer form.

- Form 22-1995 for veterans.
- Form 22-5495 for dependents or spouses.

Apply for the Texas Hazlewood Tuition Exemption at [www.tvc.texas.gov](http://www.tvc.texas.gov).

#### Step 3:

**Submit all required documentation.**

Veterans are required to submit the following documentation to the Veteran Services Department:

1. Certificate of Eligibility (COE).
2. DD Form 214 (member 4).
3. Official military transcripts (request official military transcripts from the Joint Service Transcript System or Community College of the Air Force (CCAF)) and university/college transcripts (submit to the Enrollment Center or Enrollment Coach).
4. Valid State ID.

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Dependents using GI Bill® Chapter 35 or Chapter 33 transfer of entitlements must submit the following documents:

1. Certificate of Eligibility (COE).
2. DD Form 214 (member 4) - Chapter 33 transfer of entitlement is exempt if the veteran is on active duty.
3. Veterans service-connected compensation claim, decision letter (Chapter 35).
4. University/College transcripts (submit to the Enrollment Center or Enrollment Coach).
5. Valid State ID.

### Step 4:

#### Apply for Financial Aid

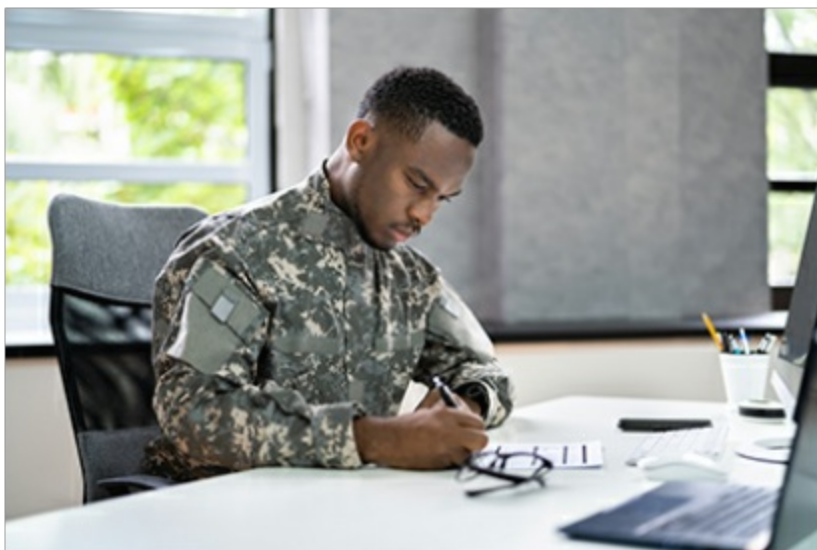
Service members, veterans and their dependents are encouraged to apply for Financial Aid using the [Free Application for Federal Student Aid](#). To learn more about financial assistance, please visit our [Financial Aid website](#).

For information on veteran benefits, visit the Paying for College section.

#### Contact Information

phone: 888-878-2003

email: [veteranservices@tstc.edu](mailto:veteranservices@tstc.edu)



#### Hazlewood Tuition Exemption

TSTC is authorized to grant tuition and fee waivers to qualified resident and nonresident students based on Texas Higher Education Coordinating Board rules. For details, see "Tuition Waivers and Exemptions" in the Tuition and Fees section of this catalog.

Please visit the Texas Veterans Commission ([www.tvc.texas.gov](http://www.tvc.texas.gov)) website for more information and eligibility requirements. All Hazlewood Tuition Exemption Application must be submitted to the Veteran Services office for processing.

#### NOTE:

- Effective Fall 2014, a law has been adopted by State Legislation (SB 1210, passed in 2013). The law requires that students must meet the Financial Aid Standards of Academic Progress for certain waivers and exemptions such as the Hazlewood Tuition Waiver. These standards are outlined under the TSTC Satisfactory Academic Progress (SAP policy for Financial Aid).
- Chapter 33 Veterans who are eligible for Hazlewood can use Hazlewood to "stack" on top of their 33 benefits to pay any remainder of tuition and fees only not paid by Chapter 33 benefits.
- All students must apply for Hazlewood each semester they intend to use the tuition exemption. You MUST be enrolled in classes in order for the exemption to be posted. Please do not submit the application before enrolling.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at [www.benefits.va.gov/gibill](http://www.benefits.va.gov/gibill).

### 07. Texas Success Initiative (TSI) Requirements

In the fall 2013 semester, the Texas Success Initiative (TSI) established college readiness standards for incoming students who have declared a certificate level II or associate degree program (42 hours or more) and are not otherwise exempt from testing. The TSI Assessment 2.0 (TSIA2) is designed to help higher education institutions determine if students are ready for college-level coursework in the general areas of reading, writing and mathematics. If the student does not meet testing requirements, the assessment will also help with student placement in courses that will aid in the preparation of student skills for college-level classes. For the latest exemptions, visit the [TSI Testing and Exemptions](#) webpage.

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## TSI Advisement

Students who do not meet TSI standards must meet with the identified enrollment coaches at each campus. Enrollment coaches will work with students to establish an individualized Academic Success Plan. The Academic Success Plan is developed for individual students according to their specific needs and may include enrollment in developmental courses, tutorials, laboratories and/or other non-course-based activities to prepare the student for college-level coursework. The plan will specify the appropriate measure for determining a student's college readiness. Academic Success Plans may include provisions for students to retake the TSIA2, subject to availability. For more information, please visit the [Enrollment Center](#).

## TSI College Readiness Standards

The following information provides the minimum passing scores on the TSI Assessment (TSIA) taken Aug. 26, 2013, to Jan. 10, 2021, that are valid for five years from the date of test.

Reading: 351 or higher

Writing: Essay score of 5 or higher; or essay score of 4 and multiple-choice score of 340 or higher

Math: 350 or higher

The following information provides the minimum passing scores on the TSI Assessment 2.0 (TSIA2) taken Jan. 11, 2021, or after, which are valid for five years from the date of test.

ELAR: Essay score of 5 or higher and multiple-choice score of 945 or higher; or essay score of 5 or higher and multiple-choice score of 910-944 and diagnostic score of 5 or higher

Math: 950 or higher; or 910-949 and diagnostic score of 6

## TSI Testing Schedule

The TSIA2 is administered at the Testing Center. Check with the Testing Center for specific dates and times at each campus. The TSIA2 is computer-based and can only be offered in a paper format for those with documented disabilities. To arrange a disability accommodation, please contact Access and Learning Accommodations at [adarequest@tstc.edu](mailto:adarequest@tstc.edu) at least two weeks before your test date. Late requests will be considered but cannot be guaranteed.

## College-Level Courses

TSTC has designated courses to satisfy requirements with TSI standards. Students who transfer from regionally accredited institutions of higher education with grades of D or higher in these courses (or equivalents) are determined to be "college ready." Students must submit official transcripts indicating successful completion of the course(s). For more information, please visit the [Enrollment Center](#).

## 06. Paying for College

### 01. Tuition & Fees

A college education is one of the most important investments a person can make. TSTC is committed to providing access to everyone who can benefit from such an education.

The cost of attending TSTC varies depending on a variety of factors, such as a student's residency status, whether or not the student lives on campus, the program of study, and any other services that the student may need. The Financial Assistance section of this catalog defines the types of financial aid that may be available to help pay these costs. This assistance can help provide the financial support that students need for tuition, housing, books and other educational items. It is not intended to completely fund a student's education.

The tuition and fees information in this catalog is subject to change without notice.

#### Tuition

A student's tuition is determined by residency status, the number of hours taken, the type of course and/or program, and

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whether the courses are for college credit or for continuing education or workforce training. Tuition rates are subject to change on a semester-by-semester basis as approved by the Board of Regents.

### Residency Classifications

**Texas Resident:** You have established a legal domicile in and have lived in Texas for the past 12 months.

**Nonresident:** You are a U.S. citizen who has not lived in Texas for the past 12 months.

### Aircraft Pilot Training: Airplane Fees

The following are program fees in addition to tuition.

#### **Redbird/Simulator Fees:**

Private Pilot

\$200: Unlimited time.

Instrument Pilot

\$200: Unlimited time.

Intermediate Flight

\$200: Unlimited time.

Commercial Flight

\$200: Unlimited time.

Certified Flight Instructor Airplane OR Multi-Engine Flight

\$200: Unlimited time.

Total Airplane Course Simulator Fees: \$1,000

#### **Airplane (Fixed-Wing Rates):**

C-172 Solo

\$121 per hour.

Fuel surcharge is \$42 per hour.

PA28R Solo

\$154 per hour.

Fuel surcharge is \$42 per hour.

PA44-180 Solo

\$192 per hour.

Fuel surcharge is \$84 per hour.

Dual and Pre- and Post-Flight Review and Instruction: \$65 per hour.

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Fuel is based on (current price per gallon x gallons per hour) + 10 percent. Pre- and post-flight review is instructor and student time only; it is not flight time.

Note: FAA examiner fees for practical flight exams are typically \$800 and charged by the examiner and are the responsibility of the applicant for payment, except for the instructor rating, which is typically \$1,000. FAA written exams are currently \$165 per test and the personal responsibility of the applicant for payment.

### \$1,000 Tuition Rebate for Certain Undergraduates

The tuition rebate program provides a financial incentive for students to complete a bachelor's degree efficiently, taking as few courses outside their degree plan as possible. The program's goal is minimizing the number of courses that students take -- saving money for the student, the student's parents and the state of Texas.

Students must meet the following eligibility requirements:

- First college course after high school graduation must be taken in Fall 1997 or later;
- Student must have been a Texas resident at all times while pursuing the degree;
- Student must have been entitled to pay in-state tuition at all times while pursuing the degree; and
- Student must not have graduated yet.

For more information on this rebate program, go to [www.collegeforalltexas.com](http://www.collegeforalltexas.com).

### Student Payments

Student charges for tuition and fees are due and payable by dates published each semester to ensure that the student's schedule is not affected. All tuition and fees may be paid by cash, check or credit card at the Student Accounting office or online through the student's TSTC Portal account. Checks are not accepted online.

Note: TSTC may delete your classes for nonpayment, but several factors can prevent your classes from being deleted. Therefore, if you decide not to attend, it is your responsibility to drop your classes by submitting a Course Schedule Change form prior to the established deadline. Failure to drop by the established deadline can result in your being financially and academically responsible for those classes.

The Installment Payment Plan, Emergency Tuition Loan or Student Financial Aid constitute additional forms of payment; however, all payment arrangements must be completed by the published deadlines to avoid deregistration from classes.

To save time, please use [WebAdvisor](#) to make payments online.

If you want a payment plan, please enroll online through WebAdvisor. In the Financial Information section, click on "Online Payments." Then log in again with your WebAdvisor credentials. On the top bar (just below the TSTC logo), click on "Payments" to pay in full, or click on "Payment Plan" to enroll in (or pay toward) a payment plan. You can also review your account information through this page. Please see cashiers if you need assistance or if paying with cash.

### Past-Due Accounts

A student with a past-due unpaid balance is considered delinquent. A delinquent student may not register for subsequent terms, add classes in the current term or receive an official transcript. A delinquent account may be turned over to a collection agency, potentially affecting a student's personal credit rating. A student with a delinquent account is responsible for the fees of any collection agency, which may be based on a percentage, with a maximum of 30 percent of the debt, and all costs and expenses, including reasonable attorney fees that TSTC incurs in such collection efforts after internal collection efforts have failed to result in the full payment of the student's account. Student accounts may be sent to an outside collection agency and may be reported to one or more credit bureau reporting service(s).

## 02. Traditional Course Tuition Table

Notice: The charges listed may change if the TSTC Board of Regents approves necessary updates during the academic year. During your last semester of your program you are allowed to add an additional program of study, if you plan to continue your education. During that semester you will be billed for your primary program of study.

Returned-check fee: \$50, which is applicable for all types of transactions.

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Tuition Table Effective Fall 2023

### Texas Resident Students - Tier 1

Programs: Advanced Manufacturing Technology, Aircraft Airframe Technology, Aircraft Powerplant Technology, Associate Degree Nursing (ADN), Electrical Lineworker & Management Technology, Instrumentation Technology, and Welding Technology.

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$25	\$282	\$307
2	\$50	\$564	\$614
3	\$75	\$846	\$921
4	\$100	\$1,128	\$1,228
5	\$125	\$1,410	\$1,535
6	\$150	\$1,692	\$1,842
7	\$175	\$1,974	\$2,149
8	\$200	\$2,256	\$2,456
9	\$225	\$2,538	\$2,763
10	\$250	\$2,820	\$3,070
11	\$275	\$3,102	\$3,377
12	\$300	\$3,384	\$3,684
13	\$325	\$3,666	\$3,991
14	\$350	\$3,948	\$4,298
15	\$375	\$4,230	\$4,605

### Texas Resident Students - Tier 2

Programs: Biomedical Equipment Technology, Building Construction Technology, Computer Networking & Systems Administration, Culinary Arts, Cybersecurity, Diesel Equipment Technology, Electrical Power & Controls, Medical Imaging Systems Technology, and Vocational Nursing.

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$25	\$245	\$270
2	\$50	\$490	\$540
3	\$75	\$735	\$810
4	\$100	\$980	\$1,080
5	\$125	\$1,225	\$1,350
6	\$150	\$1,470	\$1,620
7	\$175	\$1,715	\$1,890
8	\$200	\$1,960	\$2,160
9	\$225	\$2,205	\$2,430
10	\$250	\$2,450	\$2,700
11	\$275	\$2,695	\$2,970
12	\$300	\$2,940	\$3,240
13	\$325	\$3,185	\$3,510
14	\$350	\$3,430	\$3,780
15	\$375	\$3,675	\$4,050

### Texas Resident Students - Tier 3

Programs: Architectural/Civil Drafting Technology, Architectural Design & Engineering Graphics Technology, Auto Collision and Management Technology, Automotive Technology, Business Management Technology, Chemical Dependency Counseling, Computer Programming Technology, Dental Hygiene, Digital Media Design, Education & Training, Electrical Construction, Emergency Medical Services, Energy Efficiency Specialist, Engineering Graphics & Design Technology, Health Information Technology, HVAC Technology, Industrial Systems-Electrical, Industrial Systems-Mechanical, Medical Office Specialist, Occupational Safety & Environmental Compliance, Precision Machining Technology, Process Operations, Solar Energy Technology, Surgical Technology, and Wind Energy Technology.

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Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$25	\$207	\$232
2	\$50	\$414	\$464
3	\$75	\$621	\$696
4	\$100	\$828	\$928
5	\$125	\$1,035	\$1,160
6	\$150	\$1,242	\$1,392
7	\$175	\$1,449	\$1,624
8	\$200	\$1,656	\$1,856
9	\$225	\$1,863	\$2,088
10	\$250	\$2,070	\$2,320
11	\$275	\$2,277	\$2,552
12	\$300	\$2,484	\$2,784
13	\$325	\$2,691	\$3,016
14	\$350	\$2,898	\$3,248
15	\$375	\$3,105	\$3,480

### Texas Resident Students - Tier 4

Programs: Academic Core, Aircraft Pilot Training Technology, Automation & Controls Technology, Avionics Technology, Biology, Computer Science, Electromechanical Technology, Engineering, Mathematics, Mechatronics Technology, Physics, Plumbing & Pipefitting Technology, Robotics & Industrial Controls Technology, Visual Communication, and Web Design & Development.

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$25	\$169	\$194
2	\$50	\$338	\$388
3	\$75	\$507	\$582
4	\$100	\$676	\$776
5	\$125	\$845	\$970
6	\$150	\$1,014	\$1,164
7	\$175	\$1,183	\$1,358
8	\$200	\$1,352	\$1,552
9	\$225	\$1,521	\$1,746
10	\$250	\$1,690	\$1,940
11	\$275	\$1,859	\$2,134
12	\$300	\$2,028	\$2,328
13	\$325	\$2,197	\$2,522
14	\$350	\$2,366	\$2,716
15	\$375	\$2,535	\$2,910

### Nonresident Students - Tier 1

Programs: Advanced Manufacturing Technology, Aircraft Airframe Technology, Aircraft Powerplant Technology, Associate Degree Nursing (ADN), Electrical Lineworker & Management Technology, Instrumentation Technology, and Welding Technology,

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Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$179	\$282	\$461
2	\$358	\$564	\$922
3	\$537	\$846	\$1,383
4	\$716	\$1,128	\$1,844
5	\$895	\$1,410	\$2,305
6	\$1,074	\$1,692	\$2,766
7	\$1,253	\$1,974	\$3,227
8	\$1,432	\$2,256	\$3,688
9	\$1,611	\$2,538	\$4,149
10	\$1,790	\$2,820	\$4,610
11	\$1,969	\$3,102	\$5,071
12	\$2,148	\$3,384	\$5,532
13	\$2,327	\$3,666	\$5,993
14	\$2,506	\$3,948	\$6,454
15	\$2,685	\$4,230	\$6,915

### Nonresident Students - Tier 2

Programs: Biomedical Equipment Technology, Building Construction Technology, Computer Networking & Systems Administration, Culinary Arts, Cybersecurity, Diesel Equipment Technology, Electrical Power & Controls, Medical Imaging Systems Technology, and Vocational Nursing.

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$179	\$245	\$424
2	\$358	\$490	\$848
3	\$537	\$735	\$1,272
4	\$716	\$980	\$1,696
5	\$895	\$1,225	\$2,120
6	\$1,074	\$1,470	\$2,544
7	\$1,253	\$1,715	\$2,968
8	\$1,432	\$1,960	\$3,392
9	\$1,611	\$2,205	\$3,816
10	\$1,790	\$2,450	\$4,240
11	\$1,969	\$2,695	\$4,664
12	\$2,148	\$2,940	\$5,088
13	\$2,327	\$3,185	\$5,512
14	\$2,506	\$3,430	\$5,936
15	\$2,685	\$3,675	\$6,360

### Nonresident Students - Tier 3

Programs: Architectural/Civil Drafting Technology, Architectural Design & Engineering Graphics Technology, Auto Collision and Management Technology, Automotive Technology, Business Management Technology, Chemical Dependency Counseling, Computer Programming Technology, Dental Hygiene, Digital Media Design, Education & Training, Electrical Construction, Emergency Medical Services, Energy Efficiency Specialist, Engineering Graphics & Design Technology, Health Information Technology, HVAC Technology, Industrial Systems-Electrical, Industrial Systems-Mechanical, Medical Office Specialist, Occupational Safety & Environmental Compliance, Precision Machining Technology, Process Operations, Solar Energy Technology, Surgical Technology, and Wind Energy Technology.



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Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$179	\$207	\$386
2	\$358	\$414	\$772
3	\$537	\$621	\$1,158
4	\$716	\$828	\$1,544
5	\$895	\$1,035	\$1,930
6	\$1,074	\$1,242	\$2,316
7	\$1,253	\$1,449	\$2,702
8	\$1,432	\$1,656	\$3,088
9	\$1,611	\$1,863	\$3,474
10	\$1,790	\$2,070	\$3,860
11	\$1,969	\$2,277	\$4,246
12	\$2,148	\$2,484	\$4,632
13	\$2,327	\$2,691	\$5,018
14	\$2,506	\$2,898	\$5,404
15	\$2,685	\$3,105	\$5,790

### Nonresident Students - Tier 4

Programs: Academic Core, Aircraft Pilot Training Technology, Automation & Controls Technology, Avionics Technology, Biology, Computer Science, Electromechanical Technology, Engineering, Mathematics, Mechatronics Technology, Physics, Plumbing & Pipefitting Technology, Robotics & Industrial Controls Technology, Visual Communication Technology, and Web Design & Development.

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$179	\$169	\$348
2	\$358	\$338	\$696
3	\$537	\$507	\$1,044
4	\$716	\$676	\$1,392
5	\$895	\$845	\$1,740
6	\$1,074	\$1,014	\$2,088
7	\$1,253	\$1,183	\$2,436
8	\$1,432	\$1,352	\$2,784
9	\$1,611	\$1,521	\$3,132
10	\$1,790	\$1,690	\$3,480
11	\$1,870	\$1,859	\$3,729
12	\$2,148	\$2,028	\$4,176
13	\$2,327	\$2,197	\$4,524
14	\$2,506	\$2,366	\$4,872
15	\$2,685	\$2,535	\$5,220

### 03. Performance-Based Education (PBE) Tuition Table

Tuition Table Effective Fall 2023

Notice: The charges listed may change if the TSTC Board approves necessary updates during the academic year. During your last semester of your program you are allowed to add an additional program of study, if you plan to continue your education. During that semester you will be billed for your primary program of study.

Returned-check fee: \$50, which is applicable for all types of transactions.

### Texas Resident Students - Tier 1

Programs: Electrical Lineworker & Management Technology

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Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$25	\$282	\$307
2	\$50	\$564	\$614
3	\$75	\$846	\$921
4	\$100	\$1,128	\$1,228
5	\$125	\$1,410	\$1,535
6	\$150	\$1,692	\$1,842
7	\$175	\$1,974	\$2,419
8	\$200	\$2,256	\$2,456
9	\$225	\$2,538	\$2,763
10	\$250	\$2,820	\$3,070
11	\$275	\$3,102	\$3,337
12	\$300	\$3,384	\$3,684
13	\$300	\$3,384	\$3,684
14	\$300	\$3,384	\$3,684
15	\$300	\$3,384	\$3,684

### Texas Resident Students - Tier 2

Programs: Computer Networking & Systems Administration and Cybersecurity

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$25	\$245	\$270
2	\$50	\$490	\$540
3	\$75	\$735	\$810
4	\$100	\$980	\$1,080
5	\$125	\$1,225	\$1,350
6	\$150	\$1,470	\$1,620
7	\$175	\$1,715	\$1,890
8	\$200	\$1,960	\$2,160
9	\$225	\$2,205	\$2,430
10	\$250	\$2,450	\$2,700
11	\$275	\$2,695	\$2,970
12	\$300	\$2,940	\$3,240
13	\$300	\$2,940	\$3,240
14	\$300	\$2,940	\$3,240
15	\$300	\$2,940	\$3,240

### Texas Resident Students - Tier 3

Programs: Architectural/Civil Drafting Technology, Architectural Design & Engineering Graphics, Automotive Technology, Business Management Technology, Chemical Dependency Counseling, Computer Programming, Digital Media Design, Education & Training, Engineering Graphics & Design, Health Information Technology, and HVAC

## 2023-2024 Catalog & Student Handbook

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$25	\$207	\$232
2	\$50	\$414	\$464
3	\$75	\$621	\$696
4	\$100	\$828	\$928
5	\$125	\$1,035	\$1,160
6	\$150	\$1,242	\$1,392
7	\$175	\$1,449	\$1,624
8	\$200	\$1,656	\$1,856
9	\$225	\$1,863	\$2,088
10	\$250	\$2,070	\$2,320
11	\$275	\$2,277	\$2,552
12	\$300	\$2,484	\$2,784
13	\$300	\$2,484	\$2,784
14	\$300	\$2,484	\$2,784
15	\$300	\$2,484	\$2,784

### Texas Resident Students - Tier 4

Programs: Academic Core, Biology, Computer Science, Engineering, Mathematics, Physics, and Web Design & Development

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$25	\$169	\$194
2	\$50	\$338	\$388
3	\$75	\$507	\$582
4	\$100	\$676	\$776
5	\$125	\$845	\$970
6	\$150	\$1,014	\$1,164
7	\$175	\$1,183	\$1,358
8	\$200	\$1,352	\$1,552
9	\$225	\$1,521	\$1,746
10	\$250	\$1,690	\$1,940
11	\$275	\$1,859	\$2,134
12	\$300	\$2,028	\$2,328
13	\$300	\$2,028	\$2,328
14	\$300	\$2,028	\$2,328
15	\$300	\$2,028	\$2,328

### Nonresident Students - Tier 1

Programs: Electrical Lineworker & Management Technology

## 2023-2024 Catalog & Student Handbook

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$179	\$282	\$461
2	\$358	\$564	\$922
3	\$537	\$846	\$1,383
4	\$716	\$1,128	\$1,844
5	\$895	\$1,410	\$2,305
6	\$1,074	\$1,692	\$2,766
7	\$1,253	\$1,974	\$3,227
8	\$1,432	\$2,256	\$3,688
9	\$1,611	\$2,538	\$4,149
10	\$1,790	\$2,820	\$4,610
11	\$1,969	\$3,102	\$5,071
12	\$2,148	\$3,384	\$5,532
13	\$2,148	\$3,384	\$5,532
14	\$2,148	\$3,384	\$5,532
15	\$2,148	\$3,384	\$5,532

### Nonresident Students - Tier 2

Programs: Computer Networking & Systems Administration, and Cybersecurity

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$179	\$245	\$424
2	\$358	\$490	\$848
3	\$537	\$735	\$1,272
4	\$716	\$980	\$1,696
5	\$895	\$1,225	\$2,120
6	\$1,074	\$1,470	\$2,544
7	\$1,253	\$1,715	\$2,698
8	\$1,432	\$1,960	\$3,392
9	\$1,611	\$2,205	\$3,816
10	\$1,790	\$2,450	\$4,240
11	\$1,969	\$2,695	\$4,664
12	\$2,148	\$2,940	\$5,088
13	\$2,148	\$2,940	\$5,088
14	\$2,148	\$2,940	\$5,088
15	\$2,148	\$2,940	\$5,088

### Nonresident Students - Tier 3

Programs: Architectural/Civil Drafting Technology, Architectural Design & Engineering Graphics, Automotive Technology, Business Management Technology, Chemical Dependency Counseling, Computer Programming, Digital Media Design, Education & Training, Engineering Graphics & Design Technology, Health Information Technology, and HVAC

## 2023-2024 Catalog & Student Handbook

Credit Hours	Tuition	Designated Tuition	TOTAL
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3	\$537	\$621	\$1,158
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6	\$1,074	\$1,242	\$2,316
7	\$1,253	\$1,449	\$2,702
8	\$1,432	\$1,656	\$3,088
9	\$1,611	\$1,863	\$3,474
10	\$1,790	\$2,070	\$3,860
11	\$1,969	\$2,277	\$4,246
12	\$2,148	\$2,484	\$4,632
13	\$2,148	\$2,484	\$4,632
14	\$2,148	\$2,484	\$4,632
15	\$2,148	\$2,484	\$4,632

### Nonresident Students - Tier 4

Programs: Academic Core, Biology, Computer Science, Engineering, Mathematics, Physics, and Web Design & Development

Credit Hours	Tuition	Designated Tuition	TOTAL
1	\$179	\$169	\$348
2	\$358	\$338	\$696
3	\$537	\$507	\$1,044
4	\$716	\$676	\$1,392
5	\$895	\$845	\$1,740
6	\$1,074	\$1,014	\$2,088
7	\$1,253	\$1,183	\$2,436
8	\$1,432	\$1,352	\$2,784
9	\$1,611	\$1,521	\$3,132
10	\$1,790	\$1,690	\$3,480
11	\$1,969	\$1,859	\$3,828
12	\$2,148	\$2,028	\$4,176
13	\$2,148	\$2,028	\$4,176
14	\$2,148	\$2,028	\$4,176
15	\$2,148	\$2,028	\$4,176

## 04. Fees

Student fees are determined by a variety of factors. Not all of these fees apply to Workforce Training & Continuing Education programs. Contact Student Accounting for more information.

Fees for Fall 2023 are as follows:

### Nonresident E-Learning Fee

\$300 per semester credit hour.

For out-of-state residents enrolled in online learning credit courses. Courses are exempt from all other state and designated tuition.

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## **Testing Center Exam Fee**

Cost of exam.

Applies to tests taken at TSTC Testing Centers and to TSTC Challenge Exams. Includes fee for test administration.

## **Challenge Exam Fee**

\$150 per exam.

Fee charged per exam validate prior learning and accelerate through course.

## **Program-specific Fees and Costs**

Varies.

For some credit programs.

## **Continuing Education/Workforce Training Fees and Costs**

Varies.

For some courses.

## **Out-of-State Resident and Worker Continuing Education Tuition**

At least twice the continuing education tuition rate for the associated course-section.

For nonresidents who are brought from outside the state by their employers to attend the course.

## **Credit Award Evaluation Fee**

\$25 per evaluation.

Applies to evaluation of CEUs and/or learning for the purpose of awarding TSTC semester credit.

## **External Certification of Specialty**

Cost of exam.

## **Student Medical Health and/or Accident Insurance**

Cost of insurance.

Optional, unless required by program.

## **Library Fines**

Book items–10 cents per day.

Non-book items–\$1 per day (includes puppets, equipment and media).

Lost Item–cost of replacement plus a 10% processing fee.

## **Locker Rental Fee**

\$25 per semester.

Voluntary fee to reserve a locker for a semester.

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### **Background Security Check**

Cost of security check.

Required for certain programs.

### **Student ID Replacement Fee**

\$10 per card.

### **Digital Materials Fee**

Cost of materials, including administrative fee.

Varies by course.

### **Installment Plan Fee**

\$25 per semester per installment plan.

### **Installment Plan Late Fee**

\$25 after 7 business days grace period.

### **Returned-check Fee**

\$50 per check.

### **Audit Fee**

Applicable tuition plus \$25 per semester credit hour.

### **Concurrent Enrollment Fee**

Regular tuition/fee charges apply.

### **Handicap Parking Violation**

\$100

### **Moving Violation**

\$40

### **Other Offenses**

\$25—First offense.

\$50—Second offense.

\$100—Third offense.

Other offenses include, but are not limited to, housing violations, code of conduct violation, smoking in a nonsmoking-designated area and other parking violations.

### **Allied Health Insurance**

Accident Insurance:



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\$14—Fall Semester.  
\$9—Spring Semester.  
\$3—Summer Semester.

Malpractice Insurance:

\$13—Fall Semester.  
\$9—Spring Semester.  
\$5—Summer Semester.

Needlestick Insurance:

\$19—Fall Semester.  
\$12—Spring Semester.  
\$4—Summer Semester.

Required for certain Allied Health programs.

### 05. Waivers and Exemptions

This section describes tuition waivers and exemptions for college credit courses. Students classified as Texas Residents for purposes of tuition assessment may be eligible to have all or part of their state tuition and/or designated tuition waived if they qualify for one of the waivers or exemptions. Contact the appropriate office for additional information and to determine eligibility.

In Fall 2014, a law was adopted by State Legislation (SB 1210, passed in 2013). The law requires that students must meet the Financial Aid Standards of Academic Progress (SAP) for certain waivers and exemptions. These standards are outlined under the TSTC Satisfactory Academic Progress policy for Financial Aid. To request an appeal if you fail to meet SAP for a term, you will need to contact your enrollment coach.

#### Waivers & Exemptions for Residents

Students who are the highest-ranking graduate of their high school class (Valedictorian).

Contact: Student Accounting

High school graduates who received TANF (Temporary Assistance for Needy families) benefits while in high school.

Contact: Student Accounting

Children of POWs and MIAs as certified by the U.S. Department of Defense.

Contact: Veteran Services

Children of disabled Firefighters or Peace Officers as certified by the Texas Higher Education Coordinating Board.

Contact: Student Accounting

Blind or Deaf Students as certified by the Texas Health and Human Services – Blind and Deaf-Blind Services and Deaf and Hard of Hearing Services.

Contact: Student Accounting/Access and Learning Accommodations

Students in Foster or other residential care as certified by the Texas Department of Protective and Regulatory Services.

Contact: Student Accounting

Students classified as residents or nonresidents for purposes of tuition assessment may be eligible to have all or part of

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their state tuition and/or designated tuition waived if they qualify for one of the waivers or exemptions listed. Contact the appropriate office for additional information and to determine eligibility.

### Waivers & Exemptions for Residents or Nonresidents

High school students enrolled in class sections for dual high school and college credit may have state and designated tuition waived or reduced.

Contact: Dual Enrollment

Hazlewood Tuition Exemption for Veterans and their dependents (Hazlewood)

Contact: Veteran Services

Students enrolled in more than one Texas public institution of higher education at the same time may have a reduction in minimum state tuition charges.

Contact: Enrollment Center

Senior citizens 65 years of age or older may audit courses without payment of state and designated tuition.

Contact: Student Accounting

TSTC employees, their spouses and/or dependents have a reduction in state tuition and a waiver of designated tuition.

Contact: Human Resources

Students classified as nonresidents of Texas for purposes of tuition assessment may be eligible to pay resident rates if they qualify for one of the waivers or exemptions listed.

Contact: Enrollment Center

### Waivers & Exemptions for Nonresidents

Military personnel stationed in Texas and their spouses and children.

Contact: Veteran Services

Veteran, spouse/dependent of a non-Texas member of the U.S. Armed Forces whose intent is to make Texas his/her new home.

Contact: Veteran Services

Veteran Access, Choice and Accountability Act of 2014 ("Choice Act") Section 702.

Contact: Veteran Services

Individuals employed at least half time as teachers or professors at Texas institutions of higher education and their spouses and children.

Contact: Student Accounting

Students whose families transferred to Texas as a part of the State's plan for economic development. Employer company must be certified as eligible by the Texas Higher Education Coordinating Board.

Contact: Student Accounting

Students who receive a competitive scholarship of at least \$1,000.

Contact: Enrollment Center

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Students who reside in a county or parish of Arkansas, Louisiana, New Mexico, or Oklahoma, that is adjacent to Texas in the out-of-state county or parish where a current reciprocity agreement is in effect with a college or university.

Contact: Enrollment Center

Students from Mexico or Canada enrolled through a Texas Higher Education Coordinating Board approved Exchange Program.

Contact: Student Accounting

Students from Mexico who demonstrate financial need.

Contact: Student Accounting

Nonimmigrant aliens residing in Texas in accordance with NATO treaties and their spouses and children.

Contact: Student Accounting

Documentation should be submitted by the third class day of the semester.

### 06. Installment Payment Plan

College credit students may pay their registration charges (state tuition and designated tuition), campus housing (other than Harlingen family and Waco nonstudent housing) and meal plans on an installment payment plan. In accordance with state law, these students may pay their state and designated tuition in installments for the fall and spring semesters and for certain summer terms.

In order to validate the payment plan option, the initial payment and the signed Installment Agreement must be completed online through the TSTC Portal (or in person) prior to published deadlines.

The payments are due as follows:

#### **Fifteen-Week Term:**

- 1/3 prior to published deadlines plus the \$25 installment plan fee.
- 1/3 prior to the sixth class week.
- 1/3 prior to the eleventh class week.

#### **Twelve-Week Summer Term:**

- 1/3 prior to published deadlines plus the \$25 installment plan fee.
- 1/3 prior to the fifth class week.
- 1/3 prior to the ninth class week.

#### **Less Than Twelve-Week Term:**

- 1/2 prior to published deadlines plus the \$25 installment plan fee.
- Remainder 1/2 before the class week prior to the halfway point of the term.

A student who elects to pay in installments will:

1. Pay a \$25 installment plan fee.
2. Be responsible for making payments on or before the due dates established at the time of registration.
3. Be charged a late fee of \$25 for each payment made more than seven business days after the payment is due.
4. Not be able to obtain official copies of his/her student records until the debt is paid in full.
5. Be at risk of being dropped or barred from attending classes until the debt is paid or acceptable arrangements are made with Student Accounting.
6. And, be responsible for payment of any remaining balance upon withdrawal from the College.

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### 07. Emergency Tuition Loan

College credit students who are unable to pay their state and designated tuition at the time of registration because of financial hardship may be eligible for emergency tuition loans. Funds are limited and the student must meet several qualifications. Emergency Tuition Loans are due in full approximately 30 days after first class day. Contact Student Accounting for more information.

### 08. Housing Fees

Required items include the Housing Application with the appropriate deposit, the Release of Background Information Form and the nonrefundable application fee.

Please see the [Housing Office](#) website for information regarding room and board.

### 09. Student Insurance

Students may purchase accident insurance, malpractice (liability) insurance or needlestick insurance through Student Accounting (cashiers). Coverage is available each semester through the census date of the student's class(es). Please see the cashiers for rates.

### 10. Refunds

#### Refunds for Changes in Enrollment

The following definitions apply when calculating refunds for changes in enrollment. Changes must occur by the published deadlines. Reduction in course load occurs when a student drops a course(s) having more credit hours than he/she adds, resulting in the student being enrolled in fewer credit hours overall. Withdrawal occurs when a student completely ends his/her enrollment at the College for the current term.

Credit courses are courses for which a student is eligible to earn semester credit hours toward an institutional award, certificate or associate degree. Credit courses also include support courses required for the student's enrollment, such as developmental education, etc.

#### Refunds for Drops/Reduction in Course Load

Students who drop credit courses and reduce their course loads while remaining enrolled at the College will have their state and designated tuition refunded, based on the official drop date recorded by the enrollment coach according to the following schedule. Students who concurrently add and drop the same number of credit hours will not be charged or refunded for these simultaneous transactions if they occur by the published deadlines.

Refunds for semester credit courses are calculated using a formula based on the number of weeks scheduled for a term or class. Students who are enrolled in semester credit hour courses who drop a class or withdraw from school prior to the first class day will receive a 100 percent refund.

Students in semester credit hour courses who officially withdraw from school or drop a course after classes begin will have their state and designated tuition and fees refunded according to the following schedule unless the fees are specifically designated as nonrefundable. Class days are defined as calendar days during which classes are normally scheduled and not the specific days a particular class meets.

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<b>Length of Class Term in Weeks</b>	<b>Last Class Day for 70% Refund</b>	<b>Last Class Day for 25% Refund</b>
2 or less	2	n/a
3	3	4
4	4	5
5	5	6
6	5	7
7	7	9
8	8	10
9	9	11
10	9	12
11	10	14
12	12	15
13	13	16
14	13	17
15	14	19
16 or longer	15	20

A refund of normally nonrefundable fees could be approved in cases when the student is not accepted for enrollment by TSTC or when a class is canceled. TSTC reserves the right to withhold refunds when a student is suspended for disciplinary reasons. No refunds will be processed until time has elapsed for a check to clear the bank. Refunds are given to a student after receipt of the withdrawal notice from the Student Enrollment Center. Cash refunds are not permitted. Financial aid balances and other credit balances are disbursed via the BankMobile Card on the date announced at registration.

### **Refunds for Federal Financial Aid Recipients**

Special refund requirements apply to students who receive federal aid that is classified as "Title IV" funds. Title IV funds include awards such as Federal Pell Grant, Federal Supplemental Educational Opportunity Grant (FSEOG), William D. Ford Federal Direct Loans, PLUS loans and other federal awards. Students must attend classes to remain eligible for federal financial aid. Students who consider withdrawing from all classes before completing 60 percent of the semester should contact the Enrollment Center to learn how this will affect their financial aid.

If a student reduces a course load or withdraws from TSTC, the College and/or the student may be required to return federal funds awarded to the student. The student may be eligible for a refund of a portion of the state and designated tuition paid to TSTC for that term.

An unofficial withdrawal is when the student stops participating in all the classes during the semester, and all final grades are F's. Students will be responsible for repaying federal aid determined by a return of Title IV calculation, based on the last date of participation, unless an instructor certifies and documents that the student was participating in at least one class after the 60 percent point of the term or until the end of the term. A term may consist of one or more blocks or modules.

If the student received financial assistance, the refund is returned to the grant, scholarship or loan sources from which the assistance was received.

A federal formula dictates the amount of Title IV aid that must be returned to the federal government by the College and the student. This formula applies to a student who is receiving Title IV funds if the student withdraws from the College before the 60 percent point in time of the term. The percentage of Title IV aid to be returned is equal to the number of calendar days remaining in the term divided by the number of calendar days in the term. Scheduled breaks of five consecutive days or more are excluded from this calculation.

If any funds are to be returned after the refund of Title IV aid, they are used to repay TSTC funds, state funds and other private sources. If there is an unpaid balance, then all aid sources are repaid before any funds are returned to the student. Funds released to a student due to a credit balance on the student's account do not relieve the student's obligation to repay Title IV funds when the student withdraws.

### **Order of Return of Title IV Funds**

A school must return the Title IV funds to the programs for which the student received aid during the payment period or period of enrollment as applicable, in the following order, up to the net amount disbursed from each source:

1. William D. Ford Unsubsidized Federal Direct Loan (other than PLUS loans).
2. William D. Ford Subsidized Federal Direct Loan.

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3. Federal Pell Grant for which a return of funds is required. Federal Supplemental Educational Opportunity Grant (FSEOG) for which a return of funds is required.
4. State, Institutional, Scholarship or other program requiring a refund for enrollment changes.

For more detailed information on the entire refund procedures for Financial Aid students or about the calculation of refund amounts, contact the Student Enrollment Center.

### Campus Store Refunds

For restocking fees and return deadlines, contact your local Campus Store.

Textbooks returned must be in saleable condition without broken packaging and original receipt provided by the customer.

Tools, supplies and consumables are nonrefundable, unless they are defective. If they are defective, the items must be returned within three weeks of purchase and must be accompanied by the sales receipt in order to receive a refund.

### Housing Refunds

Upon completion and authorization of College Housing clearance documents, refunds will be based on the following TSTC approved fee schedule:

- Refundable portion of security deposit or remaining balance after charges.
- No refunds of rental fee will be given during the last 10 school days of the semester.
- Rent refunds are based on a pro-rated formula.

### Refund of Other Fees

No refunds are given for installment plan fees. No refunds are given for health insurance, malpractice insurance and other miscellaneous student-requested fees after expenses have been incurred by the College.

## 11. Financial Aid

TSTC offers a variety of financial assistance programs to help eligible students with the cost of attending TSTC. The funds provided through these programs can be in the form of a grant (Federal or State), payment for part-time employment (Federal or State Work-Study), Federal Direct Loan, scholarship or a combination of these programs.

A grant is a gift that does not need to be repaid.

The Work-Study Program is part-time employment that allows students to earn money and provides them with the opportunity to gain work experience.

Scholarships are funds that are awarded to students to help them with the cost of their education, and scholarships do not have to be repaid. A student may receive a scholarship based on academic merit, financial need or for other criteria set forth by scholarship donors.

A Federal Direct Loan is borrowed money and must be repaid with interest.

TSTC's philosophy is to provide financial assistance to students who would otherwise be unable to pursue a postsecondary education.

See the [Financial Aid web page](#) for a complete listing of financial assistance programs.

## 12. Types of Financial Aid

A variety of resources are available for financial assistance at TSTC. Some of these are included in the following list. Visit the [Financial Aid web page](#) for more complete information.

**Federal Pell Grant:** This federal aid program provides financial assistance for obtaining a postsecondary education. It is

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intended to be the base of a student's financial aid package. Eligibility is based on the student's FAFSA need analysis results, the cost of attendance and enrollment status. Students are only eligible to receive six academic years (600%) of Pell Grant funds, which is referred to as Lifetime Eligibility Used.

**Federal Supplemental Educational Opportunity Grant (FSEOG):** This federal aid program helps college students who have exceptional need. The amount of the FSEOG varies according to the availability of other grants, scholarships, loans and student employment. FSEOG funds are limited and are awarded on a first-come, first-served basis.

**Texas Public Education Grant (TPEG):** This state program provides financial assistance in obtaining a postsecondary education. Eligibility is based on a student's financial need.

**Texas Educational Opportunity Grant (TEOG):** These state awards pay state and designated tuition for students who are Texas residents, show financial need and do not have an Estimated Family Contribution greater than the amount determined by the Texas Higher Education Coordinating Board. They must be enrolled in a TSTC certificate or degree-seeking program (Academic Core and non-degree-seeking students are not eligible). Students must be within the first 30 credit hours for consideration. TEOG funds are limited and are offered to students on a first-come, first-served basis.

**Federal and State Work-Study Program:** The Federal College Work-Study Program is funded under the authority of the Economic Opportunity Act of 1964 and subsequent amendments. This program is jointly funded by the federal government under Title IV. In addition, the Texas College Work-Study Program provides eligible, financially needy students with jobs, which are partly funded by the state of Texas. All students considered for employment under the Work-Study Program are ensured equal employment opportunities without regard to race, color, religion, gender, national origin, age, genetic information, disability or veteran status.

Federal and Texas Work-Study Programs allow students to work part time to help them pay for educational expenses. The programs encourage community service jobs as well as work related to the student's chosen program of study. At all times, the priority should be given to the student's academics. Therefore, the Work-Study Program is not intended to interfere with the student's education. Student Work-Study employees cannot work during scheduled class time.

Students who are interested in applying for the Work-Study Program must complete the Free Application for Federal Student Aid (FAFSA) and must apply online for specific jobs through the [student portal](#). Students must be meeting the Financial Aid Standards of Academic Progress and be enrolled at least half-time in their program of study in order to be eligible to participate in the Work-Study Program. Funds awarded are subject to change due to enrollment status or failure to meet program requirements. A background check and drug screening are required for all Work-Study positions. Some positions (depending on position and location of hire) may require a fingerprint check. Applicants that apply for a position may be selected for an interview. If a student is selected for an interview by the supervisor of the department for which the student applied, they will be notified by phone and/or email. A selected student will meet with Human Resources staff to complete employment forms.

**Texas Workforce Commission-Vocational Rehabilitation Services (TWC-VRS):** The Texas Workforce Commission-Vocational Rehabilitation Services (TWC-VRS) provides financial assistance to eligible students whose disability may result in substantial vocational limitations. In order to provide training assistance, TWC-VRS must determine that such training is necessary for employment and that the individual has a good chance of success in the chosen program. Contact your local TWC-VRS office for more information.

**Workforce Innovation and Opportunity Act (WIOA):** The Workforce Development board in your area may offer payment of tuition and/or other expenses to students who qualify for this program. Interested applicants should contact the nearest Workforce Center or call 1-800-457-5600 or 1-800-457-5633. Applications for the program should be made as far in advance of registering as possible.

**Federal Loans:** Various types of federal loans are available, including the Federal Direct Subsidized, Federal Direct Unsubsidized and Federal Direct Parent Loan. To be certified for a loan, students must first complete the Free Application for Federal Student Aid (FAFSA), as described earlier in the Financial Assistance section. First-time Federal Direct Loan borrowers will need to complete an online entrance counseling and electronically sign a Master Promissory note before completing the loan process at <https://studentaid.gov>.



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**Private Loans:** Private loans are made by private organizations such as banks, credit unions and state-based or state-affiliated organizations, and have terms and conditions that are set by the lender. Private student loans are generally more expensive than federal student loans. For a comparison of the different type of loans see <https://studentaid.gov/understand-aid/types/loans/federal-vs-private>.

To be eligible for a loan, students must have a current Free Application for Federal Student Aid (FAFSA) on file, must be enrolled for six credit hours, not be on financial aid suspension or in default, and must meet any other current eligibility requirements. The student will need to meet satisfactory academic progress guidelines.

TSTC candidates for graduation who have borrowed a direct loan are required to complete a loan exit counseling session at <https://studentaid.gov>. This should be done before graduation in order to avoid graduation holds.

NOTE: Awards may be adjusted accordingly if a student has a sponsorship, scholarship and/or a waiver to prevent an overaward of aid.

### 13. Applying for Financial Aid

#### When to Apply

The key to obtaining financial assistance is to apply early. In order to ensure that an aid package is available and ready, TSTC recommends that the completed file be received in the Enrollment Center according to the following schedule:

#### Priority Deadlines

Fall Term: May 1

Spring Term: Oct. 1

Summer Term: March 1

Applications completed by these deadlines are processed on a first-come, first-served basis. Late applications may not have funds available on registration (payment) day, when payment for state and designated tuition is due.

Since financial assistance is not always available by the payment deadline, it is recommended that students make alternative arrangements to pay registration expenses. Contact Student Accounting for information on installment plans or information on emergency tuition loans.

To be eligible for assistance, a student must:

- Complete the Free Application for Federal Student Aid (FAFSA). Be sure to complete the correct application for the year that you will be attending TSTC.
  - For the fall 2022, spring 2023 and summer 2023 semesters, complete the 2022-2023 FAFSA.
  - For the fall 2023, spring 2024 and summer 2024 semesters, complete the 2023-2024 FAFSA.
  - Verification documents and other forms may need to be submitted after the office reviews the application.
- Complete the admissions requirements, be accepted for enrollment and enroll in an eligible program.
- Meet the TSTC financial aid standards of academic progress.
- Be a United States citizen or an eligible noncitizen.
  - Other rules for foreign students and noncitizens may apply.
- Be registered with the U.S. Selective Service (if you are a male born after December 31, 1959). All males residing in the United States are required to register for Selective Service immediately following their 18th birthday. For Selective Service information, go to [www.sss.gov](http://www.sss.gov).
- Must have a high school diploma or a GED (effective after July 1, 2012).
- Not be in default on an educational loan or owe a refund on any federal grants.
- Be registered each semester and pay tuition no later than the 11th class day of the 15-week semester, the ninth class day of the 12-week semester or by the census date for the class/classes registered for. Students registering after the 11th class day of the 15-week semester, the ninth class day of the 12-week semester or after census date may not be eligible for financial aid for that semester. Other rules apply to short summer sessions and online education courses.
- Your eligibility for federal and state student aid can be affected by [incarceration and/or the type of conviction](#) you have.

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Note to prospective students, students and parents of students: All loan information will be submitted to the National Student Loan Data System (NSLDS) and will be accessible by guaranty agencies, lenders and institutions determined to be authorized users of the data system.

Note: When the student is reported as not attending class prior to census, the student's financial aid eligibility may be affected. Awards are based on full-time enrollment and will be reduced when students register for less than 12 credit hours.

## Determination of Award

TSTC attempts to meet the educational financial needs of students. Financial need is determined by subtracting the parent(s)' and/or student's expected family contribution (EFC), as determined by the Free Application for Federal Student Aid, known as FAFSA, from the total estimated cost of attendance, or COA. Educational Financial Need = COA - EFC. Students are awarded aid based on financial need and the availability of funds. Financial aid programs have limited funds. Therefore, the Financial Aid Processing Center may not be able to meet the student's financial aid packaging expectations, but it will try to meet the direct educational needs. Students are responsible for notifying the financial aid office about any additional resources provided to them.

## Student Cost of Attendance Budget (included in COA budget)

Cost of Attendance (COA) at TSTC is based on the number of credit hours that are eligible for financial aid funding. The initial calculation of a student's COA is based on full-time enrollment. The COA is adjusted based on a student's actual enrollment level on the latest census date for courses in which the student is enrolled within the term.

Transportation and housing costs will be based on the housing code reported on the student's FAFSA.

- Adjustments to the cost of attendance may be considered on a case-by-case basis for child care expenses, excessive transportation costs, purchase of a computer, etc.
- TSTC employees and their eligible dependents are charged the adjusted tuition rate approved by the TSTC Board of Regents, if approved by Human Resources.

## How to Apply

These are the first steps in applying for financial assistance.

1. Complete the [Free Application for Federal Student Aid](#) (FAFSA), using the appropriate federal tax forms. For more information regarding this, contact FAFSA Customer Service at 1-800-433-3243 or TTY: 1-800-730-8913.  
or  
If you would like for the TSTC Enrollment Center to assist you in submitting your FAFSA electronically, please have the following available:
  - a. You will need records of income earned in the year prior to when you will start school. You may also need records of your parents' income information if you are a dependent student.
  - b. For the 2022-2023 school year, you will need financial information from 2020. For the 2023-2024 school year, you will need financial information from 2021. You will need to refer to:
    - i. Your Social Security Number (can be found on Social Security card). The legal name on the Social Security card MUST match the name you enter on the FAFSA. This applies for student and parent.
    - ii. Your driver's license (if any).
    - iii. Your W-2 forms and other records of money earned.
    - iv. Your (and your spouse's, if you are married) U.S. Individual Income Tax Return, foreign tax return or tax return for Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Marshall Islands or the Federated States of Micronesia.
    - v. Your parents' Federal Income Tax Return (if you are a dependent student).
    - vi. Your untaxed income records -- Social Security, Temporary Assistance to Needy Families, welfare or Veterans Service-Connected Compensation records.
    - vii. Your current bank statements.
    - viii. Your current business and investment mortgage information, business and farm records, stocks, bonds and other investment records.
    - ix. Your alien registration card (if you are not a U.S. citizen).
2. Officially declare a major to the TSTC Enrollment Center and complete the admissions process. Undeclared majors are not eligible for financial aid.
3. Preregister according to college registration dates and guidelines. Please keep in mind that financial aid will only cover courses that are within your degree plan.

**Due to time constraints, the student may not receive immediate notification of the adjustments; therefore, students should monitor their awards and balances on Self-Service.**

If your awards are cleared and you register early, your financial aid will be credited to your student account prior to the

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start of classes. Additional steps may be required for some types of financial assistance. For example, loans need promissory notes and entrance counseling. Certain programs require additional documentation before grant processing. Contact the Enrollment Center for more information and assistance.

You may also find the Estimated Cost of Attendance on the website at <https://www.tstc.edu/admissions/tuition/>.

### Packaging Philosophy

The Federal Pell Grant is initially awarded based on full-time enrollment status. Adjustments are made based on a student's actual enrollment level; students enrolled for 12 or more credit hours receive the maximum Pell entitlement, nine to 11 credit hours receive three-fourths, and six to eight credit hours receive half the award. Less than half-time students who qualify receive the Pell amount determined for enrollment between one and five financial aid credit hours. TSTC uses the student's latest census date for all classes enrolled for within the term as the official lock date for the term. Adjustments will be made to Pell awards if classes are dropped prior to that date. Other grants, loans and scholarships may be canceled if the student is enrolled for one to five credits.

Additional financial aid is awarded on a first-come, first-served basis or based on program eligibility. Due to limited funds, preference may be given to full-time students who meet priority deadlines. Students who are enrolled at least half-time may request to be considered for additional assistance.

### Denial of Aid and/or Repayment

Financial assistance may be reduced, denied or canceled, and students may owe repayment, if they:

- Purposely give false or misleading information (they may be fined \$20,000, sent to prison or both);
- Are on academic/financial aid suspension;
- Owe money to TSTC or the Department of Education;
- Fail to report any changes in circumstances that may affect the award, such as assistance from Workforce Innovation and Opportunity Act (WIOA), Department of Assistive and Rehabilitative Services (DARS), outside scholarships, child care assistance and other programs of assistance;
- Withdraw from TSTC or drop below half-time at any time of the semester or fail to meet eligibility requirements;
- Fail to begin attendance in one or all classes between the first day and census day;
- Are awarded Federal Pell Grant for more than one school for the same period of time;
- Stop attending classes without officially dropping or withdrawing;
- Fail to notify TSTC about aid awarded at other institutions;
- Default on a student loan; or
- Owe overpayment of grants.

### Change in Circumstances

Financial aid awards are based on information reported on the financial aid application and the student's enrollment status. Any financial situation that has recently changed because of, but not limited to, loss of job or benefits, death or other hardship may qualify a student for a Special Circumstances Evaluation.

The document is available at the Enrollment Center or can be emailed to you.

### Reapplying/Renewal Applications

Financial aid is not automatically renewable. The FAFSA must be submitted each academic year. Applications for the following academic year are available each prior year on Oct. 1. The priority application deadline for the fall semester is May 1. An academic year includes three semesters: fall, spring and summer.

### Verification of Information

All applications and forms must be completed carefully and accurately. The Department of Education or TSTC may select your application for verification. Visit the TSTC Portal at [portal.tstc.edu](http://portal.tstc.edu) to complete the required documents or request them at the Enrollment Center. Parent and/or student/spouse's Federal Income Tax Transcripts, W-2's, Social Security, unemployment, child support paid or received or other income and benefit documentation may be required. Students are responsible for submitting accurate information in order to prevent a delay in the processing of the application. Failure to complete the verification process will prevent financial aid awarding.

Note: Documents submitted should be official documents from agencies such as the IRS, Social Security, Office of Attorney General or other agencies.

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### 15. Standards of Academic Progress (SAP)

#### Maintaining Eligibility for Financial Aid

Texas State Technical College's Standards of Academic Progress (SAP) are adopted for the purpose of determining continuing eligibility for students who are receiving or applying for financial aid. Academic progress will be reviewed at the end of each term to determine that the student is making satisfactory progress. This review will include all periods of the student's enrollment, even those for which the student did not receive financial aid. Students are expected to be continually aware of their grades and can use tools such as [www.calculator.net/gpa-calculator.html](http://www.calculator.net/gpa-calculator.html).

#### Financial Aid Standards of Academic Progress

TSTC evaluates all parts of the SAP at the end of each term of enrollment.

Students who receive financial aid must be enrolled in an eligible program and must have a declared major in a degree or eligible certificate program. Students are required to maintain the following standards of academic progress. These standards of measurements shall be used to determine eligibility for all federal Title IV aid, as well as state and institutional aid, and for other sources of financial assistance unless the requirements of a particular grant or funding source require additional terms. Some aid programs require higher standards, such as a higher grade point average (GPA) or a specific enrollment status. Students are expected to be continually aware of their progress toward their completion. A student who fails to meet the SAP will be notified by email at the email address on the student record. Failure to receive the notification will not change the SAP status.

#### Qualitative Progress Measure: Minimum Cumulative Grade Point Average (GPA)

To continue receiving financial aid, the student is expected to successfully complete their classes with passing grades. Students must have at least a 2.00 cumulative GPA (based on all terms of enrollment) and at least a 2.00 term GPA during each period of enrollment. All courses that a student has taken, including transfer credits accepted toward their certificate or degree at TSTC, college level courses and developmental courses, will be evaluated.

#### Quantitative Progress Measure #1: The Pace of Progression or Completion Rate Each Semester

TSTC will use standard rounding rules when calculating percentages under the quantitative measurement.

For example, 66.5% will be rounded up to 67%. Rounding can also apply to the qualitative measure.

When you enroll in classes and receive financial aid to pay for those classes, you are expected to successfully complete those classes. Effective July 1, 2011, you must complete at least 67% of the credit hours in which you enrolled during each term. You must also achieve a minimum cumulative completion rate of 67% of all courses attempted during your enrollment. Only passing grades count as successful completions. Incomplete, in progress, failing grades, and drop/withdrawals are not considered completed courses, but are considered attempted courses, and will be calculated in the 67% completion requirement. Pass/fail courses will not be counted in the quantitative calculations. All other courses, including remedial courses, are included in the calculation.

#### Quantitative Progress Measure #2: Maximum Time to Complete a Degree/Program

To ensure that you complete your program in a reasonable amount of time, a limit set by 34 CFR 668.34 has been placed on the number of hours that you can attempt. The limit is 150% of the minimum number of hours required to complete your program. For example, if your degree program requires 60 credit hours for completion, you must complete your degree or certificate program within a maximum of 90 attempted credit hours. Once you reach the 150% limit or the Financial Aid Processing Center determines that you cannot complete your program within the 150% limit, you will no longer be able to receive financial aid. Several variables are considered when calculating the 150% limit and the satisfactory progression rules. These variables include, but are not limited to:

- All attempted credit hours are counted even if you were not receiving aid to pay for them. Attempted hours are the hours in which you are enrolled, as of the census date, in every term.
- Any transfer hours that are accepted from other colleges and applied toward the completion of your program are counted in the maximum time frame. If you have previously attended any college, you must submit official transcripts from all previous colleges prior to any financial aid being released.
- If you repeat a course, both attempts will be counted in the maximum credit hours and progression calculation, even if you did not receive aid for both attempts. Financial aid will only pay for two attempts in a college level course. Separate rules apply for developmental courses.
- Pass/fail courses will not be counted in the quantitative calculations.
- If you withdraw from a course(s) after the census date for that course, it is still counted as an attempted course and is included in the SAP calculation.

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- All periods of enrollment and attempted credits will be evaluated, as they apply to the current program of study, whether or not financial aid was awarded during prior enrollment periods.

When you receive financial aid to help pay for a program of study, you are expected to complete that program within the specified time frame for that program. You should not enroll in classes that are not required for your chosen program of study. Classes not required for your degree plan are not eligible for financial aid. Additionally, audit courses, continuing education courses, previously passed courses and courses for which you enroll after the census date are also not eligible for financial aid.

### COVID-19 Procedures

Effective May 11, 2020, Texas State Technical College exercises the exceptions under the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) for courses the student does not complete, including pass/fail courses the student does not complete. Per the CARES Act, "[I]n determining whether a student is maintaining satisfactory academic progress, an institution of higher education may, as a result of a qualifying emergency, exclude from the quantitative component of the calculation any attempted credits that were not completed by such student without requiring an appeal by such student." As a result, pass/no pass courses will be ignored from spring 2020 to summer 2021. SAP calculations and those courses taken during the spring 2020 through summer 2021 terms will not count toward subsequent SAP calculations. Courses that are dropped or not completed due to COVID-19 related circumstances during the spring 2020 through summer 2021 terms will not be counted as either attempted or completed courses for purposes of determining quantitative progress, which includes both maximum time frame and pace calculations; and those courses taken during the spring 2020 through summer 2021 terms will not count toward subsequent SAP calculations. Since TSTC temporarily ceased operations during the spring 2020 term for COVID-19 related reasons, the college exercises the exception to consider all dropped and incomplete courses to be for COVID-19 related circumstances.

### Waivers and Exemptions

Effective fall 2014, a new law was adopted by state legislation (SB 1210, passed in 2013). The law requires that students must meet the Financial Aid Standards of Academic Progress for certain waivers and exemptions.

### Change of Major and Transfer Credits

Students receiving financial aid must declare a major in an eligible certificate or degree program. Students should only register for courses approved for their designated degree plan/catalog year.

Change of Major requests will be considered. Change of Major request forms must be submitted to the student's enrollment coach. The Enrollment Center personnel will change the student major to ensure that the student's new program is tracked for SAP.

Transfer credits that are applicable to the student's degree plan will be counted in both the attempted and completed credits.

### Additional Certificates and Degrees

The student must be meeting SAP requirements. Changing programs will not change a student's current status. The student's time frame and continued eligibility will be re-evaluated at the time of the review.

### Additional SAP Rules: Remedial or Developmental Coursework

You may be able to take up to 27 hours of remedial or developmental course work and receive financial aid to pay for those costs. These courses will be included in the qualitative and quantitative measurements for SAP. All courses, including failures, incompletes, in progress or drop/withdrawal are counted toward the maximum 27 credit hour limit. Once you have attempted 27 credit hours of remedial or developmental classes, you will not be able to receive additional financial aid to pay for those courses. Enrollment in these courses is indicated by testing or as recommended by an enrollment coach.

Financial aid will not pay for the following courses:

- Courses taken by audit.
- Courses taken outside of your degree plan requirements.
- Courses attempted more than two times (except remedial/developmental courses.)
- Credits exceeding the 27 maximum credits for developmental courses.
- Courses previously passed, unless that course grade failed the minimum grade requirement for the program of study. In this case, there must be documentation that specifies the minimum course grade required.
- A third attempt to take a previously passed course. Starting July 1, 2011, only two attempts will be approved if a

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course was previously passed.

- Credit hours earned by placement tests.
- Continuing education courses.
- Courses for which you register after the official census date of the class or for which you begin attendance after the official census date of the class.
- Time frame and/or credit hours in excess of the 150% maximum program limit.
- Courses taken without having a declared eligible program (enrolled as undeclared, undecided or non-degree seeking.)

### Failure to Meet the Financial Aid Standards of Academic Progress

#### Warning

The first time that a student fails to meet the qualitative (minimum 2.0 semester or cumulative GPA) or quantitative requirements (minimum 67% of courses completed for the term or cumulatively), the student will be placed on financial aid warning. The only exception is for exceeding maximum hours, which results in immediate suspension. Students on warning status may receive financial aid without completing an appeal.

Failing to meet any one of the SAP measurements during the warning period will place a student on suspension.

#### Suspension

There are several conditions that may place a student on Financial Aid Suspension. The student is responsible for paying all expenses during any enrollment period(s) while on suspension. Students can be placed on suspension after a warning or probation status.

- Reaching the maximum time frame for the program of study can place a student on suspension.
- A student who fails to meet any of the SAP measurements during a warning period will be placed on Financial Aid Suspension and will lose eligibility for all financial aid until all SAP measurements have been met. It may take several terms of enrollment to regain eligibility.
- A student who is on Financial Aid Probation and fails to meet the Academic or Success Plan measurements will be placed on Financial Aid Suspension.

Other types of Financial Aid Suspension:

#### Maximum Time Frame

A student who has reached the maximum time frame for their program of study will be placed on a Maximum Time Frame status, which is a type of financial aid suspension. The maximum time frame is calculated by multiplying the number of hours required for the program by 1.5.

If the college mathematically determines that you cannot complete your program within the 150% limit, you will immediately be placed on Maximum Time Frame.

Once the 150% limit has been met, you cannot regain satisfactory progress or financial aid eligibility for that program of study.

#### Maximum Time Frame Suspension

A student who has reached the maximum time frame for their program of study and has also failed to comply with another SAP measurement, such as having a term or cumulative GPA below 2.0 or a term or cumulative completion rate below 67%, will be placed on maximum time frame suspension.

#### Reinstatement of Financial Aid Eligibility

If you are on financial aid suspension for reasons other than reaching the maximum time frame, you may have your aid reinstated in one of the following manners:

1. Continue to attend TSTC without financial aid until you are able to achieve both:
  - i. A cumulative GPA of 2.0 or higher along with 2.0 GPA for your last term of enrollment.
  - ii. A 67% cumulative completion rate along with a 67% completion rate for your last term of enrollment.

Once you have met both of these standards, you will once again be eligible to receive aid as long as you continue to maintain academic progress. It may require multiple terms for students with an extremely low

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GPA and or completion rate to regain financial aid eligibility.

2. File a SAP appeal demonstrating mitigating circumstances and be approved.
3. If you have reached the maximum time frame for your program of study (150%), you may not regain eligibility to receive additional financial aid unless a SAP appeal or a Time Frame Extension is granted.

### Appeal Process

Students who are placed on financial aid suspension, maximum time frame, or maximum time frame suspension may file an appeal based on mitigating circumstances.

Note: Appeals should include supporting documentation.

The student is responsible for any payments and meeting payment deadlines during the appeal process. The student should not miss payment deadlines while waiting for a response. Failure to pay for tuition and fees may result in deregistration. The student is responsible for balances due, if the student withdraws before or after an appeal is denied.

Appeals will only be granted for conditions causing extenuating hardship to the student, such as the death of a family member, illness or injury of the student, or other mitigating circumstances. The appeal should include supporting documentation regarding your mitigating circumstance, such as medical statements, death certificates or other supporting documentation. Appeals for mitigating circumstances will be considered during a student's enrollment at TSTC on a case-by-case basis. Submitting an appeal does not guarantee approval of the appeal. Sitting out a semester or more does not change the SAP calculation result. Appeals will be reviewed by enrollment coaches and may be appealed to the assistant director of the Enrollment Center, whose decision is final.

A suspension appeal must include the following:

- A completed Satisfactory Academic Progress Appeal Form.
- A written description of the mitigating circumstances.
- Documentation to support any claims.
- A description of the steps you have taken to remedy the situation.
- A Success Plan showing a plan of action you intend to take for academic success.

A maximum time frame appeal must include the following:

- A completed Federal Time Frame Extension form.
- A written description of the mitigating circumstances.
- Documentation to support any claims.
- A degree plan showing the number of hours remaining until graduation.

A maximum time frame suspension appeal must include the following:

- A completed Satisfactory Academic Progress Appeal form.
- A written description of the mitigating circumstances.
- Documentation to support any claims.
- A degree plan showing the number of hours remaining until graduation.
- A description of the steps you have taken to remedy the situation.
- A Success Plan showing a plan of action you intend to take for academic success.

Once you are notified of not being eligible for financial aid (financial aid suspension), you have five working days to submit an appeal or up to the subsequent semester census date, whichever comes first.

### COVID-19

Effective May 11, 2020, circumstances related to an outbreak of COVID-19, including, but not limited to, the illness of a student or family member, compliance with a quarantine period, or the general disruption resulting from such an outbreak may form the basis of a student's SAP appeal. Documentation for these appeals may consist of the student's statement except in cases requiring proof of illness of student or family member.

### Appeal Decisions



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### **Maximum Time Frame Appeal Approved**

The student will be placed on an academic plan and their progress will be reviewed at the end of each term. Failure to meet both GPA and completion rate standards will result in suspension from aid.

### **Maximum Suspension Appeal Approved**

The student will be placed on an academic plan and their progress will be reviewed at the end of each term. Failure to meet both GPA and completion rate standards will result in suspension from aid.

### **Probation**

A student will be placed on probation if it is determined that he or she should be able to reach both the 2.0 term and cumulative GPA and 67% term and cumulative completion rate requirements at the end of the next term of enrollment. If the student fails to meet any of these standards, he or she will be placed on suspension.

### **Academic Plan**

A student may be placed on an academic plan under which they are able to achieve a 2.0 GPA by the end of their second year of enrollment so that they will be eligible for graduation. While in this status, a student must be making progress according to an academic plan which dictates that a student must achieve a term GPA of 2.0 or higher and a term completion rate of at least 67% in order to continue to retain aid eligibility. The first term that a student is under an academic plan will be a probationary term. If the student complies with the terms of the academic plan, he or she will be making academic progress and can continue to receive aid as long as they meet the conditions of the plan. Failure to achieve these conditions will result in suspension.

### **Appeal Denied**

The student will not be eligible to receive financial aid until he or she meets the SAP standards as listed above and both a cumulative 2.0 GPA and a cumulative completion rate of 67%. It may take several semesters in order for a student to regain aid eligibility.

### **Repayment of Federal Funds: Return of Title IV**

If a student receives federal financial aid and stops attending or withdraws from all courses at or before 60% of the term is completed, the student will be required to repay all or a portion of the federal aid received, including aid used to pay for college expenses. If the student received a grade of F in all courses for any term, the student will be required to repay a portion of the federal aid received, based on last date of participation, unless an instructor certifies and documents that the student was participating in at least one class after the 60% point of the term or until the end of the term. A term may consist of one or more blocks or modules.

For information on the return of Title IV funds, go to [tstc.edu/financialaid/returnoffunds](https://tstc.edu/financialaid/returnoffunds).

## **16. Managing Student Debt**

TSTC, along with other colleges and universities throughout the country, is concerned about student debt and financial literacy. There are many reports and statistics that indicate having high debt affects a student's enrollment, retention, and graduation. Students can meet with an Advocacy Resource Center Coach for information on financial planning and assistance with budgeting.

Students can learn about financial planning, saving, and investing at [www.financialliteracy101.org/financial-literacy](https://www.financialliteracy101.org/financial-literacy).

Students enrolled in the TSTC 1101 College Success course are also provided with financial literacy information. This course introduces students to college resources and helps students manage money and debt effectively. All students, except dual enrollment students, who enter TSTC with fewer than 24 semester credit hours are required to take this course during their first semester.

## **17. Veteran Benefits**

TSTC is approved for training service members, veterans and their eligible dependents under the provisions of various laws commonly called the GI Bill®. The student is responsible for tuition and fees not covered by GI Bill® or the Hazlewood Tuition Exemption. A spouse or child of a veteran may receive benefits under certain conditions. The DD form 214 and all official college, university and military transcripts are required. Veterans who are eligible for assistance under any of the Department of Veterans Affairs programs should contact Veteran Services.

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Service members, Veterans and dependents are encouraged to review all benefits at [benefits.va.gov/gibill](https://benefits.va.gov/gibill) before applying for educational benefits. Texas Veterans and their dependents may be eligible for benefits under the Texas Hazlewood Act. The Texas Hazlewood Act encompasses many different tuition exemptions and/or waivers for eligible Veterans and their dependents. Please visit [www.tvc.texas.gov](https://www.tvc.texas.gov) to view all eligibility requirements. Texas Veterans interested in using the Hazlewood Tuition Exemption must submit the proper application and all supporting documentations to the Veterans Services Office.

NOTE: All active-duty, reservist or National Guard Service members are encouraged to speak with their educational service officer (ESO) or counselor within their military service prior to enrolling at TSTC.

## No Show Status

Veterans/Dependents reported as a No Show will have their enrollment certification interrupted and may impact the student's VA education benefits. Overpayment due to a No Show Status is the Veteran's responsibility, and money may be owed to TSTC and/or VA Education Department.

## Enrollment Certification

Only classes that earn credit toward the Veteran's VA approved signed degree plan will be certified to VA. Veterans will not be certified for repeat courses that are considered completed. It is the Veteran's responsibility to meet with their enrollment coach and register for the required classes. You may request a printout of your program evaluation from your program advisor, Veteran Services or print the Program Evaluation that is available in the TSTC Portal.

## Pending Payment Compliance

In accordance with Title 38 US Code 3679(e), Texas State Technical College adopts the following additional provisions for any student using U.S. Department of Veterans Affairs (VA) Post-9/11 G.I. Bill® (Ch. 33) or Vocational Rehabilitation & Employment (Ch. 31) benefits, while payment to the institution is pending from VA. Texas State Technical College will not:

- Prevent the student's enrollment.
- Assess a late penalty fee to the student.
- Require the student to secure alternative or additional funding.
- Deny the student access to any resources (access to classes, libraries or other institutional facilities) available to other students who have satisfied their tuition and fee bills to the institution.

However, to qualify for this provision, such students may be required to:

- Produce the VA Certificate of Eligibility (COE) by the first day of class.
- Provide a written request to be certified.
- Provide additional information needed to properly certify the enrollment as described in other institutional policies.

## 18. Textbooks and Supplies

### The Campus Stores

TSTC Campus Stores offer a wide selection of books, technology tools, and supplies required for classes and labs. Visit a [Campus Store](#) to buy new and used books. If you are an online student, please feel free to visit the Waco or Harlingen stores online, and items will be shipped to you.

## 07. First Steps at TSTC

### 01. Advising

Texas State Technical College recognizes advisement as an essential contributor to the educational experience, student learning and student success. TSTC provides strong institutional support and has developed a comprehensive advisement program to support student success. In support of student success, advisement services are designed to guide students through the various levels of the college experience to enable them to realize their personal, career and educational goals, as well as prepare them for lifelong learning. Advisement services are available to all degree and non-degree-seeking prospective and current students.

TSTC students are responsible for:

- Seeking advisement;
- Understanding assessments and Texas Success Initiative (TSI) requirements for their program of study;

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- Enrolling in courses in the appropriate sequence to ensure progress and success toward their educational objectives; and
- Understanding and adhering to all policies and procedures.

Each TSTC campus provides faculty program advisors and enrollment coaches to assist with TSI advisement.

### **New Student Advising**

During the admissions process, an Enrollment Center staff member acts as a guide for new students to make sure that all admissions requirements are met. All new students are encouraged to contact an enrollment coach to begin the advising process prior to or upon completing the admissions requirements.

### **Faculty Program Advisor**

Program advisement will continue throughout the student's enrollment. All students are assigned a faculty program advisor based on their major, as well as an enrollment coach. Students are responsible for scheduling an appointment with a faculty program advisor prior to registering for the subsequent semester. Faculty program advisors or enrollment coaches will inform students of any restrictions that may prevent them from registering. It is the student's responsibility to clear all restrictions.

Faculty program advisors can assist with:

- Program admission requirements, if applicable.
- Degree and certificate completion, and program changes.
- Licenses or certification for job placement.
- TSI compliance, as needed.
- Program completion time, course transfer, and substitutions.
- Time commitment to lecture and lab.
- Opportunities for career assessment and advisement.
- First Year Seminar (TSTC 1101/TSTC 1102) requirement.
- Maintaining academic and financial aid standards of progress.
- Departmental participation policy.
- Dropping/adding class(es) or withdrawing from the College.
- Job placement, gainful employment information, and job market expectations.
- Applying for graduation.

Students will meet with the program advisor each semester to make sure that the student is meeting all of the requirements to successfully graduate from the program.

### **Enrollment Center**

#### **Current/Returning Student Advising**

Enrollment coaches in the Enrollment Center assist in the retention and advising of current and returning students. Assistance includes continuing registration advising, maintaining financial aid, managing the Early Alert system which serves as an intervention tool when faculty request assistance, clearing students on Academic Suspension approved by the HATSS Mentoring Program, financial aid appeals, and monitoring progress toward graduation.

The Enrollment Center staff works on a caseload management basis with students from application through graduation.

### **Performance-Based Education Mentors**

Performance-Based Education (PBE) mentors serve as an additional resource for students in Performance-Based Education programs. PBE mentors help promote student success by assisting students as they progress through their program and course competencies. They help students stay on track to meet their academic goals, connecting them with appropriate interventions, including strategies in study habits, time management and other academic resources. PBE mentors also help answer any questions about the PBE program in general, and connect students with other support services to facilitate progress and successful completion of their program at TSTC.

## **02. Testing Center**

The Testing Centers provide a professional and positive environment by adhering to the National College Testing Association (NCTA) Professional Standards and Guidelines. We offer comprehensive testing services to students, staff and community members to support career and educational success.

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## Hours of Operation

8 a.m.-5 p.m., Monday through Friday

Please contact a [Testing Center](#) near you for test dates and times. Hours are subject to change, and appointments are required. Walk-ins may be accommodated depending on seat availability and office hours.

## Testing Center Policies

Acts of misconduct or academic dishonesty will be reported. Candidates and students will be continuously monitored by video surveillance, walk-throughs and the observation windows during testing. For more information on the policies, visit the [Testing Center](#) webpage.

## Testing Accommodation

For disability accommodations, please contact our Access & Learning Accommodations Office at [adarequest@tstc.edu](mailto:adarequest@tstc.edu) at least one week before your test date. Late requests will be considered but cannot be guaranteed.

## TSI Assessment 2.0 (TSIA2)

The TSIA2 is designed to help higher education institutions determine if students are ready for college-level coursework in the general areas of reading, writing and mathematics. An enrollment coach will help you determine whether you need to take the assessment. Before you take the TSIA2, you must participate in a mandatory [Pre-Assessment Activity \(PAA\)](#) unless you have already completed a PAA at TSTC or another institution. The PAA provides practice test questions, developmental education options and available campus and community resources.

## College-Level Examination Program (CLEP)

The CLEP exam allows you to move ahead in your coursework based on your previous knowledge. The exam covers a variety of subject areas including business, science and mathematics, history and social sciences, foreign languages, and composition and literature. The CLEP exam is currently offered at our Abilene, Harlingen and Waco locations. Military personnel take CLEP exams for FREE and receive free test-prep books as part of their education benefits.

TSTC awards course credit for the following [CLEP subject exams](#), providing the minimum score has been obtained on the specific test. TSTC does not award credit for the CLEP General Exams. CLEP scores are valid for 10 years from the test date.

## Additional Testing

The Testing Centers offer allied health and nursing admission exams (ATI TEAS, HESI A2, HESI LPN-ADN), credit by exams (CLEP), placement exam (TSI Assessment 2.0), proctored exams and professional certification and licensing exams. Not all tests are available at each Testing Center. For a complete list of exams, please visit the [Testing Center](#) webpage.

## 03. New Student Orientation

After the registration process, students receive information on the New Student Orientation (NSO) schedule for in-person sections or an online option. New Student Orientation is a great way to begin your TSTC journey. You will be introduced to campus resources and learn how to get involved with campus activities. [For NSO details click here.](#)

## 04. First Year Seminar Courses (TSTC 1101 and TSTC 1102)

All current TSTC students and all transfer students with fewer than 24 Semester Credit Hours (SCH) are required to take a first year seminar course, TSTC 1101 College Success or TSTC 1102 Professional Skills & Success. The course catalog degree plans identify which degrees and certificates require TSTC 1101 or 1102. These one-credit-hour, student-success courses will present students with the essential knowledge to accomplish their goals at TSTC. This course is the most important class a student will take at the college and provides a strong foundation for a student's academic and professional career by focusing on student development, utilizing campus resources and building lifelong learning skills for academic and workplace success.

Only one successfully completed TSTC 1101 or TSTC 1102 is required. Dual enrollment students are exempt from taking

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this course. Students who intend to attend TSTC for one semester only may request a one-time exemption from the TSTC 1101 or TSTC 1102 course from the Office of Student Learning.

Transfer students who have successfully completed more than 24 credit hours may be exempted from taking this required course. All students are responsible for providing official transcripts to the Enrollment Center to receive the exemption. Transcripts should be received no later than one week prior to the start of the semester. Students are responsible for updating their schedules after providing transcripts that show 24 or more hours of successfully completed credit or after an exemption has been approved.

The following programs require TSTC 1102:

- Architectural Design and Engineering Graphics Technology
- Architectural/Civil Drafting Technology
- Auto Collision and Management Technology
- Automation Control Technology
- Automotive Technology
- Avionics Technology
- Biomedical Equipment Technology
- Building Construction Technology
- Business Management Technology
- Chemical Dependency Counseling
- Computer Networking and Systems Administration
- Computer Programming Technology
- Culinary Arts
- Cybersecurity
- Diesel Equipment Technology
- Digital Media Design
- Electromechanical Technology
- Engineering Graphics and Design Technology
- Health Information Technology
- HVAC Technology
- Industrial Systems
- Mechatronics Technology
- Medical Imaging Systems Technology
- Occupational Safety and Environmental Compliance Technology
- Plumbing and Pipefitting Technology
- Precision Machining Technology
- Robotics
- Solar Energy Technology
- Visual Communication Technology
- Web Design and Development
- Wind Energy Technology

### 05. Nontraditional Services

Nontraditional occupations for females and males are defined as “a field in which either gender comprises less than 25 percent of the current enrollment.” Each TSTC campus provides services to assist qualifying students that are enrolled full-time in a declared nontraditional program of study leading to an associate degree, certificate or occupational skills award.

For more information on services provided to nontraditional students, please consult the following individuals:

East Williamson County  
Campus Enrollment Executive  
254-867-2990

Fort Bend County  
Advocacy & Resource Center  
346-239-3233

Harlingen  
Advocacy & Resource Center  
956-364-4525

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Marshall  
Advocacy & Resource Center  
903-934-3646

North Texas  
Campus Enrollment Executive  
254-867-2224

Waco  
Advocacy & Resource Center  
254-867-2990

West Texas (Abilene, Breckenridge, Brownwood, and Sweetwater)  
Advocacy & Resource Center  
325-734-3607

Services are funded through the Carl D. Perkins Vocational & Applied Technology Act and are contingent upon the availability of funds during the pertinent semester and the adherence to program policies.

## 06. Student Identification Cards

All new college-credit students are required to obtain TSTC identification (ID) cards when they register. ID cards are optional for students in Workforce Training & Continuing Education, depending on the course or program.

Students should carry these cards at all times. They must be presented for various purposes, such as cashing checks, paying fees, checking out library books or as requested by authorized officials. Misuse of ID cards may result in disciplinary action.

## 08. Scholastic Information

### 01. Academic Integrity

TSTC expects all students to engage in scholastic pursuits in complete honesty and integrity. Any student found guilty of academic dishonesty is subject to disciplinary action. Academic dishonesty includes, but is not limited to, cheating on academic work, plagiarism and collusion.

**Cheating:** Activity that includes, but is not limited to:

- Copying from another student's assignment, test or other academic work.
- Possessing material, such as class notes or textbooks, during a test that is not authorized by the instructor of record.
- Collaborating, without authority, or seeking aid from another student during an examination or assignment, or in preparing academic work.
- Using, buying, selling, stealing, transporting or soliciting, in whole or in part, the contents of an unadministered test, test key, homework solution or computer program.
- Substituting for another student or permitting another student to substitute for oneself to take a test or prepare other academic work.
- Paying, offering money or other valuables, or coercing another person to obtain an unadministered test, test key, homework solution or computer program, or to obtain information about an unadministered test, test key, homework solution or computer program.
- Falsifying laboratory reports and/or other academic work offered for credit.
- Taking, keeping, misplacing or damaging property of the college, or of another individual student, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct.
- Willfully failing to comply with instructions given by a person administering a test.
- Discussing, without express permission from the instructor of record, the contents of an examination with another student who will take the examination.
- Divulging the contents of an examination for the purpose of preserving questions for use by another when the instructor has designated that the examination is not to be removed from the examination room or not to be returned to the student.
- Misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining academic or

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financial benefit or for the purpose of injuring another student academically or financially.

**Plagiarism** means claiming another's work as one's own without acknowledging its origin and doing so for credit.

**Collusion** means unauthorized collaboration with another person in preparing a written work offered for credit.

For more information and procedures regarding a violation, see the [Code of Student Conduct](#), Section J, Violations of Academic Integrity.

## 02. Credentials

TSTC offers programs of study leading to stackable credentials. Students may earn an Occupational Skills Award (OSA), Level 1 Certificates, Level 2 Certificates, Core Curriculum Completer institutional certificate (CCC), Associate of Applied Science degrees (AAS), Associate of Science (AS) degrees, and/or Advanced Technical Certificates (ATC). High school students, who attend participating partnering high schools, may participate and complete dual enrollment pathways, while enrolled in high school. All programs are approved by the Texas Higher Education Coordinating Board.

**Associate of Science (AS) Degree** programs are designed specifically for students who reside in the Rio Grande Valley and are planning to pursue a bachelor's degree in the areas of biology, computer science, engineering, mathematics and/or physics. Programs may include the institution's approved academic core curriculum and prerequisites for a seamless transition into a baccalaureate program. Associate degree programs must incorporate TSTC's approved core curriculum unless an exemption exists. Graduates of these programs will receive an Associate of Science degree. TSTC Harlingen participates in the Texas Common Course Numbering System ([TCCNS](#)) to facilitate transfer work for freshman and sophomore level general academic coursework. [AS curriculum contains 60 Semester Credit Hours (SCH)]

**Associate of Applied Science (AAS) Degree** programs are designed to train technicians who work with professionals. The AAS is awarded for technical programs of study. These programs prepare technicians who are in demand in today's industry to work on a level between engineers and skilled craftsmen. Because technicians must be able to understand the profession and translate ideas into actual processes, the technical programs combine theory and laboratory classes with laboratory and shop experience. All graduates of associate degree programs must show they are competent in communication and the use of computers by satisfactorily completing at least one course in which communication and basic computer skills are covered. Graduates of these programs receive an Associate of Applied Science degrees. [AAS curriculum contains 60 SCH, other than Dental Hygiene AAS 68 SCH]

**Advanced Technical Certificate (ATC)** programs are comprised of 16-45 semester credit hours. A student must have an associate degree, baccalaureate degree, or junior status in a baccalaureate degree program.

**Certificate of Completion** awards are offered for skill development programs. These programs are designed to produce the skilled workers needed by modern industry. Skill programs emphasize laboratory and shop experience rather than theory. Certificate programs teach students specific skills for entry-level careers. All graduates of certificate programs show that they are competent in oral communication and the use of computers by satisfactorily completing at least one course in which oral communications and basic computer skills are covered. Graduates of these programs receive certificates of completion.

**Certificate 3** Enhanced Skills Certificate is an optional certificate associated with an AAS degree program that is intended to provide advanced training skills, identified by business and industry, which are not part of the AAS degree. It is comprised of a minimum of 6 SCH and a maximum of 12 SCH.

**Certificate 2** programs are comprised of a minimum of 30 SCH and a maximum of 51 SCH.

**Certificate 1** programs are comprised of at least 15 SCH and a maximum of 42 SCH.

**Core Curriculum Completer Certificate** is awarded upon satisfactory completion of all elements and courses in the TSTC approved 42 SCH Core Curriculum.

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**Occupational Skills Award (OSA)** is a sequence of courses that meet the minimum standard for a program length specified by the Texas Workforce Commission for the Federal Workforce Innovation and Opportunity Act (WIOA) program. These short-term, skills-focused courses provide students with the basic technical skills needed to start an entry-level career. OSA awards consist of 9-14 SCH for credit courses and 144-359 contact hours for workforce continuing education courses.

### 03. Degree and Certificate Plans

A degree or certificate plan includes a set of courses that are required to earn a specific degree or certificate. Electives are approved by the student's faculty advisor and indicated in the plan. Course credit may be earned at TSTC, transferred from another college or university, or awarded through examination.

Courses may be substituted if they are approved by the department designee or subject matter expert. No situation guarantees that a course substitution will be approved. Each request is decided on its own merit.

Transfer credit shall be processed by the Office of the Registrar using the Texas Common Course Numbering System (TCCNS) Transfer Guide for courses offered at state institutions. Transfer coursework must be assigned a grade of "D" or better. Grades lower than a "C" shall not be accepted for transfer toward major or major-related courses in the student's program. Credits earned at other colleges and universities must be approved for transfer credit by the subject matter expert in the student's major field of study. Credit for courses in related areas may also require approval from the subject matter expert of that program area.

A student is certified for graduation only when credit has been earned for all courses and all graduation requirements have been met. Any appropriate course substitution and/or transfer credit authorizations must be on file. The minimum grade point average (GPA) must also be met. Although advisors are available to assist, students are responsible for keeping track of their progress toward meeting program requirements. Contact the Enrollment Coach for assistance.

#### Additional Degrees and Certificates

Credit hours may be applied toward more than one degree and/or certificate, as long as those hours meet requirements of those credentials.

### 04. Change of Major

A student may change majors only between terms or prior to the 11th class day of a 15-week semester, the fifth class day of a 12-week semester, the fourth class day of a 10-week semester, or the fourth class day of a 6-week session. Students who wish to change programs should meet with an Enrollment Coach or a program advisor. Students must meet the entry requirements if specified. Students receiving financial aid should meet with the Enrollment Center before changing their major.

To change majors, students must follow these procedures:

1. Complete the [change of major form](#), including obtaining all required signatures. Students may be required to meet additional admission criteria for the new major.
2. Return the completed form to the Enrollment Coach for processing.

### 05. Institutional Awards

TSTC offers technical training in defined skill sets which can be grouped in various combinations to meet specific job requirements for business or industry. These pathways are designed to allow students and/or incumbent workers to enter, exit and re-enter TSTC training while they continue to work or pursue further training.

Credits earned in these pathways may be applied to a college credit for an Occupations Skills Award, Certificate of Completion and/or Associate of Applied Science degree. TSTC also offers Associate of Science Degrees at the Harlingen location only.

### 06. Course Load

Students in good standing may register for course loads equivalent to those specified in their instructional programs.

Students may register for less than normal loads but must register for a minimum of 12 credits to be considered full-time. Students who are making unsatisfactory progress or carrying excessive outside work may be required by department



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chairs or faculty advisors to register for less than normal loads.

Students may register for up to 18 credits with the approval of the faculty advisor. Enrollment for more than 18 credits requires approval of the appropriate department designee.

### 07. Classification

Students are classified as freshmen if they have earned less than 30 hours of college credit. They are classified as sophomores if they have earned 30 to 72 hours of college credit.

### 08. Grading Standards

TSTC measures student achievement of skills, knowledge and competencies through a system of grading standards. Four grades (A, B, C, D) indicate that credit was received and a grade was awarded. One mark (CR) indicates that credit was received but no grade was awarded. One grade (F) and various other marks indicate that no credit was received and no grade points were awarded.

The following system of final grades and marks applies to courses offered in a traditional format. Grades or marks are used by TSTC to report student performance for each course attempted and/or credited toward graduation.

#### Traditional Grading Standards

Note: Grading standards listed below do not apply to Performance-Based Education (PBE).

Grade	Interpretation	Grade Points
A	Excellent/Superior Performance Level	4
B	Above Required Performance Level	3
C	Minimum Required Performance Level	2
D	Below Required Performance Level	1
F	Failure to Meet Performance Requirements	0
P	Pass/Meets Required Performance Level (For use in a developmental course or a specialized course and may be used, at the discretion of the College, for up to six credit hours in a program, except during critical extenuating circumstances, in which case more than six hours of Pass/Fail may be applied and additional course offerings may be available for Pass/Fail grading. The grade of "P" should only be applied to developmental or Technical WECM courses.)	NC
IP	In Progress (For use when a student has not had sufficient time to complete the course due to extended illness or other circumstances beyond the student's control. A grade of IP will be changed to a grade of F if the student does not complete the course requirements by a date specified by the faculty member or within one year, whichever is less.)	NC
IM	Incomplete-Military Leave (For use by students who are called to active military service near the end of a term. A grade of IM will be changed to a grade of W if the student does not complete the course requirements within two years of the date the IM grade was awarded.)	NC
W	Withdrawal	NC

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Grade	Interpretation	Grade Points
CR	Credit (Represents credit for courses that are accepted toward program completion and graduation as a result of transfer from other institutions or programs, advanced standing evaluation, credit by examination, articulation agreements, or other validations of course-required knowledge and skills.)	NC
AUD	Audit of Course	NC
S	Satisfactory (For use in Continuing Education courses and programs.)	NC
UN	Unsatisfactory (For use in Continuing Education courses and programs.)	NC
X	No Grade Assigned	NC
NP	No Pass (Represents a grade of "Unsatisfactory" and maybe used at the discretion of the College during critical extenuating circumstances. A grade of "NP" does not meet the required performance level for the course. Grades of "NP" will count as hours attempted, but have no effect on student's GPA.)	NC
FA	Failing (prior to September 1988)	0
I	Incomplete (prior to September 1988)	NC
U	Unsatisfactory (prior to September 1988)	0
WF	Withdrew Failing (prior to September 1988)	0
WP	Withdrew Passing (prior to September 1988)	NC

NC: Not Calculated

Performance-Based Education (PBE) Grading Standards

**Technical Courses:**

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Grade	Interpretation	Grade Points
A	Excellent/Superior Performance Level	4
B	Above Required Performance Level	3
F	Failure to Meet Performance Requirements	0
IM	Incomplete-Military Leave (For use by students who are called to active military service near the end of a term. A grade of IM will be changed to a grade of W if the student does not complete the course requirements within two years of the date the IM grade was awarded.)	NC
W	Withdrawal	NC
CR	Credit (Represents credit for courses that are accepted toward program completion and graduation as a result of transfer from other institutions or programs, advanced standing evaluation, credit by examination, articulation agreements, or other validations of course-required knowledge and skills.)	NC
AUD	Audit of Course	NC
S	Satisfactory (For use in Continuing Education courses and programs.)	NC
UN	Unsatisfactory (For use in Continuing Education courses and programs.)	NC
X	No Grade Assigned	NC
NE	The grade of NE represents a grade of "No Credit Earned." The grade of "NE" is non-punitive and is not calculated in grade-point averages. Grade of "NE" can be assigned to a student who enrolls in performance-based courses that is over the 12.00 SCH (full-time status) in one term and who has not had sufficient time to complete the course due to the registration date.	NC
NA	The grade of "NA" represents a grade of "Not Applicable." The grade of "NA" is non-punitive and is not calculated in grade-point averages. A grade of "NA" may be used for a midterm grade in a scheduled PBE course in which a student has not yet reached the midpoint of the course.	NC

NC: Not Calculated

### Academic, Developmental Education and First Year Seminar Courses:

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Grade	Interpretation	Grade Points
A	Excellent/Superior Performance Level	4
B	Above Required Performance Level	3
C	Minimum Required Performance Level	2
F	Failure to Meet Performance Requirements	0
IM	Incomplete-Military Leave (For use by students who are called to active military service near the end of a term. A grade of IM will be changed to a grade of W if the student does not complete the course requirements within two years of the date the IM grade was awarded.)	NC
W	Withdrawal	NC
CR	Credit (Represents credit for courses that are accepted toward program completion and graduation as a result of transfer from other institutions or programs, advanced standing evaluation, credit by examination, articulation agreements, or other validations of course-required knowledge and skills.)	NC
AUD	Audit of Course	NC
S	Satisfactory (For use in Continuing Education courses and programs.)	NC
UN	Unsatisfactory (For use in Continuing Education courses and programs.)	NC
X	No Grade Assigned	NC

NC: Not Calculated

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Note: Students who have transcribed courses from a traditional program and move into a PBE program will receive credit for their previously transcribed courses. Grades received in the original course(s) will transfer into the PBE program as determined by the program administrator.

## Notification of Grades

Students are expected to monitor their academic progress. Student grades are available upon course completion, and students can view grades by accessing WebAdvisor. Students should review the grade reports for accuracy. All requests for review or correction must be submitted to the enrollment coach within 12 months of the close of the semester in which the course was taken.

## Grade Changes

Student grades are among the most important records kept by the College. Policies and procedures ensure the privacy and integrity of student grade records and, at the same time, provide students a process to appeal final course grade decisions.

The following policies and procedures must be followed to request a grade change.

- A grade change must be requested within 12 months of the issuance of a grade.
- A grade may be changed due to an error, a student completing coursework previously graded "IP" (In Progress), or a fact-supported finding by appropriate members of the administration or appeal committee operating in accordance with established college procedures.
- A grade cannot be changed to a "W" (Withdrawal) unless doing so is in conjunction with an administrative drop or withdrawal from the College that is approved in accordance with college procedures.
- A change of grade form must be completed, noting the reason for the grade change and signed by the student's instructor, appropriate department designee and the Office of the Registrar.
- Upon receipt of the completed and signed grade change form, the Office of the Registrar makes the official change to a student's transcript record.
- A copy of the change of grade form is placed in the student's permanent file for audit purposes.

## 09. Grade Point Averages

Grade points earned for each course are determined by multiplying the number of points for each grade by the number of credit hours that the course carries. For example, a student who takes a three-hour course and earns an "A" accumulates 12 grade points for that course (3 hours x 4 points for an A = 12 points). A student's grade-point average is computed by adding the grade-point values for all college-level courses for which grade-point values may be computed (A, B, C, D, F, FA, U, WF), and dividing this total by the number of credit hours attempted during the same period. Only hours for which grades are awarded are used in calculating the grade-point average (GPA).

### Term Grade-Point Average

The Term GPA is computed for all TSTC college-level courses with grades of A, B, C, D and F recorded during a specific term. Developmental education courses are excluded from the Term GPA calculation.

### Cumulative Grade-Point Average

The Cumulative GPA is computed for all TSTC college-level courses using all grades and grade points earned since enrolling at TSTC. Developmental education courses are excluded from the Cumulative GPA calculation. The Cumulative GPA is used to qualify students for graduation and for graduation honors.

### Standards of Progress Grade-Point Average

A Term and Cumulative Standards of Progress GPA is computed using all TSTC college-level and developmental education courses. The Standards of Progress GPAs are used for determining scholastic standing, term scholastic honors and financial aid eligibility. See "Financial Aid Standards of Academic Progress" in the Financial Aid section for more information.

## 10. Scholastic Standing

TSTC's scholastic standards are based on a philosophy of advancing student progress toward successful course and program completion. The criteria for scholastic standing are designed to monitor student progress so that faculty and staff can intervene and assist students who have difficulty meeting minimum requirements. Scholastic standing is computed at the end of each enrollment period and is based on the Standards of Progress (SOP) Term and Cumulative GPAs.

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## **Good Standing**

A student who maintains minimum 2.00 standards of progress cumulative and term grade point averages will be in good academic standing.

## **Scholastic Probation**

A student whose standards of progress cumulative or term grade point average is below 2.00 at the end of an enrollment period is placed on scholastic probation. A student is removed from scholastic probation when the standards of progress cumulative and term grade point averages are 2.00 or higher.

Scholastic probation is a serious warning that the quality of the student's work must improve in order for the student to continue enrollment in the College. Students on scholastic probation are encouraged to meet with a program advisor or enrollment coach prior to registration to discuss options to improve grade point average.

## **Scholastic Suspension**

A student on scholastic probation who fails to achieve a Standards of Progress Term GPA of 2.00 or higher may be suspended for a time period designated by the College (a minimum of one semester). A suspended student may obtain an application for a waiver of a suspension from the Helping a TSTC Student Succeed (HATSS) Mentoring Program representative. A student who is granted a waiver or re-enters the College after having been suspended shall be placed on scholastic probation status and shall be subject to the minimum requirements governing scholastic probation.

## **11. Scholastic Honors**

### **Term Scholastic Honors**

Full-time students as of the end of term who earn a standards of progress term grade point average of 3.50-3.99 shall be recognized as part of the "Vice Chancellor's Honor Roll" with the notation of "Scholastic Excellence" on the official transcript.

Full-time students as of the end of term who earn a standards of progress term grade point average of 4.00 shall be recognized with the notation of Chancellor's Honor Roll on the official transcript.

In addition, students may be recognized on the TSTC website, see [Honor Recognition Awards](#).

### **Graduation Scholastic Honors**

Graduation honors will be awarded to students who graduate with an Associate Degree, Applied Associate Degree or Certificate of Completion (credit based) program based on the following cumulative grade point averages:

Board of Regents Honors: 4.00

With Honors: 3.50-3.99

Graduation honors will be listed on the official transcript.

## **12. Transcript of Credit**

The transcript of credit is an official statement of the student's complete academic record accumulated at TSTC. Upon a written or Web request to any TSTC campus, the Enrollment Center will release official transcripts to the student or to a third-party that is authorized by the student to receive the transcript. Normally, the minimum time for processing such requests is 24 hours; however, transcripts requested at the end of a term or during holidays may take longer for processing.

Students who request transcripts prior to the end of a term, with current courses and grades to be included in the transcripts, must clearly note the current work as part of the request. Official transcripts may be withheld due to any financial debt, pending disciplinary process or if official transcripts have not been received from previously attended institutions. Students who have not complied with all exit requirements will not be provided with transcripts.

## **13. Repeat Courses**

It is the policy of Texas State Technical College to allow students to repeat a course only when the initial grade earned was below a grade of "A."

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When a student repeats a course in which the grade earned was below an "A," the first grade earned will not be calculated into the cumulative grade point average. The last grade issued (regardless of whether higher or lower than the first grade) will be calculated into the cumulative grade point average. See [Statewide Operating Standard \(SOS\) ES 4.15 - Repeat Courses and GPA Calculation](#).

## 09. Graduation and Commencement

### 01. Graduation Requirements

Within five years of initial enrollment in credit courses at Texas State Technical College, a student may graduate with a degree or certificate according to the catalog requirements in effect at the time of first enrollment at the college provided the degree, certificate, technical program and requisite courses are still being offered.

If a student fails to complete within five years all requirements of the catalog in effect at the time of initial enrollment, the student will be required to graduate under a catalog not older than five years.

Exception to this requirement may be approved in extenuating circumstances by the department's senior vice president of Student Learning.

### 02. Graduation Procedures

The registrar or their designee will certify that the student has met graduation criteria and requirements.

Students are notified of their eligibility for graduation when they achieve the following requirements for the applicable degree or certificate:

1. All required coursework is satisfactorily completed.
2. At least 25% of the total required credit hours for the program earned at TSTC.
3. The student's cumulative grade point average is 2.0 or higher.
4. Grading requirements:
  - a. Course taught in traditional format: The student's grades in all major courses are C or better. Courses with a grade of "Pass" may be counted in satisfaction of degree requirements. This minimum grade requirement may vary for some TSTC health-related programs.
  - b. Course taught in PBE format: The student's grades in all major courses are B or better.
5. All transfer credits accepted by TSTC and applied to the degree or certificate have been credited according to approved procedures for evaluation and award of credit.

Note: All transfer credits are evaluated by the Office of the Registrar using the Texas Common Course Numbering System (TCCNS) Transfer Guide for courses offered at state institutions. Courses that are not listed in the TCNNS, that are from an out-of-state institution or that are from a foreign institution shall be forwarded to the appropriate department/subject-matter experts for further review and approval. Students shall be responsible for providing the necessary documentation about the transfer course(s). In the case of a transfer credit dispute or appeal, the Senior Vice President of Student Learning (SVPSL) or a designee who oversees the department in which the course is taught shall have final authority for awarding transfer credit. See [SOS ES 3.12 Transfer and Substitution of Credit](#) for additional information.

6. The student has no pending disciplinary issues as defined in the TSTC Catalog and Student Handbook.

Note: Settlement of all financial obligations to TSTC must be made prior to graduation. If any business is pending with TSTC by commencement, TSTC withholds the official TSTC transcript until clearance approval.

### 03. Graduation Honors

Students receiving an Associate Degree, Applied Associate Degree or Certificate of Completion (credit based) who earn





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Cumulative GPAs of 4.0 receive TSTC Board of Regents Honors.

Students receiving an Associate Degree, Applied Associate Degree or Certificate of Completion (credit based) who earn Cumulative GPAs of 3.50 to 3.99 receive Honors.



### 04. Commencement Ceremonies

Participation is voluntary; however, candidates for graduation are encouraged to celebrate their accomplishments by participating in a commencement ceremony. Students not planning to attend the commencement ceremony may pick up their diplomas, covers, cords and/or Board of Regent

medallions at the Enrollment Center once certification of degrees has been completed. There is also an option to have their graduation items mailed to them at the address in the College's administrative database after certification.

Candidates for graduation participating in the commencement ceremony must wear only TSTC designated regalia (cap, gown, tassel) which may be purchased at the [TSTC Campus Store](#).

Students requiring accommodations for commencement will need to make arrangements with Access and Learning Accommodations prior to the ceremony.

### 05. Diploma Reprint Request

To request a reprint of a diploma, students must complete the diploma reorder form and submit for processing at [registrars@tstc.edu](mailto:registrars@tstc.edu). The diploma reorder form can be obtained through the Office of the Registrar.

### 06. Graduate Guarantee

If a graduate from a credit-bearing program is judged by his/her employer to be lacking in technical job skills identified as exit competencies for the program under which the student graduated or completed, TSTC will provide the graduate with up to nine tuition-free semester credit hours of additional skill training, in accordance with the following:

1. The graduate must have earned the degree, certificate or award in a technical or occupational program or pathway published in the TSTC catalog.
2. The graduate must have earned at least 75 percent of the total credits of the associate degree or certificate of completion at TSTC and must have completed the degree or certificate of completion within five years of initial enrollment.
3. The graduate must be employed full-time in an area directly related to the program concentration, as certified by the Chief Academic Officer or designee.
4. The employment must have commenced within 12 months of graduation or completion.
5. The Graduate Guarantee process must be initiated in writing to the TSTC Office of the Chancellor and CEO by either the graduate or the employer.
6. The employer must certify in writing that the employee is lacking entry-level skills identified by TSTC as program exit competencies and must specify the areas of deficiency within 90 days of the graduate's initial employment.
7. The employer, the graduate, career counselor and appropriate chairperson will develop a written educational plan for retraining.
8. Retraining will be limited to nine semester credit hours related to the identified skill deficiency and to those classes





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regularly scheduled during the period covered by the retraining plan.

9. All retraining must be completed within one calendar year from the time the educational plan is agreed upon.
10. The graduate and/or employer will be responsible for the cost of books, insurance, uniforms, fees and/or other course-related expenses.
11. The guarantee does not imply that the graduate will pass any licensing or qualifying examination for a particular career.

A student's sole remedy against TSTC and its employees for skill deficiencies shall be limited to nine semester credit hours of tuition-free education, as described above.

### 07. The TSTC Foundation Alumni Network

The TSTC Foundation Alumni Network serves and supports Texas State Technical College, its students and alumni. Through the Alumni Network, students and alumni can connect with job opportunities (hireTSTC) and participate in job fairs.

Being a part of the Alumni Network comes at no cost and gives alumni access to the following benefits:

- The TSTC Foundation Alumni Job Network.
- The hireTSTC job portal, including job alerts, interview tips and invitations to upcoming job fairs.
- Semesterly e-newsletters.

More than 100,000 alumni are already part of The TSTC Foundation Alumni Network. Sign up today by visiting our website at [tstc.edu/alumni](https://tstc.edu/alumni), or contact us at [tstc.alumni@tstc.edu](mailto:tstc.alumni@tstc.edu) or 254-867-3980.

## 10. Academic Planning

### 01. Areas of Study

With more than 40 programs in a wide range of industries, we've got the high-demand skills training for the career you want.

[Academics](#)

[Allied Health](#)

[Arts & Design](#)

[Aviation](#)

[Business & Professional Office](#)

[Computer & Information Technology](#)

[Construction & Maintenance](#)

[Engineering & Manufacturing](#)

[Environmental & Safety](#)

[Hospitality](#)

[Transportation](#)

### 02. Degree & Certificate Options

#### Associate of Science

The Associate of Science degree is specifically designed for the benefit of students transferring to a four-year university. TSTC offers this degree in the areas of biology, computer science, engineering, math and physics.

#### Associate of Applied Science

Technical programs of study offered at TSTC award the Associate of Applied Science degree. These programs prepare technicians who are in demand in today's industry to work on a level between engineers and skilled craftsmen.

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### Certificates of Completion

Skill development programs offered at TSTC award certificates of completion. These programs are designed to teach students specific skills needed for entry-level jobs. This is accomplished through specialized training in the particular skills area.

#### Advanced Technical Certificate

An advanced technical certificate is generally designed for individuals who have already completed a two-year Associate of Applied Science degree and are seeking advanced, specialized preparation in a particular career to supplement their degree.

#### Occupational Skills Award

TSTC offers an occupational skills award. These short-term, skills-focused courses provide students with the basic technical skills needed to start an entry-level career.

#### Core Curriculum Completion Certificate

A core curriculum completion certificate is awarded to all students completing the TSTC general education core. The state of Texas guarantees acceptance by a public four-year university of any complete general education core transferred from any other Texas public college.

### 03. Money-Back Guarantee

TSTC's Money-Back Guarantee (MBG) program reinforces our commitment to prepare and place highly skilled, technically competent students in the workforce.

#### Programs eligible for the MBG program include:

- [Diesel Equipment](#) (Heavy Truck, John Deere Construction & Forestry, and Off-Highway)
- [Electrical Lineworker](#)
- [Electrical Power & Controls](#)
- [Industrial Systems](#)
- [Instrumentation](#)
- [Precision Machining](#)
- [Process Operations](#)
- [Robotics](#)
- [Welding](#)

#### Enroll in the Program

Students are eligible to enroll if they are in their first semester at TSTC, in an MBG-approved program working toward their Certificate or Associate of Applied Science degree (AAS), and eligible to work in the U.S. Visit the [Career Services](#) office to enroll during the first semester of the program.

#### Refund Amount

Only tuition dollars paid out of pocket are eligible. If a student used any student loans, TSTC will reimburse the student's lending agency.

### 04. Course Information

#### Developmental Education Courses

TSTC provides courses and learning activities for students who need assistance with basic academic skills. Developmental education courses are not counted as credit toward graduation, but rather are used along with credit courses for determining course load and satisfactory academic progress for financial aid.

#### General Education Courses

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Associate of Applied Science (AAS) degree programs must contain a basic core of five general education courses. This basic core must contain a minimum of 15 semester credit hours and include at least one course from each of the following areas: Humanities/Fine Arts, Social/Behavioral Sciences and Natural Sciences/Mathematics. In addition, TSTC requires all AAS programs to include one course from the Communication/Writing component. General education core courses are specified within each associate degree plan.

Associate of Science (AS) degree programs must incorporate the college's approved academic CORE curriculum (see listing of general academic Core courses) unless an exemption exists. A list of exemptions defined by the Texas Higher Education Coordinating Board to offer specialized academic associate degrees is maintained by the Curriculum Department.

General education is an integral component of a degree program through which students encounter the basic content and methodology of the principal areas of knowledge: humanities and fine arts, social and behavioral sciences, and math and natural sciences. Courses in each of these specific areas introduce a breadth of knowledge and reinforce cognitive skills and effective learning opportunities for students. Such general education courses do not focus on skills, techniques and procedures specific to a student's occupation or profession.

### Purpose

General education courses are basic to the purpose of TSTC and represent a commitment to offer breadth as well as depth to a student's technical education program of study. TSTC's inventory of general education courses offers a comprehensive general education program because:

1. Employers are interested in hiring technically trained graduates who, with an appropriate grounding in science (natural, behavioral and social), mathematics, and technology, can communicate effectively, work well with others, make appropriate decisions, adapt to change, and in many cases, continue their education.
2. The general education courses provide foundational and thorough education that do not focus on specific skills, techniques, procedures or vocations.
3. General education courses assist in developing the ability to think critically, use logical reasoning in analyzing and solving problems, and appreciate cultural diversity.
4. Many of our students need assistance in becoming prepared for college studies in the technical and general education components of their studies.
5. The general education courses are required to meet accreditation standards of regional, state and occupational groups requiring a broad range of knowledge when obtaining a degree or certification, and they fulfill the requirements agreed upon in articulation agreements with other colleges and universities.

The General Education Department strives to deliver courses that impart common knowledge, intellectual concepts, and attitudes every person should have for career and life roles in addition to providing some of the basic competencies needed by technical students. The General Education Department seeks to provide students in:

- Degree programs with instruction in knowledge and skills designed to impart common knowledge, intellectual concepts and appropriate attitudes for work and life. These courses assist the student's participation in social, technological, and cultural environments. These courses contain college-level content in areas of communication, social and behavioral sciences, humanities, mathematics, and natural science. Their common course numbers are recognized by the Texas Higher Education Coordinating Board in the Lower Division Academic Course Guide Manual and meet all requirements for transfer to other accredited colleges and universities.
- Certificate programs with instruction in knowledge, skills and attitudes appropriate for and in support of the technical programs of study. These college-level courses are in the areas of communications, human relations, mathematics, natural science, social and behavioral sciences, business, and humanities. These related studies courses in the certificate programs have numbers from the Workforce Education Course Manual as recognized by the Texas Higher Education Coordinating Board and typically are transferable for courses in occupational programs of study at other colleges or as part of an articulation agreement with another college. Additional courses come from the Lower Division Academic Course Guide Manual and meet all requirements for transfer to other accredited colleges and universities.
- Developmental education provides courses that strengthen academic skills, teach positive study habits, develop basic skill competencies necessary for major program success, and allow students to explore career options of the college's major programs. These courses seek to make students better prepared to complete their studies in their major programs of study. Finally, these courses support skills that must be acquired for students to successfully meet the requirements of TSTC's Texas Success Initiative.

### Humanities Electives

Credits for humanities and fine arts electives are based upon the definition of the Shared Vision Task Force of the National Council for Occupational Education and the Community College Humanities Association:

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"Humanities in associate degree occupational programs are studies which expand the student's awareness of the human condition and appreciation of human needs, values and achievements. The humanities assist in developing insights, capacities and well-reasoned convictions essential for a fulfilled public and private life, as well as a success in a career. They include studies of literature and all languages, history, philosophy and religion, and the history and appreciation of the fine arts. They do not include the development of basic communication skills in any human language."

Provided is a list of general education courses by category, and minimum hours per category, that will satisfy the 15 semester hour basic core requirement for any TSTC AAS degrees. These courses are taught by TSTC General Education Department and/or programs:

### **Humanities/Fine Arts: (choose 3 hrs.=one course)**

ARTS 1301 Art Appreciation  
ENGL 2321 British Literature  
ENGL 2326 American Literature  
ENGL 2331 World Literature  
ENGL 2341 Forms of Literature  
HUMA 1301 Introduction to Humanities  
HUMA 2323 World Cultures  
MUSI 1306 Music Appreciation  
PHIL 1304 Introduction to World Religions  
PHIL 2306 Introduction to Ethics

### **Behavioral/Social Sciences: (choose 3 hrs.=one course)**

ECON 2301 Principles of Macroeconomics  
ECON 2302 Principles of Microeconomics  
GOVT 2305 Federal Government  
GOVT 2306 Texas Government  
HIST 1301 United States History I  
HIST 1302 United States History II  
PSYC 2301 General Psychology  
PSYC 2314 Lifespan Growth & Development  
SOCI 1301 Introductory Sociology

### **Math/Natural Sciences: (choose 3 hrs.=one course)**

BIOL 1306 Biology for Science Majors I  
BIOL 1307 Biology for Science Majors II  
BIOL 1308 Biology for Non-Science Majors I  
BIOL 1309 Biology for Non-Science Majors II  
BIOL 2301 Anatomy & Physiology I  
BIOL 2302 Anatomy & Physiology II  
CHEM 1305 Introductory Chemistry I  
CHEM 1311 General Chemistry I  
CHEM 1312 General Chemistry II  
MATH 1314 College Algebra  
MATH 1316 Plane Trigonometry  
MATH 1332 Contemporary Mathematics  
MATH 1342 Elementary Statistics  
PHYS 1315 Physical Science I  
PHYS 1317 Physical Science II

### **Communication/Writing: (choose 3 hrs.=one course)**

ENGL 1301 Composition I  
ENGL 2311 Technical & Business Writing

### **General Education Electives: (choose 3 hrs.=one course. Choose a course that is not used to satisfy any of the above categories.)**

ENGL 1301 Composition I  
ENGL 1302 Composition II  
ENGL 2311 Technical & Business Writing  
HIST 2321 World Civilizations I

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SPCH 1311 Introduction to Speech Communication  
SPCH 1315 Public Speaking  
SPCH 1318 Interpersonal Communication  
SPCH 1321 Business & Professional Communication  
ARTS 1301 Art Appreciation  
ENGL 2321 British Literature  
ENGL 2326 American Literature  
ENGL 2331 World Literature  
ENGL 2341 Forms of Literature  
HUMA 1301 Introduction to Humanities  
HUMA 2323 World Cultures  
MUSI 1306 Music Appreciation  
PHIL 1304 Introduction to World Religions  
PHIL 2306 Introduction to Ethics  
ECON 2301 Principles of Macroeconomics  
ECON 2302 Principles of Microeconomics  
GOVT 2305 Federal Government  
GOVT 2306 Texas Government  
HIST 1301 United States History I  
HIST 1302 United States History II  
PSYC 2301 General Psychology  
PSYC 2314 Lifespan Growth & Development  
SOCI 1301 Introductory Sociology  
BIOL 1306 Biology for Science Majors I  
BIOL 1307 Biology for Science Majors II  
BIOL 1308 Biology for Non-Science Majors I  
BIOL 1309 Biology for Non-Science Majors II  
BIOL 2301 Anatomy & Physiology I  
BIOL 2302 Anatomy & Physiology II  
CHEM 1305 Introductory Chemistry I  
CHEM 1311 General Chemistry I  
CHEM 1312 General Chemistry II  
MATH 1314 College Algebra  
MATH 1316 Plane Trigonometry  
MATH 1332 Contemporary Mathematics  
MATH 1342 Elementary Statistics  
PHYS 1315 Physical Science I  
PHYS 1317 Physical Science II

Note: Transfer courses not listed may be evaluated on an individual basis. Not all courses may be offered on all TSTC campus locations. Additional General Academic courses to be determined by program advisor and campus location.

### More Information

Anyone with questions regarding transfer credit should contact the enrollment center and those with questions regarding special partnerships should contact the Educational Partnerships Office.

Additional courses may be accepted on transfer from other colleges.

Questions on the transferability of outside courses to meet the Humanities/Fine Arts elective, the Natural Sciences/Mathematics elective, Behavioral/Social Science elective, Communication/Writing elective, or General Education elective requirements should be addressed to the lead instructor of the Academic Core certificate of completion.

### Academic Core Courses

The following is a list of General Education courses offered by TSTC General Education departments and/or programs used to satisfy the 42 semester hour [Academic Core Curriculum Certificate \(CCC\)](#) and the general education CORE component for AS degrees.

TSTC's Harlingen campus offers the Texas Core Curriculum, a core package of transferable academic courses defined by the Texas Higher Education Coordinating Board that will transfer to any college or university in the state of Texas. More information on course content and lecture and lab hours is included in the course descriptions section of this catalog.

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Selection of courses within each category must be based upon the student's demonstrated abilities, desired major and intentions for graduation. Not all courses are offered every semester. Students must attain a "C" or better in all Academic Core courses to be eligible for certificate of completion. Additional hours may be taken beyond the minimum shown.

The categories and minimum hours for the basic core are as follows:

### **Communication (6 hours)**

ENGL 1301 Composition

ENGL 1302 Composition II

### **Mathematics (3 hours)**

MATH 1314 College Algebra

MATH 1316 Plane Trigonometry

MATH 1332 Contemporary Mathematics

MATH 2312 Pre-Calculus Math (3 SCH version)

### **Life and Physical Sciences (6 hours)**

BIOL 1306 Biology for Science Majors I (Lecture)

BIOL 1307 Biology for Science Majors II (Lecture)

BIOL 1308 Biology for Non-Science Majors I (Lecture)

BIOL 1309 Biology for Non-Science Majors II (Lecture)

BIOL 2301 Anatomy & Physiology I (Lecture)

BIOL 2302 Anatomy & Physiology II (Lecture)

CHEM 1311 General Chemistry I (Lecture)

CHEM 1312 General Chemistry II (Lecture)

PHYS 1301 College Physics I (Lecture)

PHYS 1302 College Physics II (Lecture)

PHYS 1315 Physical Science I (Lecture)

PHYS 1317 Physical Science II (Lecture)

### **Language, Philosophy & Culture (3 hours)**

ENGL 2321 British Literature

ENGL 2331 World Literature

ENGL 2326 American Literature

PHIL 1304 Introduction to World Religions

### **Creative Arts (3 hours)**

ARTS 1301 Art Appreciation

MUSI 1306 Music Appreciation

### **American History (6 hours)**

HIST 1301 U.S. History I (to 1877)

HIST 1302 U.S. History II (since 1877)

### **Government/Political Science (6 hours)**

GOVT 2305 Federal Government

GOVT 2306 Texas Government

### **Social/Behavioral Science (3 hours)**

ECON 2301 Principles of Macroeconomics

ECON 2302 Principles of Microeconomics

PSYC 2301 General Psychology

PSYC 2314 Life Span Growth & Development

SOCI 1301 Introductory Sociology

### **Component Area Option A (minimum of 3 hours)**

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BIOL 1106 Biology for Science Majors I (lab)  
BIOL 1107 Biology for Science Majors II (lab)  
BIOL 1108 Biology for Non-Science Majors I (lab)  
BIOL 1109 Biology for Non-Science Majors II (lab)  
BIOL 2101 Anatomy/Physiology I (lab)  
BIOL 2102 Anatomy/Physiology II (lab)  
CHEM 1111 General Chemistry I (lab)  
CHEM 1112 General Chemistry II (lab)  
ENGL 2321 British Literature  
ENGL 2326 American Literature  
ENGL 2331 World Literature  
PHYS 1101 College Physics I (lab)  
PHYS 1102 College Physics II (lab)  
PHYS 1115 Physical Science I (lab)  
PHYS 1117 Physical Science II (lab)  
PSYC 2314 Life Span Growth & Development

### **Component Area Option B (3 hours)**

SPCH 1311 Introduction to Speech Communication  
SPCH 1315 Public Speaking  
SPCH 1318 Interpersonal Communication  
SPCH 1321 Business & Professional Communication

### Other Academic Transfer Courses

The Texas Higher Education Coordinating Board approves the following courses for academic credit. However, these courses are not part of the required basic general education core (15 hours) for AAS degrees nor part of the General Education Academic Core and will not satisfy the core requirements for graduation. Certain programs require these courses as part of their curricula, and the course may also be taken as an elective beyond requirements of the basic general education core for AAS degrees and the General Education Academic Core. The Texas Higher Education Coordinating Board does not permit that a Core course be substituted.

ACCT 2301 Principles of Accounting I - Financial  
ACCT 2302 Principles of Accounting II - Managerial (ACCT 2301\*)  
ANTH 2346 General Anthropology  
BCIS 1305 Business Computer Applications  
BUSI 1301 Business Principles  
BUSI 2301 Business Law  
  
COSC 1301 Microcomputer Applications  
COSC 1336 Programming Fundamentals I  
COSC 1337 Programming Fundamentals II  
COSC 2325 Computer Organization  
COSC 2336 Programming Fundamentals III  
ENGL 2307 Creative Writing  
ENGR 1201 Introduction to Engineering  
ENGR 1304 Engineering Graphics  
ENGR 2301 Engineering Mechanics I - Statics  
ENGR 2304 Programming for Engineers  
ENGR 2305 Circuit Analysis I  
ENGR 2105 Circuit Analysis I Lab  
ENGR 2402 Engineering Mechanics II - Dynamics  
ENVR 1401 Environmental Science I  
GEOG 1303 World Regional Geography  
HIST 2321 World Civilizations  
MATH 2305 Discrete Mathematics (MATH 2413\*)  
TECA 1354 Child Growth and Development  
(\*Course Prerequisites)

### Prerequisites and Corequisites

Students must complete designated prerequisite courses before registering for certain courses and must take corequisite courses during the same term. Such requirements are indicated as part of the course descriptions. Students are

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responsible for taking courses in sequence and at the proper level. Failure to adhere to prerequisite and corequisite requirements may result in the students being withdrawn from the courses.

### Credit Award for Assessments and Training

Credit awards for TSTC courses based on credit by examination or nontraditional training and experiences is available to students who plan to enroll at TSTC and to currently enrolled students. TSTC awards credit for various examinations published by the College Board, including the College Board Advanced Placement Program (AP) and the College-Level Examination Program Subject Exams (CLEP-S). TSTC also awards credit for training received while in the United States Armed Services, for credit earned through the International Baccalaureate Diploma Program, and for credit earned in high school dual enrollment courses. Students may also be eligible to receive credit awards for other types of training and experience subject to review and approval by the appropriate college official.

### General Rules and Regulations

The total number of semester credit hours awarded for Credit Awards may vary depending upon the student's program of study; however, the total credit awarded (including transfer credits) cannot exceed 75% of the total credits required for the student's declared program of study. At least 25% of the total credits in a TSTC student's certificate or AAS degree plan must be earned through regular SCH instruction at a TSTC campus or at another institution of higher education in partnership with TSTC.

While credit may be awarded by TSTC for external exams and training, this credit may not satisfy requirements for a specific program of study. Students should check with program advisors to determine if accepted Credit Awards will meet program requirements.

A grade of CR (credit) will be assigned for any course in which Credit Awards are received. This grade is not computed in the grade point average, and the credit does not count toward calculation of student load for a term. The student is responsible for obtaining documentation of external exam scores and/or other training and submitting it to the Enrollment Center at a TSTC campus. Scores for the College Examination Program (CLEP) and Advanced Placement (AP) examinations, as well as other Credit Award documentation, should be received prior to enrollment for use in course advisement and placement.

Students must complete the appropriate Credit Award Request form with appropriate documentation to initiate the Credit Award process. Payment of any fees associated with Credit Award program must be received before credit can be posted to the student's transcript.

### Cooperative Education

Most certificate and degree programs offer students opportunities to participate in cooperative training with industry for at least one semester. Students in cooperative experiences earn up to 12 credit hours working at off-campus jobs related to their fields of study. This phase of training is a cooperative effort between the student, industry and TSTC to provide valuable work experience. Cooperative education is competitive, enabling some qualified students to earn income to help support their education. Students who are interested in participating in cooperative experiences should discuss the opportunities with their department chairpersons.

### Advanced Placement

Advanced Placement (AP) exams are offered by the College Board to students who complete AP courses while enrolled in high school. The exams cover a variety of subject areas including business, science and mathematics, history and social sciences, foreign languages, and composition and literature. For additional information regarding AP exams, see [ES 2.10 Credit Award for Assessment and Training](#).

### Credit for Military Training

Students who received training while in the United States Armed Services may receive credit for that training, provided appropriate documentation is provided and the training is equivalent to a course or courses offered by TSTC. Credit awarded for military training is based on the recommendations from the [American Council on Education \(ACE\) in its Guide to the Evaluation of Educational Experiences in the Armed Services](#) and must be approved by the appropriate TSTC department chair for the specific subject area.

The Military Registries provide quality assurance and policy guidance to the U.S. Army, Navy and Marine Corps in support of the Army/ACE Registry Transcript Service (AARTS) and the Sailor/Marine/ACE Registry Transcript (SMART). More than 2,300 colleges and universities recognize these ACE-endorsed transcripts as official documentation of military experiences and accurate records of applicable ACE credit recommendations.



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Students who wish to receive credit for military training should obtain a transcript from the Defense Activity for Non-Traditional Education Support (DANTES). This agency maintains the educational records of the service members who have completed DANTES Subject Standardized Tests (DSSTs), CLEP examinations, USAFI (United States Armed forces Institute) and a high school equivalency exam.

Before July 1, 1974, the results of courses and tests taken under the auspices of USAFI (United States Armed Forces Institute, disestablished 1974) are also available from the DANTES Program:

DANTES Program  
The Chauncey Group International  
P. O. Box 6605  
Princeton, NJ 08541-6605

### International Baccalaureate Diploma Program (IBD)

Students who have received an International Baccalaureate Diploma (IB) may receive TSTC course credit for the following exams with scores of four or higher on either standard level (SL) or higher level (HL) examinations. Students who have taken IB exams but do not have an IB diploma may receive credit for scores of five or higher on higher level (HL) examinations only.

IBD Exam Name	Minimum Score with IB Diploma	Minimum Score without IB Diploma	Credits	TSTC Course(s)
Biology (HL)	4	5	8	BIOL 1406, 1407
Biology (SL)	4	n/a	8	BIOL 1406, 1407
Chemistry (HL)	4	5	8	CHEM 1411, 1412
Chemistry (SL)	4	n/a	8	CHEM 1411, 1412
Economics (HL)	4	5	6	ECON 2301, 2302
Economics (SL)	4	n/a	6	ECON 2301, 2302
English Language A1 (HL)	4	5	6	ENGL 2322, 2323
English Language A1 (SL)	4	n/a	6	ENGL 2322, 2323
Mathematics (HL)	4	n/a	6	MATH 1314, 1316
Math Methods (SL)	4	n/a	3	MATH 1314
Math Studies (SL)	4	n/a	3	MATH 1324 or 1325
Philosophy (HL)	4	5	3	PHIL 1301
Philosophy (SL)	4	n/a	3	PHIL 1301
Physics (HL)	4	5	4	PHYS 1401
Physics (SL)	4	n/a	4	PHYS 1401
Psychology (HL)	4	5	3	PSYC 2301
Psychology (SL)	4	n/a	3	PSYC 2301

### Credit Award for Continuing Education and Experiential Learning

Students who have successfully completed continuing education (CE) courses offered by a TSTC campus are eligible to apply for semester credit hour technical course credit. CE coursework must be demonstrated to be substantially the same as the equivalent semester credit coursework. Students taking a CE training that leads to an industry-recognized credential, licensure or certification can utilize the credential to request college credit. Students must sign and submit a Continuing Education Hours Course Equivalency Evaluation form to the instructional administrator of the appropriate technical program in which the course(s) are managed.

Experiential learning allows students to receive college credit for equivalent educational experiences acquired through earlier schooling situations, work/on-the-job training or life experiences. Upon approval of the appropriate department chair and/or designated subject matter expert, a student may develop a petition for a course or courses offered by TSTC to gain college-level credit. Petitions are reviewed by the appropriate department chair and/or designated subject matter expert and submitted to the senior vice president of Student Learning for approval.

Students with applicable skills and knowledge may also receive credit for technical courses in which proficiency is determined by comprehensive examination. These challenge exams are designed and written by qualified faculty and may be administered in the technical department or testing center. Students must pay a Challenge Exam testing fee prior to the test. The Challenge Exam testing fee will be approved by the Board of Regents (BOR) and will not be refundable regardless of the outcome of the assessment.

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More specific information on credit award for continuing education units and experiential learning may be obtained from Quality Management. Testing center and/or evaluation fees may apply.

### Audited Courses

Students may audit courses with permission from the course instructors. Students auditing courses must adhere to the same class requirements as those students taking the courses for credit. Audited courses are not considered when determining a credit hour load, and a grade of "AUD" is shown on the students' grade reports. Students may take courses for credit after auditing them but may not receive credit by examination or use audited courses as course substitutions in degree or certificate plans. Students who audit courses will be charged state and designated tuition and an audit fee specified in the Tuition and Fees section of this catalog. Contact the Enrollment Center for more information.

### Schedule Changes

The published [academic calendar](#) outlines the dates during which schedule changes may occur. Students may add or drop courses or change sections before classes begin by contacting their enrollment coach or program enrollment coach. After classes begin, all students may change their schedules by obtaining course schedule change forms available from the Enrollment Center, instructors and/or lead instructors. The completed forms must be submitted to the Enrollment Center by the deadline published in the TSTC college [academic calendar](#). Changes are effective only when this process has been completed.

### Drops and Withdrawals

Students may drop courses or withdraw from the college by completing a course schedule change form, obtaining the appropriate approval signatures, and submitting the form to the Enrollment Center. The effective date is the date that the course schedule change form is received by the Enrollment Center. Deadlines for course drops and withdrawals from the college are published in TSTC's [academic calendar](#).

See "Refunds for Changes in Enrollment" in the Refunds section for more information.

Courses that are dropped prior to the official census dates do not appear on the student's transcript. After the official census dates, students who drop courses or withdraw from the institution receive marks of "W" (Withdrawal) provided that the forms are received on or before the published deadline. Students who withdraw from the institution may be asked to meet with a college representative.

Under section 51.907 of the Texas Education Code, "an institution of higher education may not permit a student to drop more than six courses, including any course a transfer student has dropped at another institution of higher education." This statute was enacted by the state of Texas in spring 2007 and applies to students who enroll in a public institution of higher education as first-time freshmen in fall 2007 or later. Any course that a student drops is counted toward the six-course limit if "the student was able to drop the course without receiving a grade or incurring an academic penalty; the student's transcript indicates or will indicate that the student was enrolled in the course; and the student is not dropping the course in order to withdraw from the institution." Some exemptions for good cause could allow a student to drop a course without having it counted toward this limit, but it is the responsibility of the student to establish that good cause.

Students who have completed at least 75% of the term and who are called to active military service may request an excused absence rather than withdrawal from their courses. Students who request leave based on military service will be given grades of "IM" in all courses and will have two years from the end of the term to complete course work. Grades of "IM" awarded to students called to military service will be changed to "W" grades if the required course work is not completed by the end of the two-year period.

Students who withdraw from the college must ensure that all library books and laboratory equipment are returned and all financial obligations are settled before they leave.

Administrative withdrawals may be utilized by Student Learning or Administrative Offices as deemed necessary to withdraw a student. Students who are administratively withdrawn are subject to TSTC's [Refund](#) and [Grading](#) Policy.

### Student Participation

Students are responsible for their own class attendance and participation. Faculty members may establish requirements for student participation in specific learning activities both in and out of the classroom and may consider these requirements when determining final grades.

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Faculty member or college administrator may submit a request to withdraw a student from one or more courses who is not meeting the required participation due to the development of unforeseen events beyond the student's control. These events may include serious illness, death in the immediate family, changes in condition of employment or military deployment. Administrative withdrawals are subject to TSTC's Refund and Grading Policy.

### Student Absence and Religious Holidays

Under Texas Education Code 51.911, a student who is absent from class for the observance of a religious holiday is allowed to take an examination or complete an assignment scheduled for that day within a reasonable time period, as established by the faculty member. The student must give written notice by submitting a completed absence request form to the instructor within the first 10 days of the term. Contact the Enrollment Center for more information.

### Transfer of Credit

The transfer of course credit from TSTC to other Texas colleges and universities is facilitated by the Texas Higher Education Coordinating Board (THECB) Academic Course Guide Manual and Workforce Education Course Manual. In general, students may submit an official TSTC transcript to another college or university for consideration of transfer credits. Acceptance of credits is at the discretion of the receiving institution. Contact the appropriate department chair for more information.

### Resolution of Transfer Disputes for Lower Division Courses

The following procedures specified in Texas Higher Education Coordinating Board Rules (Chapter 4, Subchapter B, Section 4.27) shall be followed by institutions of higher education in the resolution of credit transfer disputes involving lower-division courses:

1. If an institution of higher education does not accept course credit earned by a student at another institution of higher education, the receiving institution shall give written notice to the student and to the sending institution that transfer of the course credit is denied, and shall include in that notice the reasons for denying the credit. Attached to the written notice shall be the procedures for resolution of transfer disputes for lower-division courses as outlined in this section, accompanied by clear instructions outlining the procedure for appealing the decision to the commissioner.
2. A student who receives notice as specified in paragraph 1 of this subsection may dispute the denial of credit by contacting a designated official at either the sending or the receiving institution.
3. The two institutions and the student shall attempt to resolve the transfer of the course credit in accordance with board rules and guidelines.
4. If the transfer dispute is not resolved to the satisfaction of the student or the sending institution within 45 days after the date the student received written notice of denial, the sending institution may notify the commissioner in writing of the request for transfer dispute resolution, and the institution that denies the course credit for transfer shall notify the commissioner in writing of its denial and the reasons for the denial.

The commissioner or the commissioner's designee shall make the final determination about a dispute concerning the transfer of course credit and give written notice of the determination to the involved student and institutions.

Each institution of higher education shall publish in its course catalogs the procedures specified in all subsections of Section 4.27 in the Texas Higher Education Coordinating Board rules.

The board shall collect data on the types of transfer disputes that are reported and the disposition of each case that is considered by the commissioner or the commissioner's designee.

If a receiving institution has cause to believe that a course being presented by a student for transfer from another school is not of an acceptable level of quality, it should first contact the sending institution and attempt to resolve the problem. In the event that the two institutions are unable to come to a satisfactory resolution, the receiving institution may notify the commissioner, who may investigate the course. If its quality is found to be unacceptable, the board may discontinue funding for the course.

## 05. Flexible Program Options

### Performance-Based Education (PBE)

Some programs of study are offered in a Performance-Based Education (PBE) format, TSTC's version of Competency-Based Education (CBE). In PBE programs, student success is dependent on mastery of course skills and competencies based on an A,B, F grading scale. Some PBE programs are offered entirely online, while others are offered in the hybrid format, with lecture content online and in-person, scheduled, hands-on lab sessions. The self-guided characteristics of PBE instruction may allow students in certain programs to accelerate through a course and program.

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## Online Learning

Online courses and programs offer students the opportunity to complete coursework via the internet on personal computers. Each TSTC online program may have specific program requirements.

Depending on whether the online program is offered in a Performance Based Education (PBE) or traditional format, will determine whether students have the opportunity to work through course material in a self-guided manner with the opportunity to accelerate. Students who take online learning courses complete course requirements and communicate with instructors through the College's Learning Management System (LMS). Some online courses may require specific software or proctored exams. Please refer to course syllabi for this information. Virtual tutoring, through TSTC's Office of Student Success is available for some online courses.

The Student Online Learning Orientation (SOLO) course is recommended for all students new to online instruction at TSTC. The course provides instructions on the College's LMS and strategies for succeeding in the online environment. Contact the Office of Online Learning for information on the SOLO course. In most cases, tuition for online learning courses is the same as on campus courses. The Tuition and Fees section of this catalog provides more details. Students planning to take only online learning courses should notify the TSTC Enrollment Center so that the appropriate information and advising can be arranged.

## Day, Evening and Weekend Courses

The majority of college credit courses are taught on weekdays during the day, with selected courses offered during the evenings and/or on weekends. Workforce Training and Continuing Education courses are scheduled throughout these time periods. Contact the Workforce Training Office for details.

## 06. Dual Enrollment

The TSTC Dual Enrollment program provides an opportunity for high school students to earn college credit while still in high school. High school partners must have a Memorandum of Understanding with TSTC and meet applicable eligibility requirements for students to enroll in courses. Active dual enrollment students are to abide by the rules and regulations set forth in the TSTC Catalog and Student Handbook. Contact the [Dual Enrollment](#) Office for more information.

## 07. Workforce Training and Continuing Education

TSTC offers a range of workforce training and continuing education courses (CE) and programs. Credit in these courses and programs is awarded as "Continuing Education Units" (CEUs), or Clock Hours, upon successful completion of course and program objectives. Courses may be offered to the general public or in a customized format for businesses and industries to meet specific workplace needs. Typical curriculum offerings include:

- Training and retraining programs that respond to requests or needs of business or other institutions and agencies.
- Specialized customized training courses, workshops, seminars and clinics.
- Training for industrial start-up or expansion programs.
- Workforce training to train for new careers and to provide skill updates, professional development, personal improvement and recreation.

## Admission and Registration

The majority of CE courses and programs have no admission requirements; however, all participants are required to complete a registration form with basic demographic information. Some specialized programs may require demonstrated skills, competencies and some program requirements prior to enrollment.

## Tuition and Fees

CE courses vary in price depending on the length of the course, special equipment or labs used in training and other factors. Customized CE training courses may be billed directly to the sponsoring business or industry.

Unless the course or student is sponsored by a business or agency, payment of all tuition and fees is required three business days prior to the first class meeting.

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### **Class Records and Certificates for CEU Programs**

Students completing CE courses receive one CEU for every 10 hours of participation in a Workforce Training & Continuing Education course or program.

Grades of Satisfactory "S" or Unsatisfactory "U" are typically awarded in CE classes. Other types of grades may be awarded depending on the requirements of the course sponsor. Students who successfully complete CE courses may request a certificate certifying the number of CEUs awarded.

CEUs earned in classes taught by TSTC may be converted to semester hour (college) credit that is applicable to a certificate of completion or associate degree. Refer to the Credit Award for Assessments and Training section of this catalog for more information.



### **Class Records and Certificates for Clock Hour programs**

Students completing CE courses receive one hour for every hour of participation in a Workforce Training & Continuing Education course or program.

The following is the grading scale used for clock hour programs:

- A: 90-100
- B: 80-89
- C: 75-79
- D: 70-74
- F: 0-69

Hours earned in classes taught by TSTC may be converted to semester hour (college) credit that is applicable to a certificate of completion or associate degree. Refer to the Credit Award for Assessments and Training section of this catalog for more information.

### **Satisfactory Pursuit of Program**

Students must complete each course with at least a C or better to successfully complete the program. Students who do not have acceptable classroom attendance or fail to meet learning objectives with a potential to not meet the grade requirement will be removed from the program.

Good Standing = C or better.

Probation = less than C.

Suspension = 3rd attempt of same course not meeting C or better.

### **Refund Policy for CE Courses**

- A. Students who voluntarily terminate their enrollment prior to the first day of class will receive a 100% refund.
- B. Students who voluntarily terminate their enrollment after the first day of class, but before the third day of class will receive a 70% refund and no credit will be issued for the course.
- C. Students who voluntarily terminate their enrollment after the third day of class will receive a 0% refund and no credit will be issued for the course.
- D. Students that are forcefully terminated due to attendance and/or other authorized by administration will not receive a refund or credit for the course.

### **CE Attendance Policy**

CE students must typically hold a minimum of 90% attendance per course in order to maintain satisfactory progress unless a program's external governing agency requires differently. Such modification will be listed in the course syllabus.

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## Customized Training for Business and Industry

TSTC has a representative to respond to requests from businesses and other institutions or agencies to develop and offer specialized training for employees. Training may be provided at the college or at the sponsor's site of choice. For more information on specialized business and industry training, contact the Workforce Training & Continuing Education Office.

## 08. Pre-College Programs

Pre-College Programs offer students the educational support needed to make the successful transition into college. Pre-College Programs offer Upward Bound and a variety of other summer programs. All students who participate in Pre-College Programs are expected to adhere to the rules and regulations set forth in this Catalog/Handbook. Specific programs may have additional policies and rules that participants must also abide by.

## 11. Student Services

### 01. Student Housing

The College considers housing an added service for its students.

Occupancy in student apartments is assigned on a first-come, first-served basis.

The facilities are conveniently located at the College within walking distance of classroom buildings, laboratories and recreation facilities.

Visit [tstc.edu/campus-housing](https://tstc.edu/campus-housing) to view housing options, photos and room layouts.

#### Housing Reservations

Because facilities are limited, the prospective student should complete a campus housing application as soon as possible, at least one semester in advance of the expected enrollment date. The application must be completed and returned with deposit, the Release of Background Information Form and the nonrefundable application fee. The deposit can be made by cash, credit card, check or money order payable to Texas State Technical College.

The deposit must be paid before the student is placed on the housing assignment list. If the student decides not to enroll or live in campus housing, the deposit will be refunded. The deposit will be retained until the student properly clears/vacates housing, minus any appropriate cleaning fees or charges owed.

All rates are subject to change without notice due to economic conditions beyond the control of the College.

#### Housing Assignments

Returning students have priority in housing assignments. However, they must reserve their own residence for future occupancy according to the policy of their assigned facility.

Confirmation of housing reservations for available spaces will be made in writing to each applicant. When capacity is reached, additional applicants will be notified in writing that spaces are not available.

The student may request a certain space and/or roommate, and all possible consideration will be given to each request. The college reserves the right to assign students to specific spaces.

Students must remain in the facilities assigned to them unless permission for change is obtained from Housing. Moving without permission may result in eviction from campus housing. Housing reserves the right to move students to another space in order to conserve energy, for safety reasons, to conduct repairs or remodel, and for other reasons that are in the best interest of the College.

#### Missing Housing Resident Notification

If a member of the college community has reason to believe that a student who resides in on-campus housing is missing, he/she should immediately notify the TSTC police or security department. TSTC police will generate a missing person report and initiate an investigation.

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Should TSTC Police determine that the student has been missing for more than 24 hours, they will notify the student's emergency contact or a confidentially identified individual.

In addition to registering an emergency contact, students in on-campus housing have the option to identify, confidentially, an individual to be contacted by TSTC in the event the student is determined to be missing for more than 24 hours.

If a student is less than 18 years old and is not an emancipated individual, federal law requires that TSTC notify a parent or guardian within 24 hours of when a student is confirmed missing.

### **Housing Regulations**

Housing regulations are provided to each tenant in their contract and in Housing's Student Housing Handbook. The tenant may move into their assigned facilities in accordance with said facilities regulations. Move-in policy varies according to facility as well as campus. The tenant will terminate the lease and must vacate the residence if he/she ceases to be a TSTC student.

When the student properly vacates his or her assigned residence, the unused portion of advance rent will be refunded following inspection by Housing staff and the return of all room keys. However, no refunds will be made during the last 30 schools days of the semester.

A portion of the housing deposit will be withheld to defray costs of apartment cleaning and/or repair or replacement of lost items where tenant liability is obvious. Remaining portions of the housing deposit will be withheld to defray the cost of any rent or fees due.

All rental rates are based on the TSTC approved fee schedule.

### **Housing Accommodations for Students with Disabilities**

Students with disabilities that require accommodations for TSTC housing must contact Access & Learning Accommodations in a timely manner for further guidance on the accommodations process. Students with disabilities are encouraged to self-disclose when initiating the housing application process. Please see the Access & Learning Accommodations section to find contact information for these services.

## **02. Access and Learning Accommodations**

### **Students with Disabilities**

The TSTC Access and Learning Accommodations (ALA) office serves as a resource for students who may experience barriers due to a disability (long-term or short-term).

Students seeking accommodations or services should make contact with the ALA office in a timely manner to self-report and begin the interactive process with an ALA staff person. Students may also be asked to provide supporting documentation from an individual qualified to diagnose the disclosed disability.

ALA will then collaborate with college personnel to develop appropriate accommodations to ensure equal access to all programs, activities and services at TSTC.

ALA also coordinates with community assistance programs and serves as the liaison for Texas Workforce Solutions.

To make contact with the ALA office, please email [adarequest@tstc.edu](mailto:adarequest@tstc.edu) or a representative from your campus.

The goal of the Americans with Disabilities Act of 1990 (ADA) and the Amendments Act of 2008 (ADAAA) is to guarantee that individuals with disabilities are given equal opportunity for full participation, independent living and economic self-sufficiency. In post-secondary education, individuals with disabilities are provided reasonable and appropriate accommodations to ensure equality in obtaining an education. Accommodations are based on the need of the individual and are reviewed on a case-by-case basis. Such reasonable accommodations do not include: personal services, lack of preparation or lack of time management skills.

Service and Emotional Support Animals on Campus Grounds

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Texas State Technical College allows individuals to bring animals on college property in accordance with federal laws and in other situations subject to the rules outlined below. At the same time, TSTC recognizes the health and safety risks potentially created by unrestrained animals on campus.

### Definitions

**Emotional Support Animal:** An animal that is necessary to afford a person with a disability an equal opportunity to use and enjoy a dwelling when there is an identifiable relationship or nexus between the person's disability and the assistance the animal provides.

**Service Animal:** A dog individually trained to do work or perform tasks for a person with a disability. Examples of such work or tasks include guiding people who are blind, alerting people who are deaf, pulling a wheelchair, and alerting/protecting a person who is having a seizure. The provision of emotional support, well-being, comfort or companionship does not constitute work or tasks for the purposes of defining a service animal.

**Service Animal in Training:** A dog undergoing training by an approved trainer who is an agent of a reputable organization and competent to provide training for assistance animals and/or their handlers.

### Procedures

Animals brought on campus must be under the complete control of the owner at all times and present no hazard to people or property. The wearing of a muzzle by a dog shall not be regarded as control by its owner. Dogs and cats brought to campus must have a valid license as evidence of current rabies vaccinations and fulfill all local requirements applicable to animals or they may be subject to removal from campus. In all cases, the owner of the animal is responsible for the animal's behavior.

In general, TSTC will not ask about the nature or extent of a person's disability, but may make two inquiries to determine whether an animal qualifies as a service animal. TSTC may ask:

- If the animal is required because of a disability and;
- What work or task the animal has been trained to perform.

Animals on campus grounds must be secured to a leash, cord, chain or similar direct physical control of a maximum length of 6 feet, the other end of which is restrained by a person. If this constraint interferes with a service animal's work or if the individual's disability prevents using these devices, the individual must maintain control of the animal through voice, signal or other effective controls. The physical constraint of the animal does not apply to service or support animals kept within an individual's college housing assignment.

Animals must not be tethered to a stationary fixture or tree when left unattended. TSTC may take reasonable efforts to remove an animal confined in a vehicle when there appears to be imminent danger to the animal due to temperature conditions or inadequate ventilation. TSTC is not liable for any associated repair/damage costs to the vehicle for this action and the animal's owner assumes full responsibility.

TSTC retains the right to take action to remove any animal from the college premises if the safety of others, destruction of property or disturbance warrants such removal. The removal of any animal and any necessary cleaning, repairs and/or pest control will be done at the expense of the owner. The owner may also be subject to disciplinary action and this action may also extend to cases involving service and support animals. TSTC may not permit service animals when the animal poses a substantial and direct threat to health or safety, or when the presence of the animal constitutes a fundamental alteration to the nature of the program or service. TSTC will make those determinations on a case-by-case basis.

Some people may have allergic reactions to animals that are substantial enough to qualify as disabilities.

TSTC will consider the needs of both persons in meeting its obligations to reasonably accommodate all disabilities and to resolve the problem as efficiently and expeditiously as possible. Students requesting allergy accommodations should contact the Access and Learning Accommodations office.

### Service Animals

The college permits service animals into campus buildings where other animals would typically not be permitted. This practice follows Titles II and III of the American with Disabilities Act Amendment Act (ADAAA).



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The service animal must have been trained as a service animal in the work or tasks directly related to the person's disability. Individuals are permitted to bring his or her service animal in all areas of the campus, including any place of public accommodation. Individuals living in college housing will be permitted to have no more than one service or support animal. A student must seek registration for a service animal to reside in college housing space. Information and procedures to gain approval may be found at the housing office for your campus.

Service animals in training on campus are allowed if the individual is an approved trainer, who is an agent of an organization recognized as reputable and competent to provide such training, and the individual submits proof to the Access and Learning Accommodations Office that he or she is the approved trainer as required in Texas Human Resources Code Dec. 121.003. Individuals participating in an internship off campus must refer to the entity's ADA designee for any inquiries regarding the requirements for service animals in training to enter their facility.

### Emotional Support Animals

In accordance to the Fair Housing Act of 1988 and the U.S. Department of Housing and Urban Development, the college permits an individual with a disability to keep an emotional support animal within his or her college housing and on college grounds. The emotional support animal is not allowed to accompany the student into other public buildings on campus, including the dining area.

All animals must comply with the city code of ordinances of the campus where the student resides, and will be considered for approval on a case-by-case basis by the TSTC Access and Learning Accommodations Office.

Animals defined as "dangerous wild animals" in the Texas Health and Safety Code §822.101 (big cats, apes, bears, hybrids of these animals), primates, high-rabies-risk animals (bats, fox, raccoon, coyote), venomous animals and domestic animals with unknown health history are not allowed.

The Code says a "dangerous wild animal" means:

- A lion;
- A tiger;
- An ocelot;
- A cougar;
- A leopard;
- A cheetah;
- A jaguar;
- A bobcat;
- A lynx;
- A serval;
- A caracal;
- A hyena;
- A bear;
- A coyote;
- A jackal;
- A baboon;
- A chimpanzee;
- An orangutan;
- A gorilla; or
- Any hybrid of an animal listed in this subdivision.

In addition to the above mentioned, the college reserves the right to remove an emotional support animal if:

- it poses a direct threat to the safety of others or causes significant property damage;
- its presence results in an undue burden or fundamental alteration of a college's program;
- it creates an unmanageable disturbance or interference with the college community, and/or
- the student does not comply with the conditions set forth by the Access and Learning Accommodations office and the Student Housing Office.

### Criteria for Emotional Support Animals in Housing

Typically, an emotional support animal is recommended to an individual with a disability by a health care or mental health professional and is an integral part of a person's treatment process. Individuals living in college housing will be permitted

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to have no more than one emotional support animal. The Access and Learning Accommodations office manages requests related to a support animal within the student's college housing assignment. Requests made by faculty or staff residing in housing should be directed to the Housing Department and Human Resources office.

### Animal Etiquette

To the extent possible, the handler should ensure that the animal does not: sniff people, restaurant tables or the personal belongings of others. Also, the animal should not display any behaviors or noises that are disruptive to others, unless part of the service being provided the handler. Furthermore, it is the handler's responsibility that the animal does not block an aisle or passageway for fire egress. Violation of this on behalf of an individual may result in disciplinary action.

### Public Etiquette Toward Service or Emotional Support Animals

It is OK to ask someone if she/he would like assistance if there seems to be confusion. However, faculty, staff, students, visitors and members of the general public should avoid the following: petting a service animal, as it may distract them from the task at hand; feeding the service animal; deliberately startling a service animal; and separating or attempting to separate a handler from his/her service animal. Individuals found in violation of this may be subject to disciplinary action.

### Waste Cleanup Rule

Cleaning up after the animal is the sole responsibility of the handler. In the event that the handler is not physically able to clean up after the animal, it is then the responsibility of the handler to make arrangements to have someone available who is capable of cleaning up after the animal. The person cleaning up after the animal should abide by the following guidelines: always carry equipment sufficient to clean up the animal's feces whenever the animal is on campus, and properly dispose of waste and/or litter in appropriate containers. TSTC may impose a financial responsibility on the handler in the event TSTC staff is needed to cleanup.

### Exemptions

Animals involved in authorized research, K-9 animal (police dog), animals being temporarily held by Environmental Health and Safety, fish contained in aquariums, or animals used for performance on premises or involved in college sponsored activity.

### Appeal Process

An individual may appeal the decision to the college ADA coordinator which can be found in [SOS ES 3.26 Students with Disabilities](#).

### Grievance Procedure for ADA-Related Complaints

Primary responsibility for ensuring compliance with the ADAAA rests with the college's ADA/504 coordinator.

The release of and access to all student-related educational records will be in compliance with the Family Educational Rights and Privacy Act (FERPA).

TSTC students who believe that they have been denied equal access in the form of appropriate accommodations, modifications, auxiliary aids, effective communication or experienced discriminatory harassment as described in Section 504 of the Rehabilitation Act of 1973 or The Americans with Disabilities Act of 1990 have a right to file a grievance. The TSTC procedure for the filing of student-related grievances alleging violations of the ADAAA and Section 504 is as follows:

1. The student shall submit a written complaint to the Office of Access and Learning Accommodations or its designee as soon as the complainant becomes aware of the alleged violation, but no later than 10 working days after the alleged action occurred. The time for submitting a written complaint can be waived for good cause as determined by the Office of Access and Learning Accommodations or its designee. The written complaint must include the name and address of the person filing the complaint, a brief description of the alleged violation and any documents supporting the complaint. The Office of Access & Learning Accommodations or its designee shall assist the student in the interactive process in an effort to clarify and resolve the issue. At times, the ALA Office or its designee may consult with the ADA coordinator, staff and/or other pertinent parties to assist in the resolution process.
2. The ALA office or its designee shall review the complaint and provide the student a response within 10 working days following receipt of the complaint. An extension of time may be made, not to exceed 15 working days, if the student is notified by the ALA office or its designee.
3. If the student is not satisfied with the decision of the ALA office or its designee, a written complaint may be submitted to the ADA coordinator within 10 working days of the decision provided in step two. The time for submitting a written complaint may be waived for good cause as determined by TSTC's ADA coordinator. The written complaint must include the name and address of the person filing the complaint and a description of the

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reason for the complaint. Upon receipt, TSTC's ADA coordinator shall review the complaint within 10 working days. An extension of time may be made, not to exceed 15 working days, if the student is notified by the ADA coordinator. When necessary, the ADA coordinator shall consult with the ALA office and/or the ADA compliance committee to assist in the resolution.

The ADA coordinator's decision shall be final at the college level.

If a complaint is not resolved at the college level, the student may choose to file a complaint with the Federal Office of Civil Rights. The Federal Office of Civil Rights will receive complaints and investigate as deemed appropriate.

Note: Accommodations can be requested at any time during the Student Appeals Process by contacting the Office of Access and Learning Accommodations.

### Access and Learning Accommodations Contacts

#### **Abilene, Breckenridge, Brownwood and Sweetwater**

300 Homer K. Taylor Drive  
Sweetwater, TX 79556  
325-235-7311

#### **East Williamson County**

East Williamson County Higher Education Center

1600 Innovation Blvd.

Hutto, TX 78634  
512-759-5907

#### **Fort Bend County**

Brazos Center  
26706 SW Freeway  
Rosenberg, TX 77471  
337-936-3739

#### **Harlingen/Online Students**

Student Services Bldg. EK, Room 216  
1902 N. Loop 499  
Harlingen, TX 78550  
956-364-4520  
TTY: 956-364-4526

#### **North Texas**

119 N. Lowrance Road  
Red Oak, TX 75154  
469-820-6811

#### **Marshall**

Administration Building, Room 150  
2650 E. End Blvd. South  
Marshall, TX 75671  
903-923-3231

#### **Waco**

Student Services Center  
3801 Campus Drive  
Waco, TX 76705  
254-867-3600

#### **ADA/504 Coordinator**

Charlotte Ables

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Executive Director of Risk Management  
Enterprise Risk Management  
Texas State Technical College  
3801 Campus Drive

Waco, TX 76705  
Phone: 254-867-3751  
charlotte.ables@tstc.edu

**Access and Learning Accommodations Office**  
254-867-3600

[adarequest@tstc.edu](mailto:adarequest@tstc.edu)

### 03. Counseling Services

TSTC is committed to bolstering the wellness of its students and helping them find an optimal and safe environment in which to grow, develop and reach their full potential.

Counselors can promote positive mental health for improved personal, career and academic growth. In counseling, you can receive assistance from a caring professional who is not directly impacted by how you live your life or the choices you make. Regardless of what you share, our experienced counseling staff is on your side.

Counseling services are available for all currently enrolled TSTC students at all campus locations. Walk-ins are welcome, but having counseling sessions are dependent on availability. If another student has an appointment, then they will take precedence over any walk-ins except in a crisis situation. Services are available to students participating in online classes, and sessions can be scheduled for virtual appointments.

#### **Drug and Alcohol Policy Statement**

Texas State Technical College is a drug- and alcohol-free college and workplace. The unlawful manufacture, distribution, purchase, dispensation, possession or use of illegal drugs or alcohol by students and employees on college property, or as a part of any college-sponsored activity, is prohibited. Students violating any provision of the drug and alcohol policies are subject to disciplinary sanctions ranging from probation, suspension or expulsion to referral for prosecution. Employees who violate any provision of the drug and alcohol policies may be subject to disciplinary action up to termination.

#### **Alcohol and Drug Use**

Drug and alcohol use, misuse and abuse are complex behaviors with many outcomes at both the cultural and individual levels. Awareness of the dangerous effects of drug/alcohol use is imperative for an individual's well-being or survival. Negative consequences of drugs/alcohol may be exhibited through physical dependence (the body's learned requirement of a drug for functioning) or psychological dependence (the experiencing of persistent craving for the drug and/or a feeling that the drug/alcohol is a requirement for functioning).

Abuse of any drug/alcohol whether licit or illicit may result in marginal to marked, temporary to permanent physical and/or psychological damage, even death. Since many of the illicit drugs are manufactured and sold illegally, their content varies and may contain especially harmful ingredients or amounts. Regardless of the types of drug/alcohol utilized, a perceived need for the continued use is likely to ensue, resulting in dependence. Dependence on drugs and/or alcohol alters the user's psychological functioning. The acquisition of drugs and alcohol becomes the primary focus of the drug-dependent individual and often results in reduced job performance and jeopardizes family and other interpersonal relationships. Criminal behavior is frequently the means for financing a drug habit. Behavioral patterns often include violence and assault as the individual becomes increasingly drug/alcohol dependent. Social and psychological alienation and medical problems increase as the abuser becomes entrapped in drug/alcohol dependence. For more information on drug/alcohol counseling and referrals, please contact Counseling Services at your campus.

Possible Alcohol Sanctions

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- Probation.
- Online alcohol education course.
- Community service.
- Workshops.
- Removal from TSTC housing facilities.
- Suspension.
- Expulsion.

### Possible Drug Sanctions

- Probation.
- Online drug education course.
- Community service.
- Removal from TSTC housing facilities.
- Suspension.
- Expulsion.



The Conduct Officer has authority to sanction as seen fit for any violation of the Code of Student Conduct involving drugs and alcohol. For more information on the disciplinary process, review the Code of Student Conduct.

The Family Educational Rights and Privacy Act (FERPA) permits colleges and universities to inform the parents/guardians of students less than 21 years of age when their son/daughter has been found in violation of college alcohol and drug regulations.

Any student exhibiting signs of excessive drug/alcohol consumption will be transported via Emergency Medical Services (EMS) at the student's expense for medical attention. Refusal to cooperate with EMS personnel may result in arrest (by local/campus police) in order to ensure the student's health and safety.

### Health Risks Associated With Alcohol Abuse

- Increased risk of liver cancer.
- Increased risk of cirrhosis of the liver.
- Increased risk of heart disease.
- Adverse reactions when combined with many medications, including over-the-counter drugs.
- Overdose resulting in respiratory failure.
- Impaired concentration.
- Impaired coordination.
- Risk of permanent nerve damage from long-term abuse.

### Health Risks Associated With Marijuana Use

- Lowered sperm counts in men.
- Decreased testosterone levels in men.
- Increased testosterone levels in women.
- Enhanced cancer risk.
- Impaired short-term memory.
- Psychological dependence.

### Health Risks Associated With the Use of Cocaine and Crack

- Addiction.
- Heart attack.
- Stroke.
- Respiratory failure.
- Brain seizures.
- Hepatitis or AIDS through sharing needles.
- Decreased ability to combat infections.
- Violent, erratic or paranoid behavior.
- Anxiety, depression.
- Cocaine psychosis.

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## Health Risks Associated With the Use of Hallucinogens

- Sleeplessness and tremors.
- Convulsions.
- Heart and lung failure.
- Depression, anxiety and paranoia.
- Violent behavior.

For more information, visit the [Drug Free Schools and Campus Act](#) page on TSTC's website.

## Counseling Services Contacts

### **Abilene, Breckenridge, Brownwood, Sweetwater**

650 E. Highway 80  
Abilene, TX 79601  
325-734-3653

### **Fort Bend County**

26706 Southwest Freeway  
Rosenberg, TX 77471  
346-239-3232

### **Harlingen**

1902 N. Loop 499  
Harlingen, TX 78550  
956-364-4314

### **Marshall**

2650 East End Blvd. South  
Marshall, TX 75672  
903-923-3318

### **East Williamson County, North Texas and Waco**

3801 Campus Drive  
Waco, TX 76705  
254-867-3026

## **04. Advocacy & Resource Center (ARC)**

Texas State Technical College (TSTC) Advocacy & Resource Center (ARC) is dedicated to helping students develop transitional skills to help them achieve success in their academic, career and life goals in an inclusive environment that embraces the diversity of our students and community.

The ARC is designed to assist students with non-academic barriers and help the student to get back on the path toward graduation. The office functions as a resource and referral center. When life happens, we have resources that can help.

The ARC assists students who are food insecure by offering snacks, nonperishable food and personal hygiene items. This service is free for all students. We believe hunger should not be an obstacle in reaching your academic goal. Donations of nonperishable food and personal hygiene items are always welcome.

The ARC also provides referrals for child care. Some locations assist with child care stipends. Services are contingent to meeting the qualifications for each respective campus and child care servicing agency.

Transportation stipends are available at all campuses through ARC.

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The ARC assists students with books from the Lending Library. Priority is given to special population students including: non-traditional, out-of-workforce individuals, single parents, veterans and students who have a disability.

Each campus offers services unique to their specific student population. Please see the applicable college personnel on your campus to be directed to resources provided at your location.

Learn more about the ARC and TSTC's Culture of Caring on their [web page](#).

### Advocacy & Resource Center Contacts

#### **East Williamson County**

1600 Innovation Bldg. (CR 108)  
Hutto, Texas 78634  
254-867-2990

#### **Fort Bend County**

Brazos Center  
26706 SW Freeway  
Rosenberg TX 77471  
346-239-3233

#### **Harlingen**

Student Services Center

1902 N. Loop 499  
Harlingen, Texas 78550  
956-364-4525

#### **Marshall**

Administration Bldg. Room 150  
2650 East End Blvd. South  
Marshall, TX 75672  
903-923-3646

#### **North Texas**

119 N. Lowrance Rd  
Red Oak, TX 75154  
254-867-2224

#### **Waco**

Student Service Center  
3801 Campus Drive  
Waco, Texas 76705  
254-867-2990

#### **West Texas (Abilene, Breckenridge, Brownwood and Sweetwater)**

650 E. Highway 80  
Abilene, TX 79601  
325-734-3607

## 05. Student Success

The Office of Student Success

The Office of Student Success coordinates and implements student success initiatives that provide students with opportunities to achieve their academic, career and personal goals.

#### **Student Success initiatives include:**

- The HATSS Mentoring Program (Helping a TSTC Student Succeed) provides mentoring through guidance, academic

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support and the delivery of academic and financial aid policies critical to students on scholastic appeal and/or financial aid suspension appeal. The program includes interventions designed to improve student success.

- The Tutoring Program which offers free tutoring services in academic and technical subject areas to students across all TSTC campuses.
- A referral system where students can be referred to campus and community resources.
- Seminars and workshops on academic policies, test-taking strategies, learning strategies, leadership qualities, time management, organization and related topics.
- GPA and completion rate forecasting to help students project where they stand academically at any point during the semester. This is especially helpful to students in the HATSS program, on [scholastic probation](#) and/or financial aid warning or probation.
- Chancellor's & Scholastic Excellence Honor Roll. Every semester the Office of Student Success posts the names of all students meeting the criteria for Honor Roll on the TSTC Website. The Chancellor's Honor Roll requires that a student have a semester GPA of 4.0 and be a full-time student. The Scholastic Excellence Honor Roll requires that a student have a semester GPA of 3.5 to 3.9 and be a full-time student.

### Helping a TSTC Student Succeed (HATSS) Mentoring Program

HATSS is a mentoring program for students on academic suspension and/or financial aid suspension Appeal (SAP Appeal). Students in the HATSS Mentoring Program are required to participate in different program interventions (seminar, mentor meetings, workshops, tutoring/study hours, etc.). HATSS students who fail to participate in the program interventions and who fail to demonstrate academic progress risk being administratively withdrawn from all their classes, with the exception of students taking Performance Based Education (PBE) courses. Students who participate in HATSS Mentoring Program interventions are more likely to succeed in their academic goals.

HATSS students who are administratively withdrawn, who fail the semester, or who drop all their classes on their own will be suspended for the following semester. Thereafter, students who wish to return to TSTC will again be required to appeal through the HATSS Mentoring Program. Past participation in HATSS Mentoring Program interventions, or lack thereof, will be considered. Appeals are not guaranteed. HATSS students who participate in the program interventions and who meet certain standards of academic progress by the end of the semester will be referred to their Enrollment Coach for consideration for a financial aid appeal (when applicable) for the upcoming semester.

More information can be found on the [HATSS Mentoring Program](#) page on the Portal.

### Tutoring Program

The Tutoring program at TSTC offers free tutoring services to all TSTC students. The program offers tutoring in technical and academic subject areas to help students achieve their academic and career goals. Students can request tutoring services by clicking on the "Need Tutoring" icon located at the top of the Student Portal landing page. Students can also access the tutoring schedule, tutoring FAQs, the MyTSTC video library and other resources by visiting the Portal and clicking on the Student Learning drop-down menu. Tutoring services are delivered through live, virtual sessions conducted via Google Meet. The program offers evening and sometimes Saturday tutoring sessions in certain subjects. Limited in-person tutoring is available at the Harlingen campus only, at this time. Check the Statewide Tutoring Schedule on the [Tutoring Program Portal Page](#) for more details.

For more information, please contact Norma A. Salazar, statewide lead for Student Success, at 956-364-4557 or [nasalazar@tstc.edu](mailto:nasalazar@tstc.edu).

## 06. Career Services

TSTC provides job placement services to all students and graduates. Every effort is made to assist registered candidates as they seek full-time and part-time employment in business, industry and government. Career Services maintains information on employers, job listings and salaries. Staff schedule interview sessions, host industry job fairs for employers and coordinate communications between industry and the College. Students are able to search for jobs, communicate directly with employers and post their résumés by logging in to their hireTSTC account at [www.hireTSTC.com](http://www.hireTSTC.com). Students may access their hireTSTC account as early as their first semester.

The College places a high priority on helping graduating students find employment in their chosen field of study. The philosophy of the College is that its job is not complete when the student finishes his or her studies but continues with assistance in securing employment.



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Career Services conducts follow-up studies which help to determine the effectiveness of TSTC's curriculum and training and overall student success. Career Services is committed to equal opportunity in employment and does not discriminate on the grounds of race, color, gender, national origin, age, genetic information, disability or veteran status. Facilities and placement services are available only to employers whose practices are consistent with this policy.

Some of the companies and government agencies which routinely employ TSTC graduates include: Eagle Aviation, L3Harris, Siemens, Rolling Plains Memorial Hospital, GE Healthcare, Center Point Energy, American Electric Power, Eastman Chemical, Gerdau, ICU Medical, Pape-Dawson Engineers, Koenig & Bauer, Halliburton, NextEra Energy Resources, Oncor, Vestas, Samsung, Infosys, Mustang CAT, Texas Instruments, Toyota Motor Manufacturing, National Oilwell Varco and Valley Baptist Medical Center.

### 07. Student Leadership & Clubs

#### Clubs and Organizations

Students are encouraged to join or organize clubs with the guidance of a TSTC faculty or staff advisor. Some student clubs allow dual enrollment students to join. Clubs can be related to professional careers or nonacademic interests. The advisor is responsible for students' actions in any activity sponsored by the organization or club. All clubs or professional organizations must be granted approval.

All officially recognized student organizations sponsoring social functions, fundraisers, and/or volunteer activities, either on or off campus, must coordinate and register such functions with the college. Student organizations and their advisors (sponsors) are responsible for compliance with TSTC policies and regulations and all applicable state and federal laws.

TSTC is judged by the actions of its students, on and off campus. Therefore, students will be responsible to college authorities for any questionable acts regardless of where they are committed.

Students interested in starting a new club or organization are encouraged to visit with the student club staff for further guidance.

#### Student Clubs/Organization Risk Management Policy

In accordance with Texas Education Code §51.9361, the advisor and president, or other designated officer, of each registered student organization shall attend a risk management program each academic year.

By law the training will include, but not be limited to, the following topics:

- Possession and use of alcoholic beverages and illegal drugs.
- Hazing.
- Sexual abuse and harassment.
- Fire and other safety issues.
- Student travel guidelines.
- Behavior at parties and other events held by the club or organization.
- Adoption of risk management policy.
- Issues regarding persons with disabilities.

Failure to comply may result in the student organization's recognition being withdrawn, withheld or denied by the administration or Board of Regents of the college.

#### Free Speech

As an institution of higher learning, TSTC is dedicated to maintaining a college community that values and encourages the free exchange of ideas. The college will honor the rights of free speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.

Contact the Office of Retention Services about specific guidelines.

#### SkillsUSA

As a TSTC student you can participate in lots of intramural sports like football, softball and volleyball, but SkillsUSA is our technical "athletic program". Our best compete at both the state and national competitions every year. We have a history of creating champions. For over 50 years, TSTC has more medal winners than all two- and four-year colleges in Texas

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combined.

Do you have a competitive spirit? Do you strive to be the best at what you do? Ask an enrollment coach which programs have SkillsUSA teams so you can join today.

### Student Travel

Official student travel is defined as travel involving one or more students traveling to an event or activity that is organized or sponsored by TSTC and is located more than 25 miles from the college or during which the students will be staying overnight. International travel is not permitted at TSTC. The faculty/staff member or student club advisor is responsible for ensuring that all TSTC rules and regulations are followed. During any trips requiring an overnight stay, the advisor(s) and students must stay in the same hotel facility/complex. Students and advisor(s) must travel together during any off campus trips. The faculty/staff member or club advisor must complete and submit an official student travel packet at least 10 days prior to the sponsored trip. For more information, please see the Student Organization Handbook.

Students in good standing, with at least a 2.0 GPA, and without holds on their account are eligible to travel. Each student will be evaluated on a case-by-case basis.

Students driving personal vehicles and/or transporting others in their personal vehicles on college trips must sign waivers and show proof of current liability insurance. Students will be required to ride in state vehicles or contracted transportation on long trips offered by the college. Those students traveling in a state vehicle sign a field trip release form. Students are not permitted to drive state vehicles. For more information, see [Statewide Operating Standard \(SOS\) ES 3.22](#)

## 08. Library and Learning/Information Resources and Services

The TSTC Virtual Library System serves as a single access point for learning, exploration and community. The provided materials support the College's curricula and programs, fostering information literacy and lifelong learning skills while meeting the broad reading and informational needs of a multicultural campus.

The online library offers resources to students and employees in the form of databases, websites, e-books, e-media and e-journals. Electronic resources and databases are accessible 24/7. Trained staff members are available to assist in locating and using the online library materials. Library services include but are not limited to: library tutorials and instructional videos, research help, program/subject LibGuides, and reference support available through chat and email.

For more information, visit [tstc.libguides.com](http://tstc.libguides.com), email [asklibrary@tstc.edu](mailto:asklibrary@tstc.edu), text 254-332-2968, or chat/submit questions at [tstc.libanswers.com](http://tstc.libanswers.com).

## 09. TSTC Café

TSTC provides food service at various campuses. Meals are not offered on weekends. Please contact your local food service for hours of operation and cost.

Meal plans are offered on the Harlingen, Sweetwater and Waco campuses. Purchase of a meal plan is required for housing residents under age 21 for the first two semesters. Visit [tstc.edu/campuses](http://tstc.edu/campuses) for details.

## 12. Campus Security and Safety

### 01. Annual Security Report (Clery Report)

The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, originally known as the Student Right-to-Know & Campus Security Act, is a federal law that requires colleges and universities to publish an annual report by October 1 each year that contains data related to reports of crimes occurring on campus, at off-campus college facilities, residence halls and public property immediately adjacent to the campus. In addition, this report identifies specific policy statements.

The Campus Fire Safety Right-to-Know Act became federal law with the passage of the Higher Education Opportunity Act of 2008. The new law requires colleges and universities that maintain on-campus housing facilities to compile an annual fire safety report that gives students, parents and the public current information about fires in on-campus housing.

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The Texas State Technical College (TSTC) Police Department maintains a crime log with summary information about crimes reported to the College Police, and also maintains a fire log that records, by date reported, any fire that occurs in an on-campus student housing facility. The crime log and fire log are open for public inspection during normal business hours.

It is the policy of TSTC to fully comply with the federal mandates of the Clery Act by collecting and furnishing the Annual Security and Fire Safety Report.

The Clery Report contains data regarding specific criminal offenses that occurred on campus during the most recent calendar year and the two preceding calendar years, as well as the number of arrests for crimes occurring on campus. The Clery Report also includes geographical breakdown, expanded definition of campus, reporting of hate-crimes and a public crime log. [TSTC's Annual Clery Report](#) is available online.

Information provided by the state of Texas concerning registered sex offenders may be obtained through the [Department of Public Safety's website](#). Additional information about college safety or information relating to state or federally mandated public information requirements can be found on [TSTC's safety and security website](#).

## 02. Campus Carry

Texas State Technical College (TSTC) takes the issue of guns on campus very seriously. The safety and security of our students, employees and visitors is a top priority. Therefore, the possession of any weapon in accordance with Title 10, Chapter 46.03 of the Texas Penal Code is prohibited on the physical premises of TSTC except for a person licensed to carry under Subchapter H, Chapter 411, Government Code, carrying a concealed handgun in any area not designated as prohibited. TSTC is in compliance with SB11 of the 84th Texas Legislative session under the policies established by TSTC regarding the carrying of concealed handguns with a permit.

## 03. Racial Profiling Policy

It is the policy of the TSTC Police Department to police in a proactive manner and, to aggressively investigate suspected violations of law. Police officers shall actively enforce state and federal laws in a responsible and professional manner, without regard to race, ethnicity or national origin. The right of all persons to be treated equally and to be free from unreasonable searches and seizures must be respected. Police officers are strictly prohibited from engaging in racial profiling as defined in this policy. Racial profiling is an unacceptable patrol tactic and will not be condoned. This policy shall be applicable to all persons, whether drivers, passengers or pedestrians.

The prohibition against racial profiling does not preclude the use of race, ethnicity or national origin as factors in a detention decision. Race, ethnicity or national origin may be legitimate factors in a detention decision when used as part of an actual description of a specific suspect for whom an officer is searching. Detaining an individual and conducting an inquiry into that person's activities simply because of that individual's race, ethnicity or national origin is racial profiling.

Examples of racial profiling include, but are not limited to, the following:

- Citing a driver who is speeding in a stream of traffic where most other drivers are speeding because of the cited driver's race, ethnicity or national origin.
- Detaining the driver of a vehicle based on the determination that a person of that race, ethnicity or national origin is unlikely to own or possess that specific make or model of vehicle.
- Detaining an individual based upon the determination that a person of that race, ethnicity or national origin does not belong in a specific part of town or place.

The TSTC Police Department holds two basic principles based on the adoption of this definition of racial profiling:

- Police may not use racial or ethnic stereotypes as factors in selecting whom to stop and search, while police may use race in conjunction with other known factors of the suspect.
- Law enforcement officers may not use racial or ethnic stereotypes as factors in selecting whom to stop and search.

Racial profiling is not relevant as it pertains to witnesses, etc. Students who have questions or complaints about TSTC Police Department's racial profiling policies or procedures may call the local campus office.

## Waco | North Texas | Williamson County

Lieutenant Roman Proctor

1101 Airline Drive

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Waco, TX 76705

254-867-3690 (office)

254-867-3410 (fax)

[ryproctor@tstc.edu](mailto:ryproctor@tstc.edu)

**Harlingen | Fort Bend County | Marshall | Sweetwater | Abilene | Brownwood | Breckenridge**

Lieutenant Gloria Ruiz

2201 Airport Dr.

Harlingen, TX 78550

956-364-4220 (office)

956-364-5171 (fax)

[geruiz@tstc.edu](mailto:geruiz@tstc.edu)

### 04. Parking & Transportation

#### Parking Permits

On-campus parking permits will not be required this academic school year. Student housing permits are available at the Student Housing Office.

#### Vehicle and Parking on Campus

Texas State Technical College (TSTC) assumes no responsibility for any vehicle or its content while the vehicle is parked or operated on College property.

Students are to follow all federal, state and campus statutes pertaining to the operation or parking of any and all vehicles. Any damage caused by any unauthorized activities will be charged to the offender's account. No repair work of any kind is to be done in any parking or common area. No vehicle may be left on jacks, logs, blocks, etc. Inoperable vehicles are not allowed on campus.

All vehicles are required to be in legal, operable condition to be parked on campus. Vehicles must have proper license, registration and parking permits (if applicable) while the vehicle is parked or operated on College property.

Parking on the grass, sidewalks, in front of trash dumpsters or any area marked restricted is prohibited. Those in violation will be towed at the owner's expense.

Eighteen-wheelers, trailers of any type, boats, recreational vehicles and all motorized off-road vehicles are prohibited on campus.

Any vehicle found in violation of these restrictions may be subject to a ticket, wheel lock or towing at the owner's expense.

Operating any type of vehicle on campus is regulated by TSTC's police department and requires your cooperation with all guidelines and safe-driving practices. As a TSTC student or employee, it is your responsibility to be familiar with these regulations and abide by them at all times. Read over the regulations carefully so you will avoid traffic and parking violations during your stay on campus. Additional information about parking and traffic rules and regulations can be found at [tstc.edu/student-life/safety-and-security](https://tstc.edu/student-life/safety-and-security).

### 05. Making a False Alarm or Report

A person commits an offense under Section 42.06, Texas Penal Code, if he or she knowingly initiates, communicates or circulates a report of a present, past or future bombing, fire, offense or other emergency that he or she knows is false or baseless and that would ordinarily: (1) cause action by an official or volunteer agency organized to deal with emergencies; (2) place a person in fear of imminent serious bodily injury; or (3) prevent or interrupt the occupation of a building, room, place of assembly, place to which the public has access, or aircraft, automobile or other mode of conveyance.

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The offense under Section 42.06, Texas Penal Code, of making such a false alarm or report involving a public or private institution of higher education is a state jail felony.

### 06. Lost and Found

Lost and found items are turned over to the College Police Department or designated office, which makes every effort to return the items to the owner.

Provisions will be made for lost and found property to be reclaimed at the College Police Department, the Security Department or designated office for each campus from 8 a.m. to 5 p.m. Monday through Friday.

Proper identification, such as a Texas driver's license, must be provided and the property must be sufficiently identified to be reclaimed.

If an owner cannot be located, all abandoned or found property will be held for 30 days. After 30 days unclaimed property will be disposed of in accordance with the Texas Code of Criminal Procedure Article 18.17.

#### **Abilene**

Campus Police

325-235-7400

#### **Breckenridge**

Associate Provost

254-559-7707

#### **Brownwood**

Associate Provost

325-641-3911

#### **East Williamson County**

Temple College Security

512-759-5911

#### **Fort Bend County**

Security Office

346-239-3390

#### **Harlingen**

Campus Police

956-364-4220

#### **Marshall**

Security Office

903-923-3351

#### **North Texas**

Provost Office

469-820-6795

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## **Sweetwater**

Campus Police

325-235-7400

## **Waco**

Campus Police

254-867-3690

## **07. Bicycle, Skateboard, Hoverboard (and other self-balancing boards/scooters) and Rollerblade Use Guidelines**

Riding bicycles, roller skates, in-line skates, scooters, hoverboards, Swagways, Segways, IO Hawks, Skywalkers or other similar self-balancing boards/scooters, skateboards and similar coasting devices will be allowed as long as all safety precautions are taken. All transport devices must be operated in a safe manner that prevents or mitigates personal injuries and promotes active transportation on college property. They may not be utilized in buildings or left in hallways, staircases, classrooms, lounges or where otherwise prohibited by a campus rule, regulation or signage. Use of any of these items in a manner that damages property or endangers or inconveniences vehicles or pedestrians is prohibited.

## **08. Health Regulations**

### **Communicable Diseases**

"Communicable disease means an illness that occurs through the transmission of infectious agent toxic products from a reservoir to a susceptible host," according to the Texas Health and Safety Code, Sec. 81.003. Communicable diseases include, but are not limited to, measles, influenza, viral hepatitis-A (infectious hepatitis), viral hepatitis-B (serum hepatitis), human immunodeficiency virus (HIV), AIDS (acquired immune deficiency syndrome), AIDS-related complex (ARC), HIV infection (human immunodeficiency virus infection), meningitis, meningococcal infections and tuberculosis. The term "HIV infection" shall include AIDS, AIDS-related complex (ARC), and a positive test for the antibody to human immunodeficiency virus. HIV is the virus that causes AIDS (a result of HIV infection).

Texas State Technical College (TSTC) recognizes that communicable diseases are a serious threat to public health. In the event of a communicable disease, TSTC works with notifying a health agency and in compliance with Texas Department and Health Services and county health department recommendations, and regulations for an educated response to issues concerning communicable diseases. Individuals with HIV or hepatitis will not be discriminated against in admission to academic programs, health care or access to facilities. Students with HIV or hepatitis may attend any function or event if they are physically capable and do not pose health risks to others.

### **Confidentiality**

All information regarding the medical status of students is confidential and may not be released without the individual's consent, except otherwise provided by law.

### **Medical Judgment**

Any decision that TSTC makes concerning a person who has a communicable disease shall be based on current and well-informed medical judgment, which includes the nature of the disease, risk of transmission to others, symptoms and special circumstances of the person. The decision that a person poses a threat will be based solely on knowledge of the duration of the risk; nature and severity of the potential harm; likelihood the potential harm will occur; and imminence of the potential harm.

### **Bacterial Meningitis Notification**

State law (Texas Education Code section 51.9192) states that all students attending an institution of higher education are

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required to provide proof of a current bacterial meningitis vaccination.

Bacterial meningitis is a serious, potentially deadly disease that can progress extremely fast. It is an inflammation of the membranes that surround the brain and spinal cord and can infect the blood. The disease can be treated, but those who survive may develop severe health problems and severe disabilities.

Vaccinations that are effective against 70% of the most common types of bacterial meningitis are available and required by those living in close quarters and by college students ages 21 or younger (22 and older are exempt). For more information, please contact your health care provider, the Texas Department of State Health Services or the Centers for Disease Control and Prevention.

### 09. Campus Assessment, Response and Education (CARE) Team

The TSTC CARE (Campus Assessment, Response and Education) Team strives to promote campus safety and student success throughout the TSTC community. The CARE Team meets on a weekly basis to ensure that students are connected to the resources they need and that appropriate steps are taken to keep all TSTC campuses safe. Any concerns about a student should be reported to the CARE Team, whether it be a mental health concern, safety concern, behavioral concern, or anything that may involve a student's well-being.

To submit a CARE Team report, fill out the form at [https://cm.maxient.com/reportingform.php?TexasStateTC&layout\\_id=10](https://cm.maxient.com/reportingform.php?TexasStateTC&layout_id=10). This form is located on the TSTC Portal homepage by clicking on the Maxient icon.

In case of an emergency, call your campus or local police/security department for immediate assistance. A CARE Team report can be filled out after immediate needs have been addressed.

#### **Abilene, Breckenridge, Brownwood, and Sweetwater**

TSTC Police Department  
325-235-7400

#### **Fort Bend County**

Rosenberg Police Department  
2120 4th Street  
Rosenberg, Texas 77471  
832-595-3700

#### **Harlingen**

TSTC Police Department  
956-364-4220

#### **Marshall**

TSTC Security Department  
903-923-3351

#### **North Texas**

Red Oak ISD Police Department  
972-617-4607

#### **Waco, East Williamson County**

TSTC Police Department  
254-867-3690

### 10. Pets on Campus

Texas State Technical College (TSTC) is committed to providing a healthy and safe environment for students, faculty, staff and visitors by managing the presence of animals on campus property and facilities for reasons of health and cleanliness. Pets are not allowed in college buildings, including offices, as well as residential, recreational and academic buildings.

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TSTC permits service and approved emotional support animals for people with disabilities to receive the benefit of the tasks these animals provide or the therapeutic support they offer in accordance with the requirements of federal law. See the Access and Learning Accommodations section for more details.

For more information, contact Access and Learning Accommodations ([adarequest@tstc.edu](mailto:adarequest@tstc.edu)) or the Housing Office.

### 13. Student Rights and Responsibilities

#### 01. Student Rights and Responsibilities

As members of the college community, TSTC Students are entitled to certain rights associated with attending an institution of higher education. These rights are published online and found in [SOS ES 3.23 Student Rights and Responsibilities](#).

##### Statement of TSTC Student Rights and Responsibilities

1. The right to freedom from discrimination on the basis of race, color, religion, gender, age, national origin, genetic information, sexual orientation, disability, veteran status, or any other class that may be specified by laws or the United States Constitution.
2. The right to develop one's individual potential.
3. The right to expect a quality education.
4. The right to pursue an education without undue interference.
5. The right to be free from hazing, threats, stalking, violence, and other harassing actions.
6. The right to petition the appropriate College unit or body for redress of grievances in accordance with College procedures.
7. The right to confidentiality of official records, transcripts, disciplinary records, and other educational records consistent with the Family Educational Rights & Privacy Act (FERPA) of 1974 (Buckley Amendment).
8. The right to communicate with administrators, faculty, and staff through appropriate processes.
9. The right to publish and distribute information through the appropriate forums subject to the standards of reasonable journalism and applicable regulations/statements of the United States Constitution, the Federal Communications Commission, and the College.
10. The right, in accordance with the law and with College procedures, to freedom of speech and assembly which are subject to the College's requirements for the maintenance and order and the protection of rights and privileges of other members in the College's community.
11. The right and opportunity to participate in the formulation of procedures directly affecting students through membership or appointment to appropriate committees as determined by the College, student leadership organizations, and other recognized groups within the College.
12. The right of access to designated College facilities through student organizations that are recognized/approved by the College for business meetings, special meetings, and programs open to the public in accordance with College procedures.

#### 02. Academic Student Responsibilities

1. **Academic Freedom** - Students and all other members of the College's community are guaranteed the rights freely to study, discuss, investigate, teach, conduct research and publish as appropriate to their respective roles and responsibilities. In the classroom and in conference, students have the right within the scope of the course of study to state divergent opinions, challenge ideas and take reasoned exception to the data or the views offered.  
**Responsibility** - Students and faculty share the responsibility to protect and to preserve conditions that are conducive to the learning process including withholding judgment on matters of opinion, ensuring a fair hearing for divergent viewpoints and observing rules of courtesy in the classroom.
2. **Academic Standards** - Students have the right to know the standards of academic performance established for each course in which they are enrolled.  
**Responsibility** - Students are responsible for seeking clarification of any standard in question at the beginning of the term, for preparing assignments in advance of each class session and for learning the content of any course of study for which they are enrolled. Rules applying to academic dishonesty must be followed, including those related to plagiarism and cheating.
3. **Academic Evaluation** - Students have the right to be evaluated solely on an academic basis, without regard to issues of diversity, opinions or conduct in matters unrelated to academic standards. Students have the right to review tests and other written works after the instructor has evaluated them and are accorded protection through the Student Grievance Procedure against prejudiced or capricious academic evaluation.  
**Responsibility** - Students are responsible for bringing academic grievances to the attention of the instructor who performed the evaluation in an effort to resolve the issue. If the matter cannot be settled at this level, the grievance may be appealed in writing as outlined in the Student Grievance Procedure.
4. **Confidentiality** - Except when disclosure may be required by state or federal law, students have the right to confidentiality of information about views, beliefs and political associations shared privately with instructors,



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advisers or academic counselors. Judgment of a student's ability and character may be provided under appropriate circumstances, normally with the knowledge and consent of the student.

**Responsibility** - Students have the responsibility to state clearly what type of personal information should not be disclosed to others.

5. **Academic Environment** - Students have the right to pursue an education without disruption or interference and to expect enforcement of norms for acceptable classroom behavior that prevents disruption of the teaching/learning process.

**Responsibility** - Students may not disrupt class or any other collegiate process by any means whatsoever (including sideline conversations, comments, arguments, intentional noisiness or other activity which would hinder access to or utilization of academic information).

6. **Non-Discrimination** - Students have the right to learn in an environment where diversity is respected.

**Responsibility** - Students are responsible for respecting diversity and for behaving courteously to faculty members and to other students in the classroom regardless of difference in race, color, religion, sex (including pregnancy, gender identity and sexual orientation), parental status, national origin, age, disability, genetic information (including family medical history), political affiliation, military service or other non-merit based factors that would be in violation of any applicable federal, state or local law.

7. **Intellectual Property** - Students have the right to expect that presentation of material in a class will be in compliance with copyright law and that their own creative work will not be disseminated or published without their permission.

**Responsibility** - Students who receive written notification from a faculty member that the information provided in his or her course is the faculty member's intellectual property shall not distribute, use for commercial purpose or create derivative works of the intellectual property without obtaining the express permission of the faculty member. Students shall not assume permission absent written notification from a faculty member. Students shall also respect and treat in similar manner the intellectual property of other students.

### 03. Title IX

#### Prohibiting Sexual Misconduct and Gender-based Discrimination

To ensure and maintain a workplace and an educational environment free of, and protected from, sexual misconduct and discrimination based on gender. Texas State Technical College (TSTC) does not tolerate and expressly prohibits sexual misconduct which includes, but is not limited to: sexual harassment, sexual assault, and/or sexual exploitation, stalking, dating and domestic violence. No person on the basis of sex, will be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity.

This practice applies to all members of the TSTC organization, including all employees, students and visitors. This practice and procedure includes incidents occurring on and off campus that would cause a substantial disruption in the learning environment. The procedures also include complaints filed by visitors on TSTC property. Respondents are subject to disciplinary action, including possible suspension/expulsion from the College or separation of employment if found to be responsible.

#### Pertinent Information

Title IX of the Education Amendments of 1972 protects people from discrimination based on sex in education programs or activities which receive federal financial assistance. Title IX states, "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance."

#### Definitions

**Bullying:** Repeated and/or aggressive physical or mental behavior that is intimidating or controlling.

**Complainant:** Individual making the complaint of sexual misconduct or gender discrimination.

**Consent:** Agreement to engage in sexual conduct or activity explicitly verbalized (saying "yes") or given by active, willing participation by all parties involved.

Sexual consent cannot be given by anyone who is underage, who is under the influence of alcohol or drugs, or who is otherwise mentally impaired or incapable of giving knowledgeable, informed consent.

**Cyber Bullying:** Repeated and/or aggressive written, graphic or verbal harassment that is transmitted through any electronic/digital device.

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**Domestic Violence:** Violent or aggressive behavior within the home, typically involving the violent abuse of a spouse or partner.

**Gender Discrimination:** Discrimination based on sex, including discrimination based on pregnancy, childbirth, false pregnancy, termination of pregnancy or recovery from any of these conditions. The federal Title IX regulation also prohibits a school from applying any rule related to a student's parental, family or marital status that treats students differently based on their sex.

**Hazing:** Acts related to the admission, initiation or pledging of a formal or informal group that are likely to cause physical, psychological or social harm.

**Incapacitation:** Lacking the ability or capacity to have a reasonable understanding of the situation one is in due to lack of sleep, disability, involuntary physical constraint or consumption of alcohol or drugs.

**Informal Resolution:** An alternative to the grievance process that may be offered and facilitated by the College following the filing of a formal complaint and upon the voluntary, written consent of the parties.

**Preponderance of the Evidence:** The majority of the evidence which would cause a reasonable person to draw a conclusion.

**Respondent:** Individual against whom the complaint of sexual misconduct or gender discrimination is made.

**Retaliation:** An adverse action taken to try to keep someone from opposing a discriminatory practice.

### **Sexual Misconduct:**

- A. Sexual Harassment – includes unwelcomed gender based verbal or physical conduct that sufficiently severe, persistent and pervasive. It has the effect of unreasonably interfering with, and/or denying or limiting someone's ability to participate in or benefit from the College's educational program and/or activities (hostile environment). It is based on power differentials (quid pro quo - "this for that") and can be the creation of a hostile environment and/or that of retaliation.
- B. Nonconsensual Sexual Contact (or Attempts) – intentional sexual touching, however slight, with an object and/or body part(s) by an individual towards another individual that is without consent or done so forcefully.
- C. Nonconsensual Intercourse (or Attempts) – any form of sexual intercourse (vaginal, oral or anal) regardless of how slight the penetration without consent. Also referred to as a sexual assault/rape.
- D. Sexual Exploitation – obtaining a personal gain for one's self or for another by taking advantage of an individual in a sexual nature. Examples include, but are not limited to: invasion of sexual privacy, prostituting another person, nonconsensual video or audio taping of sexual activity, going beyond the boundaries of consent, engaging in voyeurism, knowingly transmitting a STD or HIV to another person, exposing one's genitals in nonconsensual circumstances or inducing another to expose their genitals, and sexually based stalking and/or bullying.
- E. Acquaintance Rape – nonconsensual sexual intercourse (rape/sexual assault) by someone known to the complainant.
- F. Sexual Violence – act penetrated against someone's will. Includes same sex violence/incidents.
- G. Sexual Abuse – sexual interaction between an adult and a minor, including sexual intercourse, touching or contact.

**Stalking:** Repetitive behavior that involves calling, texting, emailing, following, and/or otherwise communicating with an unwilling individual and which interferes with the peace of the individual and/or the individual's community. It is behavior that is directed toward a specific individual or individuals that would cause a reasonable person to fear for his/her own or another's safety and/or causes one to experience substantial emotional distress.

### **Complaints Involving Sexual Assault**

TSTC recommends that victims of sexual assault report the offense immediately to TSTC Police Department/Security/Local Agency. Evidence of the assault should be preserved whenever possible. The victim should not bathe or shower and should not throw away or wash the clothes worn at the time of the assault. The victim will at all times be offered campus assistance in the reporting process and will, to the extent permitted by law, be offered anonymity, if requested. Please see the section on "confidentiality" below to ensure complete anonymity.

### **Procedures For Complaints Made By Students**

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Students who believe they have been subjected to sexual misconduct or gender discrimination shall report to and consult with the designated Student Title IX Coordinator/Representative (available through any Student Rights and Responsibilities office).

Any employee, including Resident/Community Assistants (RA/CAs), who has received a report or complaint from a student relating to sexual misconduct or gender discrimination shall immediately notify and refer that student to the designated Student Title IX Coordinator/Representative and submit a report utilizing the [Sexual Misconduct and Gender Based Discrimination form](#).

- A. The complaint may be oral or in writing, utilizing the [Sexual Misconduct and Gender Based Discrimination form](#). After receiving the complaint/report, the designated Student Title IX Coordinator/Representative shall initiate a thorough, prompt and equitable inquiry. Immediate interim measures may be considered, if determined necessary. These may include an interim suspension, no contact orders or removal/change from campus housing. When issued, the involved parties shall be expected to adhere to the terms of the interim actions. Violations of interim measures shall not be tolerated and shall be addressed immediately. Students who violate such measures shall be subjected to further disciplinary action up to and including suspension and expulsion.
- B. The Representative shall follow the procedures outlined in the TSTC Code of Conduct under "Disciplinary Procedures." The only exception shall be the formal review process for both parties, which shall follow the steps outlined below under "Formal Review Process." If the respondent is found responsible of the accusations, then the proper sanctions shall be imposed or mediation shall take place when it is acceptable to both parties. In incidents of sexual violence, mediation shall never be acceptable. If the complainant is found to have made a false accusation, then disciplinary sanctions may be imposed.
- C. If the complaint involves actions of an employee at TSTC, the Representative shall immediately notify the designated Employee Title IX Coordinator/Representative, who shall initiate the employee investigation in accordance with the steps outlined in Operating Requirements No. 2 as noted in [HR 2.4.15 Prohibiting Sexual Misconduct and Gender Based Discrimination](#).
- D. In all cases, a prompt, fair and impartial process and resolution shall be afforded.
- E. The Representative will report to the Title IX Coordinator for reporting purposes the date of the alleged misconduct, type of alleged misconduct, result of investigation, actions taken, if there was a formal review, results, and any other pertinent information. The complete investigation documentation shall be kept in the student's disciplinary records for the duration of the records retention length.

### Formal Complaint Process (for students only)

A request for a formal complaint process may be submitted in writing to the appropriate Title IX Coordinator/Representative by either the reporting party. The Title IX Coordinator shall arrange the Review Board (three TSTC employees) for a live hearing after the representative has conducted the necessary interviews.

- A. The College shall convene the Review Board in a timely manner, usually within five business days, but in certain situations it may be longer. Both parties shall be notified in advance of the date, time and location of the review and the panelists. Both parties shall be afforded an opportunity to object to any member of the Review Board. This assures that the Title IX requirement to afford both parties a fair, impartial and objective review by unbiased decision makers.
- B. Communication with both parties shall continue during this process. Within two business days prior to the date of the review, a list of witnesses and all documentation must be submitted to the Title IX Coordinator by both parties. The objective of the Review Board shall be to assess the investigation details collected and determine preponderance of evidence, as well as recommendations for sanctions.
- C. Because these proceedings are not designed to be a legal or judicial hearing, the Review Board operates on the basis of "Preponderance of the Evidence." The decision shall be made by majority vote.
- D. Both parties will have the right to an assigned advisor. If a student brings an attorney for the review, he/she must provide sufficient notice (at least two business days) for TSTC to have an attorney present as well. Either attorney shall only serve in an advisory role and shall not be permitted to ask questions, present evidence or make arguments before the Review Board. The presence of an attorney may cause a delay in the process. If an attorney refuses to follow these requirements, the Review Board may remove him or her.
- E. All reviews shall be closed.

### Retaliation

Any form of retaliation by either party will not be condoned by the College and the College will take immediate action to rectify the situation and additional disciplinary action may occur, including separation from the College. Retaliation includes, but is not limited to: intimidation, discrimination, coerce or threats to either party.

### Confidentiality

Privacy of individuals and confidentiality of information given will be maintained to the extent permitted by law throughout all phases of these procedures. TSTC strongly supports a complainant's interest in confidentiality in cases involving sexual misconduct. The College will try to honor this request except when the safety of the campus community is at risk or if it

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may create a nondiscriminatory environment for others. All employees, this includes Resident/Community Assistants (RA/CAs), are considered responsible employees and have the duty to report sexual misconduct to the proper Title IX Coordinator/Representative and must report the name of the person disclosing the sexual misconduct, the alleged perpetrator and all relevant facts regarding the incident, including date, time and location. In cases involving minors, state mandatory laws may require disclosure. Steps to ensure the complainant's protection will be taken.

Texas State Technical College will provide written notification to students and employees of dating violence, domestic violence, sexual assault/misconduct or stalking (whether the offense occurred on or off campus) of their rights and options.

### **Rights of the Complainant and Respondent**

The college is committed to providing accessible, prompt, thorough and fair methods of investigation and resolution of incidents reported under this Policy to all college students. To this end, both the Complainant and Respondent are entitled to the following rights throughout the investigation and review processes.

1. To be treated with dignity by all persons involved in the investigation and disciplinary process.
2. To a prompt and thorough investigation of the allegations.
3. To a fair hearing.
4. To equal access to information, evidence and college resources, including information pertaining to counseling services.
5. To the necessary policies.
6. To participate or to decline to participate in the investigation or review process.
7. To have an advisor of their choosing present at all meetings and reviews.
8. To written notice of all meetings and formal reviews, including the time and place. Proper written notification shall be defined as delivery of mail to a student's email message sent to the email account established as his or her official email. Students shall be held responsible for the contents of mail sent to reported e-mail messages sent to their established email accounts. Students have the responsibility for providing the college with current email addresses and phone numbers.
9. To present information and/or witnesses on their behalf during the investigation and review process. The relevancy of witnesses shall be determined by the Title IX Coordinator or their designee during the investigation phase, and by the Title IX Review Board Chair for the formal review.
10. To choose not to present information against themselves. Students do not have to speak at any meeting, conference or hearing and no negative inference will be made should a student choose not to speak.
11. To hear and respond to all information presented against them.
12. To one (1) written copy of the investigation report stating the allegations, information gathered from all parties and witnesses and the Title IX Coordinator's determination as to whether the information gathered could constitute a violation of this Policy.
13. To adequate time to review the investigation report and any evidence that will be presented to the Title IX Review Board.
14. To notice of the charges (including what prohibited conduct is at issue) that will be presented to the Title IX Review Board and reasonable notice of the date and time of the formal review.
15. To have any unrelated past behavior excluded from the investigation and disciplinary process, as determined by the Title IX Coordinator.
16. To submit written materials to the Title IX Review Board relevant to the report, which may include a written impact statement by the Complainant and a statement of mitigating factors by the Respondent.
17. To be free from intimidation, harassment, bullying or any other form of retaliation throughout the investigation and disciplinary process.
18. To written notification of the results of the Review Board or other case resolution, including any sanctions imposed.
19. To be informed of their right to appeal and of the process for doing so.
20. To written notification of the outcome of the Review Board's finding related to preponderance of evidence and sanctions imposed, if applicable.
21. To privacy throughout the investigation and disciplinary process with respect to campus and other media, and from all other uninvolved parties.
22. To an opportunity to challenge the investigator(s), Title IX Coordinator, Title IX Review Board or any other staff or administrator involved in the investigation, hearing or appeal process for a possible conflict of interest.
23. To understand that information collected in the process may be subpoenaed in criminal or civil proceedings.
24. To have reasonable steps taken to prevent any unnecessary or unwanted contact with the other party(ies) during the investigation and hearing process. Additionally, the Complainant has the right to report the incident.

### **Request for Review of Title IX Review Board Decision**

Both parties will have the right to request a review of the Title IX Review Boards decision on responsibility determination and any dismissal of a formal complaint or allegations therein to be presented to the Student Deputy Title IX Coordinator for determination.

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A review must be based on one or more of the following grounds:

1. A procedural irregularity occurred;
2. New evidence or information exists that could affect the outcome of the matter;
3. The Title IX Coordinator, Investigator or Title IX Review Board had a conflict of interest or bias for or against complainants or respondents generally, or the individual complainant or respondent, that affect the outcome of the matter; and/or
4. The sanction is disproportionate with the violations.

Review request should be submitted in writing to the Title IX Coordinator/Representative within three business from the decision rendered.

## Reduce the Risk of Being Sexually Assaulted

1. Know your sexual intentions and limits. You have the right to say "NO" to any unwanted sexual contact. If you are uncertain of what you want, ask your partner to respect your feelings.
2. Communicate with your partner. Do not assume that someone will automatically know how you feel or will eventually "get the message" without you having to say anything. Just as it's okay to say "NO" to unwanted activities, it's okay - and important - to give clear consent to activities you would like to engage in. Avoid giving "mixed messages;" back up your words with a firm voice and clear body language (e.g., if you consent, you can verbalize with "yes" or by your active participation).
3. Remember that some people think that drinking, dressing provocatively or going to your or someone else's room is saying you are willing to have sex. Be clear upfront about your limits in such situations.
4. Listen to your gut feelings. If you feel uncomfortable or think you might be at risk, leave the situation immediately and go to a safe place.
5. If you feel you are being pressured or coerced into sexual activity, you have a right to state your feelings and/or leave the situation. If you are concerned about the other person becoming angry, it is okay to make up an excuse to leave or create time to get help.
6. Attend large parties with friends you trust. Agree to "look out" for one another. Leave with the group, not alone. Avoid leaving with people that you don't know very well.

Texas State Technical College will provide written notification to students and employees regarding community-related services, victim advocacy, legal assistance, visa and immigration assistance, student financial aid and other services available for victims, both within the institution and in the community. In addition, the Title IX Coordinator/Representative will provide written notification to victims about options for, and available assistance in, changing academic, living, transportation and working situations along with information on protective measures. This information will be provided regardless of whether the victim chooses to report the crime to campus police or local law enforcement. This request can be made to the Title IX Coordinator/Representative.

To report an incident of Sexual Misconduct or Gender-based Discrimination, or to obtain a list of available local, state, or federal victim services, please contact your local Title IX representative:

### **Student Title IX Representatives**

Janette Gomez

Sr. Student Development Specialist

[janette.gomez@tstc.edu](mailto:janette.gomez@tstc.edu)

956-364-4383

Griselda Sanchez

Student Development Specialist

[griselda.sanchez@tstc.edu](mailto:griselda.sanchez@tstc.edu)

325-235-7311

### **Employee Title IX Representatives**

Amanda Oswalt

Human Resources Business Partner

[amanda.oswalt@tstc.edu](mailto:amanda.oswalt@tstc.edu)

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254-867-4825

Cara Noyes

Human Resources Business Partner

[cara.noyes@tstc.edu](mailto:cara.noyes@tstc.edu)

254-867-4818

### **Student Title IX Deputy Coordinator**

Adele Clinton

[adele.clinton@tstc.edu](mailto:adele.clinton@tstc.edu)

956-364-4302

### **Employee Title IX Deputy Coordinator**

Kelly Contella, Waco Associate Provost

[kelly.contella@tstc.edu](mailto:kelly.contella@tstc.edu)

254-867-2368

### **Title IX Coordinator for Students, Employees and Visitors**

Edda Urrea

Sr. Executive Director of Human Resources

Learning and Development

[edda.urrea@tstc.edu](mailto:edda.urrea@tstc.edu)

956-364-4041

### **State/National Resources**

Rape, Abuse, and Incest National Network-RAINN

1-800-656-HOPE (4763) 24 hr. hotline

Texas Crime Victims' Clearinghouse

800-848-4284

[www.tdcj.texas.gov/ks\\_victim.html](http://www.tdcj.texas.gov/ks_victim.html)

Crime Victims' Compensation

800-983-9933

[www.texasattorneygeneral.gov/cvs/crime-victims-compensation](http://www.texasattorneygeneral.gov/cvs/crime-victims-compensation)

Crime Victim's Institute

936-294-3100

[www.crimevictimsinstitute.org](http://www.crimevictimsinstitute.org)

IMAlive

[www.imalive.org](http://www.imalive.org)

National Suicide Prevention Lifeline

800-273-TALK (8255)

[www.suicidepreventionlifeline.org](http://www.suicidepreventionlifeline.org)

Veterans Crisis Line

800-273-8255 (when connected, press 1)

[www.veteranscrisisline.net](http://www.veteranscrisisline.net)

National Domestic Violence Hotline

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800-799-7233

[www.thehotline.org](http://www.thehotline.org)

National Sexual Violence Resource Center

877-739-3895

[www.nsvrc.org](http://www.nsvrc.org)

TAASA – Texas Association Against Sexual Assault

512-474-7190

[taasa.org](http://taasa.org)

[taasaconference.org](http://taasaconference.org)

RAINN – Rape Abuse and Incest National Network

800-656-4673

[www.rainn.org](http://www.rainn.org)

Office for Civil Rights

800-421-3481 or 214-661-9600 (Dallas)

[OCR.Dallas@ed.gov](mailto:OCR.Dallas@ed.gov)

Office for Violence Against Women

202-307-6026

[www.justice.gov/ovw](http://www.justice.gov/ovw)

Noah Project – Victim Advocate

800-444-3551

[noahproject.org](http://noahproject.org)

Women’s Protective Services

800-736-6491

[www.wpslubbock.org](http://www.wpslubbock.org)

Local Resources

### **East Williamson County**

East Williamson County Higher Education Center

1600 Innovation Blvd (CR 108)

Hutto, TX 78634

512-759-5907

Williamson County Crisis Center

Hotline: 1-800-460-7233

Toll Free: 1-800-460-7233

Business: 512-255-1212

Hope Alliance

[hopealliancetx.org](http://hopealliancetx.org)

1-800-460-7233

### **Fort Bend County**

TSTC Advocacy Resource Center

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Brazos Center, Room 113  
26706 SW Freeway  
Rosenberg, TX 77471  
346-239-3233

Fort Bend Women's Center  
281-344-5750  
24-HR Support Line: 281-342-HELP (4357)  
<http://fortbendwomenscenter.org>

Houston Area Women's Center  
1010 Waugh Drive  
Houston, TX 77019  
713-528-2121  
Domestic Violence Support Line: 713-528-2121  
Sexual Assault Support Line: 713-528-7273  
[hawc.org](http://hawc.org)

LGBTQ-Houston  
401 Branard Street  
Houston, TX 77006  
713-529-3211  
[montrosecenter.org](http://montrosecenter.org)

Katy Christian Ministries  
5504 First Street  
Katy, TX 77493  
281-391-4504  
Domestic Abuse Hotline: 281-391-HELP (4357)  
Sexual Abuse Hotline: 281-693-RAPE (7273)  
[ktcm.org/crisiscenter](http://ktcm.org/crisiscenter)

### **Harlingen**

TSTC Police  
956-364-4220  
After hours: 956-873-2677  
Weekends: 956-873-267

Family Crisis Center - serving Harlingen  
616 W. Taylor Ave.



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Harlingen, Texas 78550

956-423-9304

Family Crisis Center - serving Raymondville

192 N. 3rd Street

Raymondville, Texas 78580

956-689-5150

Friendship of Women - serving Brownsville

95 E. Price Rd.

Brownsville, Texas 78521

956-544-7412

Advocacy & Resource Center

Student Center, Room 123

1902 N. Loop 499

Harlingen, Texas 78550

956-364-4520

TTY: 956-364-4526

[www.tstc.edu/student\\_life/titleix](http://www.tstc.edu/student_life/titleix)

### **Marshall**

Student Support Services

Admissions and Administration Building

Room 150

2650 East End Blvd. South

Marshall, Texas 75671

903-923-3301

TSTC Campus Security

903-923-3351

Good Shepherd Medical Center Marshall

903-927-6000

Marshall Rural Health Clinic

903-927-6140

Health Department

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903-927-6607

HealthCare Express

903-938-4363

Access Family Health

903-927-2824

Marshall Internal Medicine

903-927-6800

CVS Pharmacy

903-935-6661

Walgreens Pharmacy

903-923-0605

Matthewson Drug Co.

903-938-6741

Sabine Valley Regional MH

903-938-7725

### **North Texas**

<http://tx-elliscounty.civicplus.com/BusinessDirectoryII.aspx?lngBusinessCategoryID=22&PREVIEW=YES>

### **Waco**

TSTC Police

3801 Campus Drive

Waco, TX 76705

254-867-3690

Advocacy Resource Center

Murray Watson Jr. Student Recreation Center

3801 Campus Dr.

Waco, TX 76705

254-867-3634

Family Abuse Center

[www.familyabusecenter.org](http://www.familyabusecenter.org)

254-772-4770

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The Advocacy Center  
[www.advocacycntr.org](http://www.advocacycntr.org)

3312 Hillcrest Dr.  
Waco, Texas 76708  
254-752-7233 (Crisis Line)  
254-752-9330 (Office)

Scott & White Waco Hillcrest Baptist Medical Center  
100 Hillcrest Medical Blvd.  
Waco, Texas 76712  
254-202-2000  
[www.bswhealth.com](http://www.bswhealth.com)

Ascension Providence Hospital  
6901 Medical Pkwy.  
Waco, Texas 76712  
254-751-4000  
[healthcare.ascension.org/Locations/Texas/TXWAC/Waco-Ascension-Providence](http://healthcare.ascension.org/Locations/Texas/TXWAC/Waco-Ascension-Providence)

### **West Texas: Abilene, Breckenridge, Brownwood and Sweetwater**

Advocacy Resource Center  
300 Homer K. Taylor Drive  
Sweetwater, TX 79556  
325-236-8292

### **Abilene Area Resources:**

Abilene Police Department  
911  
[www.abilenepolice.org](http://www.abilenepolice.org)

Hendrick Medical Center South  
6250 US-83  
Abilene, TX 79606  
325-428-1000  
[hendrickhealth.org/locations/hendrick-medical-center-south](http://hendrickhealth.org/locations/hendrick-medical-center-south)

Hendrick Health  
325-670-2000  
[hendrickhealth.org](http://hendrickhealth.org)

Regional Victim Crisis Center (24 hrs)  
325-677-7895  
<http://regionalvictimcrisiscenter.org>

Noah Project, Family Violence (24 hrs)  
325-676-7107  
<http://noahproject.org>

MHMR – Betty Hardwick Center (24 hrs)  
800-758-3344  
[bettyhardwick.org](http://bettyhardwick.org)

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Love and Care Ministries  
325-670-0246  
[www.lcmin.com](http://www.lcmin.com)

Abilene Hope Haven  
325-677-4673  
[abilenehopehaven.org](http://abilenehopehaven.org)

The Salvation Army  
325-677-1408  
[salvationarmytexas.org/abilene](http://salvationarmytexas.org/abilene)

Taylor County District Attorney – Protective Order Unit:  
325-674-1261  
[www.taylorcountytexas.org/index.aspx?nid=125](http://www.taylorcountytexas.org/index.aspx?nid=125)

Legal Aid of Northwest Texas (Abilene)  
325-677-8591 or 800.933.8591  
[www.lanwt.org](http://www.lanwt.org)

### **Breckenridge Area Resources:**

Breckenridge Police Department

911 or 254-559-2211

<https://breckenridgetx.gov/police>

Stephens County Sheriff's Office

911 or 254-559-2481

[www.co.stephens.tx.us/default.aspx?Stephens\\_County/Sheriff](http://www.co.stephens.tx.us/default.aspx?Stephens_County/Sheriff)

Stephens Memorial Hospital

254-559-2241

[www.smhtx.com](http://www.smhtx.com)

Crime Victim Assistance Center

254-629-3223 (Eastland)

888-686-3222 (24 hr. hotline)

[eastlandcrisis.org/crime-victim-assistance-center.html](http://eastlandcrisis.org/crime-victim-assistance-center.html)

MHMR – Betty Hardwick Center (24 hrs)

800-758-3344

1612 West Walker Street

Breckenridge, TX 76424

[bettyhardwick.org](http://bettyhardwick.org)

### **Brownwood Area Resources:**

The Ark (Domestic Violence & Sexual Assault Shelter)

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325-643-2699 or 888-313-2699 (24/7)

[www.arkshelter.org](http://www.arkshelter.org)

Legal Aid of Northwest Texas (Brownwood)

325-646-8659

[www.lanwt.org](http://www.lanwt.org)

Central Texas MHMR (Center for Life Resources)

325-646-9574

Crisis Hotline: 800-458-7788

[cflr.us/ns](http://cflr.us/ns)

Heart of Texas Children's Advocacy Center

1305 Early Blvd.

Early, TX 76802

[www.cactx.org/find-a-local-center/early-cac](http://www.cactx.org/find-a-local-center/early-cac)

The Brownwood Police Department

325-646-2525

[www.ci.brownwood.tx.us/243/Police-Department](http://www.ci.brownwood.tx.us/243/Police-Department)

Hendrick Medical Center Brownwood

325-646-8541

[hendrickhealth.org/locations/hendrick-medical-center-brownwood](http://hendrickhealth.org/locations/hendrick-medical-center-brownwood)

### **Sweetwater Local Resources:**

Sweetwater Police Department

325-236-6686

[sweetwatertx.gov/departments/police-department](http://sweetwatertx.gov/departments/police-department)

Nolan County Sheriff's Office

325-235-5471

[www.nolanseo.com](http://www.nolanseo.com)

Rolling Plains Memorial Hospital

325-235-1701

[www.rpmh.net](http://www.rpmh.net)

Nolan County - MHMR

325-236-6619

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[www.wtcmhmr.org/poc/view\\_doc.php?type=doc&id=10429](http://www.wtcmhmr.org/poc/view_doc.php?type=doc&id=10429)

Nolan County - District Attorney

325-235-8639

[www.co.nolan.tx.us/default.aspx?Nolan\\_County/District.Attorney](http://www.co.nolan.tx.us/default.aspx?Nolan_County/District.Attorney)

Nolan County - Victim Services Coordinator

325-235-2338

[www.co.nolan.tx.us](http://www.co.nolan.tx.us)

Hope Unlimited

325-235-1910

<http://hopehousesweetwater.com>

Family and Individual Counseling- Carol Frye, LPC

325-235-9896

Children's Advocacy Centers of West Texas, Inc.

325-235-1818

[www.cactx.org/find-a-local-center/west-texas-childrens-advocacy-center](http://www.cactx.org/find-a-local-center/west-texas-childrens-advocacy-center)

### **Bystander Intervention**

Bystander Intervention is a philosophy and strategy for prevention of various types of violence, including bullying, sexual harassment, sexual assault and intimate partner violence. Simply put, it's when someone interrupts a potentially harmful situation. That includes stopping actions or comments that promote sexual violence.

TSTC encourages members of our community to speak up and say something if they see a potentially harmful situation.

### **Five Steps to Accountability**

1. Notice the event.
2. Recognize it as a risky situation.
3. Take responsibility for helping in the situation.
4. Have the skills necessary to intervene.
5. Take Action!

### **Intervening in Any Situation**

- Gather details about the situation.
- Ask for help from other bystanders or friends.
- Be sensitive and understanding.
- Intervene early and in a safe manner.
- Consider multiple options.
- Don't be afraid to call for help! Resident Assistants (RA)/Community Assistants (CA), TSTC Police, local police at 911.

### **Nonemergency Intervention**

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- Don't make assumptions about the people involved or the situation.
- Keep your eyes open for red flags.
- Set a goal or a plan.
- In conversations, keep in mind that it is about mutual respect.

### Emergency Intervention

- Try to keep everyone calm.
- Know your exit strategies.
- Understand that situations can escalate quickly.
- Be clear and concise when asking for help.
- Keep yourself and others safe.
- Tell whoever is involved that you are committed to helping them.
- Encourage value-based decisions.

### National Bystander Intervention Resources

A CALL TO MEN

[www.acalltomen.org](http://www.acalltomen.org)

hollaback!

[www.ihollaback.org](http://www.ihollaback.org)

Take Action

[www.ihollaback.org/take-action](http://www.ihollaback.org/take-action)

Know Your IX

[www.knowyourix.org](http://www.knowyourix.org)

Love is Respect

[www.loveisrespect.org](http://www.loveisrespect.org)

Support a Friend

[www.loveisrespect.org/supporting-others/support-a-friend-or-roommate](http://www.loveisrespect.org/supporting-others/support-a-friend-or-roommate)

National Domestic Violence Hotline

[www.thehotline.org](http://www.thehotline.org)

Help for Friends and Family

[www.thehotline.org/support-others/ways-to-support](http://www.thehotline.org/support-others/ways-to-support)

### Legal Assistance:

#### Abilene

Legal Aid of NorthWest Texas

500 Chestnut, Ste. 901

Abilene, Texas 79602

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325-677-8591 or 800-933-8591

[www.lanwt.org](http://www.lanwt.org)

### **Breckenridge**

Legal Aid of NorthWest Texas

500 Chestnut, Ste. 901

Abilene, Texas 79602

325-677-8591 or 800-933-8591

[www.lanwt.org](http://www.lanwt.org)

### **Brownwood**

Legal Aid of NorthWest Texas

300 N. Fisk Ave.

Brownwood, Texas 76801

325-646-8659

[www.lanwt.org](http://www.lanwt.org)

### **East Williamson County**

Texas RioGrande Legal Aid

4920 N. I-35

Austin, Texas 78751

512-374-2700

800-369-9270

[www.trla.org](http://www.trla.org)

### **Fort Bend County**

Lone State Legal Aid

500 Jefferson Street, 17th Floor

Houston, Texas 77002

713-652-0077

800-733-8394

[www.lonestarlegal.org](http://www.lonestarlegal.org)

### **Harlingen**

Texas RioGrande Legal Aid, Inc.

308 East Harrison Ave.

Harlingen, Texas 78550

956-364-3800

800-369-2651

[www.trla.org](http://www.trla.org)



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### **Marshall**

Lone State Legal Aid  
140 East Tyler, Suite 150  
Longview, Texas 75601  
903-758-9123 or 800-866-0821  
[www.lonestarlegal.org](http://www.lonestarlegal.org)

### **North Texas**

Legal Aid of NorthWest Texas  
110 E. Main Street, Ste. 200  
Waxahachie, Texas 75165  
866-614-3344 or 972-923-3344  
[www.lanwt.org](http://www.lanwt.org)

### **Sweetwater**

Legal Aid of NorthWest Texas  
500 Chestnut, Ste. 901  
Abilene, Texas 79602  
325-677-8591 or 800-933-8591  
[www.lanwt.org](http://www.lanwt.org)

### **Waco**

Lone Star Legal Aid  
900 Austin Ave. 7th Floor  
Waco, Texas 76701  
254-756-7944 or 800-299-5596  
[www.lonestarlegal.org](http://www.lonestarlegal.org)

### **Student Financial Aid Assistance:**

Jackie Adler, Executive Director of Financial Aid  
254-867-3620  
jackie.adler@tstc.edu

### **Student Records Assistance:**

Paula Arredondo, Executive Registrar  
956-364-4322  
paula.arredondo@tstc.edu

TSTC has an ongoing comprehensive prevention and awareness campaign and can be found on the TSTC website under

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[Title IX.](#)

## 04. Code of Student Conduct

### Purpose

It is the practice of Texas State Technical College to encourage fair and efficient solutions for problems arising out of the student/college relationship. As responsible members of the college community, students and organizations/clubs are expected to maintain the highest level of academic and social conduct and are responsible for knowing TSTC's policies and standards. The Code of Student Conduct (the code) is reviewed every academic year, but it is a living document that can be modified to comply with federal, state or local law.

### Definitions

**Board of Regents** – governing body of TSTC, appointed by the governor of Texas.

**Code of Student Conduct (the code)** – standards of conduct and procedures established to provide a full and fair opportunity for review of alleged misconduct.

**College** – Texas State Technical College.

**College Premises** – all buildings, facilities, land and other property that is owned, used, leased or controlled by the college.

**Complaint** – a statement of the essential facts constituting a violation of the code or policy of the college.

**Conduct Officer** – college official authorized to investigate alleged violations of the code and to administer the procedures and sanctions of the code.

**Disciplinary Conference (Conference)** – an informal conversation with the student to review the alleged violation(s) and give them an opportunity to respond directly and present relevant information, including witnesses, documents, etc.

**Drug Paraphernalia** – any equipment, product or material that is used for making, using or concealing drugs, regardless of that item's intended use at the time of its production.

**Established Student Relationship** – from the time of application for admissions to the college through an award of degree, which will include breaks of enrollment if the student continues to have an association with the college.

**Notice of Complaint** – the initial document that identifies alleged misconduct in violation of the code.

**Review** – a request made by a student who disagrees with the conduct officer's decision or sanction and requests that the Statewide Review Board evaluate the decision.

**Review Administrator** – chair/individual assigned to collect, schedule and be a liaison for the review process.

**Preponderance of Evidence** – the majority of the evidence would cause a reasonable person to support a conclusion (it is more likely than not it happened, 51% rule).

**Residential Facilities** – any facility operated by the college or under agreement by an outside agency, with sole purpose of providing housing for students.

**Student** – an individual who has established a relationship with the college for the purpose of taking a course or courses.

**Statewide Review Board (Committee)** – a group convened at the request of a student or student group to evaluate the conduct officer's decision or sanction placed on an individual.

**Working Day** – Monday through Friday, except for official college holidays or college closings.

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## Application

- The code shall provide an educational and non-adversarial process designed to resolve matters concerning student conduct. It is not designed to be a legal or judicial process.
- The code is designed to be reliable, fair and effective.
- Individuals who have established a student relationship with the college are subject to the code.
- The code shall apply to all aspects of campus life, including those in the classroom, on college property, in residential facilities and at an off-campus sponsored activity. It may also apply to conduct that occurs off-campus.
- The code shall operate by preponderance of evidence. (The majority of the evidence would cause a reasonable person to support a conclusion.)
- Disciplinary records shall be maintained by the conduct officer or designee of the local campus in accordance with the college's records and retention policy.
- The college's disciplinary process shall proceed during the pendency of any related criminal or civil proceedings and shall not be subject to reconsideration even if related charges are dismissed or otherwise resolved.
- Student clubs/organizations shall be expected to conduct themselves in a manner consistent with the college's function as an educational institution. Student clubs/organizations must observe all international, federal, state or local laws, as well as the college's policies, including the code, both on-campus and off-campus.

## Prohibited Conduct

The Conduct Officer may initiate disciplinary proceedings against a student for violations of the code. Specific examples of prohibited conduct subject to disciplinary action include, but are not limited to, the following:

- A. Acts Violating [Statewide Operating Standards \(SOS\)](#), and College Policies.
- B. Acts of Dishonesty
  1. Intentionally furnishing false or misleading information to the college or a college official.
  2. Forging, altering, falsifying or misusing any college document or instrument of identification.
  3. Intentionally interfering with any election process.
- C. Acts Affecting the College Community
  1. Engaging in disruptive behavior or activity, including, but not limited to, such acts defined in the Texas Education Code.
  2. Failure to comply with the reasonable directive(s) of a college employee, which includes resident/community assistants.
  3. Failure to heed an official summons within the designated time or failure to identify oneself to an institutional representative in response to a request.
  4. Violation of a rule or regulation relating to residence life policies, a breach of a housing contract/lease or motor vehicle regulations.
  5. Gambling in any form.
  6. Failure to fulfill financial or contractual obligation(s) to the college.
  7. Engaging in or use of obscene, lewd or vulgar language, behavior and display regardless of the medium.
  8. Violating the TSTC Pet Policy.
- D. Acts Affecting Property or Service
  1. Theft or attempted theft of property or services.
  2. Possession of stolen or lost property.
  3. Destruction or damage to college property or the property of others.
  4. Unauthorized possession, duplication or use of access devices to college property or the property of others.
  5. Unauthorized entry onto or use of college or individual's premises, equipment or resources.
- E. Acts Affecting Computing Resources or Technology
  1. Unauthorized access, use or misuse of college computing resources, systems or data.
  2. Disrupting college computer operations or the availability of computing resources.
  3. Using another individual's identification, password or other credentials.
  4. Unauthorized use or sharing of copyrighted materials through electronic means.
  5. Initiating or contributing to attacks against external networks or college systems.
  6. Use of college computers to access lewd, offensive or pornographic material.
  7. Transporting copies of college programs, records or data to another person or computer without written authorization.
  8. Using the college's computer resources for personal gain.
- F. Acts Affecting Health, Safety or Welfare
  1. Engaging in physical or verbal abuse, domestic violence, threats, intimidation, harassment, bullying, coercion, physical/electronic stalking or any other conduct that threatens or endangers the health, safety or welfare of another person.
  2. Possession, use, sale or distribution of any quantity, whether usable or not, of an illicit drug (including synthetic), narcotic, controlled substance, illegal drug paraphernalia or equipment. This includes medication not prescribed to oneself.
  3. Public intoxication, use, possession or distribution of an alcoholic beverage(s).
  4. Being under the influence of alcohol, an illicit drug, narcotic, synthetic or controlled substance.
  5. Providing minors or any other individual intoxicating beverages in violation of any state, federal or local law.
  6. Hazing, as defined by the Texas Education Code, including engaging in, soliciting, encouraging, directing,

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aiding or voluntarily submitting in behavior that could cause physical, mental or emotional harm to another or is considered humiliating or degrading.

7. Engaging in acts of gender discrimination, sexual misconduct, abuse, assault or harassment.
  8. Engaging in speech, either orally or in writing, that is directed to incite, produce lawless action or intimidate another.
  9. Possession or use of a dangerous weapon, defined as any instrument, device or object capable of inflicting physical harm. Examples of a dangerous weapon include unlicensed firearms, explosive, devices, dangerous chemicals, illegal length knives, fireworks, compressed air guns, pellet guns, stun or zip guns, tasers, BB guns, paintball guns, batons, nunchucks, etc.
  10. Misuse or tampering of fire or other life safety equipment or interfering with any college or public safety function.
  11. Reporting a false emergency or threat.
  12. Smoking inside campus buildings or designated nonsmoking areas. Smoking means the lighting or carrying of a lighted cigar, cigarette, pipe or similar device, including an e-cigarette.
  13. Engaging in acts which violate TSTC, Centers for Disease Control and Infection (CDC), and/or Occupational Safety and Health Administration (OSHA) safety and/or wellness guidelines.
- The Office of Student Rights and Responsibilities reserves the right to contact parents/guardians or identified responsible parties related to any student safety concern or serious student issue. Federal legislation allows a college to notify parents/guardians of student (who are under the age of 21, regardless of dependency) misconduct that results in the student being found responsible for violating the alcohol/drug policy on campus. Notification to parents/guardians is at the discretion of the conduct officer in the event he/she feels there is a concern to be conveyed to parents/guardians.

### G. Acts Violating Law

1. Engaging in conduct that constitutes a criminal offense under federal, state or local law whether convicted or not, and regardless of whether the incident happened on campus or off campus.
2. Breaching the peace or abetting or inciting another to breach the peace.
3. Disorderly conduct as defined by state law or any activity that includes, but may not be limited to, physical or verbal abuse, injury to another person, indecent displays or use of indecent language, nonconsensual acts of sexual contact/assault or disrespect for the rights and privileges of others.

### H. Facilitating Acts of Misconduct

1. Planning or facilitating an act of misconduct.
2. Being present during the commission of an act of misconduct, supporting/encouraging the act or not reporting the act to the appropriate officials.

### I. Acts interfering with the Disciplinary Process

1. Failure to comply with a request to schedule and attend a conference with the conduct officer within a designated time.
2. Failure to comply with sanction(s) imposed under the code or by the college.
3. Falsifying or misrepresenting information at any stage of the disciplinary process.
4. Knowingly initiating a false complaint to a college official.
5. Attempting to discourage a person's participation in or use of the disciplinary process.
6. Harassment, intimidation, coercion, bribery or retaliation against a college official or person involved in the disciplinary process.

### J. Violations of Academic Integrity

Includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, any act designed to give unfair advantage to the student or any attempt to commit such an act.

1. Cheating: Activity that includes, but is not limited to:
  - a. Copying from another student's assignment, test or other academic work.
  - b. Possessing material, such as class notes or textbooks, during a test that is not authorized by the instructor of record.
  - c. Collaborating, without authority, or seeking aid from another student during an examination or assignment, or in preparing academic work.
  - d. Using, buying, selling, stealing, transporting or soliciting, in whole or in part, the contents of an unadministered test, test key, homework solution or computer program.
  - e. Substituting for another student or permitting another student to substitute for oneself to take a test or prepare other academic work.
  - f. Paying, offering money or other valuables to or coercing another person to obtain an unadministered test, test key, homework solution or computer program, or to obtain information about an unadministered test, test key, homework solution or computer program.
  - g. Falsifying laboratory reports and/or other academic work offered for credit.
  - h. Taking, keeping, misplacing or damaging property of the college, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct.
  - i. Willfully failing to comply with instructions given by a person administering a test.
  - j. Discussing, without express permission from the instructor of record, the contents of an examination with another student who will take the examination.
  - k. Divulging the contents of an examination for the purpose of preserving questions for use by another when the instructor has designated that the examination is not to be removed from the examination room or not to be returned to the student.
  - l. Misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining

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academic or financial benefit or for the purpose of injuring another student academically or financially.

2. Collusion: The unauthorized collaboration with another person in preparing academic or lab assignments offered for credit, or the collaboration with another person to commit a violation of academic integrity.
3. Falsifying Academic Records: Activity that includes, but is not limited to, the alteration of grades or other falsification of an academic record such as a grade report, test paper, registration material or reporting form used by the college.
4. Plagiarism: Activity that includes, but is not limited to, the appropriation, buying, receiving as a gift or obtaining by any means another's work and the submission of another's work as one's own academic work offered for credit.

### Disciplinary Procedures

The conduct officer or designee shall have primary authority and responsibility for administering student discipline. The Conduct Officer or designee shall assess all suspected and reported violations of the Code. Complaints regarding alleged misconduct must be submitted to the Student Rights and Responsibilities Office as soon as possible after the alleged violation.

After completing an initial inquiry, the Conduct Officer or designee may:

- Dismiss the allegations as unfounded.
- Summon the student for a conference.
- Dismiss, upon completion of the conference, the allegations or impose disciplinary sanctions.
- Impose immediate interim action if the continued presence of the student poses a danger or perceived threat to persons or property or a disruption of the academic process of the College.

### Notice of Complaint

- The conduct officer or designee shall deliver a notice summarizing the alleged misconduct either by mail, hand delivery or electronic means. All students are responsible for maintaining a current physical mailing address with the College. If documents are sent electronically, the student's official TSTC email address shall be used.
- The conduct officer or designee shall give notification of a date by which the student has to complete the conference. If the conference is not completed by that date, the student automatically waives his/her right to a conference, and the Conduct Officer or designee shall make a decision based solely on the information at hand.

### Notice of Disciplinary Findings

- If it is determined that the greater weight of evidence or preponderance of evidence indicates that a student engaged in a violation of the Code, then the Conduct Officer or designee shall deliver a Notice of Disciplinary Findings.
- The Notice of Disciplinary Findings shall include information regarding the Review process.
- This notice shall inform the student of the findings, any imposed sanctions or restrictions and the student's right to appeal, if applicable.

### Sanctions for Misconduct

Admonition – Oral or written reprimand.

Discretionary sanctions – These include work assignments, service to the college, etc.

Disciplinary probation – Probation indicates that the student has engaged in unacceptable behavior and that a period of observation is needed to substantiate that behavior has improved. Additional conditions may be imposed during the probationary period, such as counseling, educational seminars/courses, etc. An additional violation may result in more severe action.

Withholding of grades, official transcript, certificate of completion, or degree.

Suspension of rights and privileges – This type of suspension includes, but is not limited to, participation in intramurals/recreation center, participation in extracurricular activities, election to office, restrictive building or area access, revocation of housing or visitation privileges, etc.

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Administrative withdrawal from course(s).

Bar against readmission – This action is for a specific period of time and/or may involve the student's drop from current enrollment entirely or from enrollment in one or more courses.

Restitution – This action requires reimbursement for damages to property or for misappropriation of property. Restitution may be achieved either monetarily or by specific duties.

Failing grade or other academic penalty.

Denial of degree – A denial shall become part of the student's permanent record.

Revocation of a degree, grade or certification – A revocation shall become part of the student's permanent record.

Suspension – A suspension shall result in the student's removal from the college for a specified period of time. A suspended student shall be administratively withdrawn from TSTC, prohibited from entering the college's premises, and blocked from future registration until approval is granted by the Conduct Officer or his/her designee. Suspension shall become a part of the student's permanent record and may be removed at the completion of the sanction, at the student's request.

Expulsion – This action results in permanent removal from the college. An expelled student shall be administratively withdrawn from TSTC and prohibited from entering the college's premises. Expulsion shall become part of the student's permanent record.

Other penalties as seen fit by the appropriate administrator at the college.

Non-Academic Transcript Notation – In accordance with Texas State law under House Bill 449, postsecondary educational institutions are required to include on the student's transcript, official or unofficial, a disciplinary notation stating that the student has been expelled.

## **Review Process**

- Only sanctions that include restrictions, loss of privileges, withholding/revocation of grades or degrees, suspension or expulsion shall be reviewed by the Statewide Review Board. All Title IX cases will follow the Sexual Misconduct Policy and the policies and procedures of the Title IX Review Board.
- A student shall have three working days to request a review from the Review Administrator.
- The student shall be notified within five working days of the time, date and location of the review by the Review Administrator. Any delays due to extenuating circumstances shall be documented, and all parties shall be notified accordingly.
- At least two working days prior to the hearing, a list of witnesses and documentation must be provided to the Review Administrator.
- The Conduct Officer or designee shall present the College's case followed by the student's presentation. Each party shall have the opportunity to present testimony and evidence in support of his position. The Statewide Review Board shall be allowed to question both parties and request additional information or clarification.
- Review procedures shall be confidential and closed to the public.

## **Statewide Review Board (Committee)**

- The Committee shall consist of five (5) members of the campus community, to include a Chairperson who also serves as the Review Administrator, three (3) faculty/staff, and two (2) students. The Chairperson and the faculty and staff members shall be approved by the Executive Management Council. Designated students selected to serve on the Committee must be currently enrolled and must be in good disciplinary standing.
- The Chairperson shall direct proceedings of the review and participate fully in all reviews, to include voting.
- The objective of the Committee is to review the findings and sanctions originally imposed by the Conduct Officer or designee. The Committee may not impose more severe penalties.
- The decision shall be made by majority vote. All votes shall be recorded by secret ballot and tabulated by the Chairperson.
- The findings and conclusions of the Committee shall be final.

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- The Chairperson will have three (3) working days to provide written results of the review to all involved.

### General Rules for Reviews

- Reviews are informal proceedings, and traditional rules of the courtroom evidence shall not apply. However, the conduct officer or his/her designee must show preponderance of evidence and that the sanction imposed was reasonable based upon the circumstances.
- An advisor, attorney or support person for the student may be present for the review; however, the advisor, attorney or support person may not make statements, represent the accused or question witnesses.
- If an attorney accompanies a student for the review, the attorney shall not be permitted to present evidence before the Committee. The college reserves the right to counsel in the event it is deemed necessary. The time frame for scheduling a review may be extended if the college elects to retain counsel.

### Academic Dishonesty Procedures

Procedures for discipline due to academic dishonesty will first be considered and reviewed by Student Learning.

### Notice of Complaint

- The instructor of record shall give advance written notice to the student to inform of the alleged violation and to request a meeting at a designated date, time and location. The instructor shall notify the student of the alleged violation and provide the student an opportunity for explanation.
- If student chooses not to attend the meeting, the student automatically waives his/her right to a conference, and the faculty member will make a decision based solely on the information at hand.

### Notice of Disciplinary Findings

- The instructor shall assess and render academic sanctions by completing the Academic Integrity Discipline Report Form. The student shall receive a copy of the completed form.
- The completed Academic Integrity Discipline Report Form shall inform the student of the findings, any academic sanctions imposed and the student's right to a review if applicable. The faculty member shall report the violation and sanctions by submitting the form to the Student Conduct Officer via the official incident reporting system.

### Academic Sanctions

- May include reduced or failing grade on an assignment or examination.
- May include reduced or failing grade in a course.
- May be rendered in addition to other disciplinary measures imposed by TSTC.
- Further disciplinary sanctions may occur if circumstances warrant or multiple academic dishonesty violations.

### Review Process

Students may request a review of the instructor's decision to the Statewide Review Board. A written, final decision will be provided to the student by the Associate Provost or designee within five working days of the Statewide Review Board's formal findings letter.

## 05. Amnesty for Alcohol and Drug Emergencies

Alcohol poisoning and drug overdose are serious and life threatening medical emergencies. Students may encounter this type of emergency during their time at Texas State Technical College. Sometimes students are afraid to seek emergency medical care when alcohol poisoning or drug overdose is suspected because they do not want to get themselves or others in trouble. In order to encourage students to seek emergency medical care, TSTC has instituted the Student Amnesty for Alcohol and Drug Emergencies.

Amnesty means current TSTC students can avoid formal college disciplinary action and the creation of a formal disciplinary record when they call for help for an alcohol- or drug-related medical emergency.

Student Amnesty for Alcohol and Drug Emergencies applies in the case of the following:

- Possession of alcohol or drugs by a minor (minor in possession).
- Unauthorized possession or use of alcohol or drugs on campus.
- Consumption of alcohol by a minor (minor in consumption).
- Use of drugs.
- Intoxication as the result of using alcohol (including public intoxication).

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## The Procedure

1. Call 911 when alcohol poisoning or drug overdose is present or suspected.
2. Stay with the person under the influence.
3. Cooperate with all emergency personnel.

## After the Incident

1. Student(s) will be referred to the Student Rights and Responsibilities office and will be evaluated for amnesty.
2. Student(s) eligible for amnesty will still be required to participate in an educational component and may be referred for an individual consultation. However, they will not face formal disciplinary action.
3. Student(s) who decline or fail to attend the educational component or fail to comply will become subject to formal disciplinary action.

There are limitations to this program, and inclusion in the program is not automatic.

This program is separate, but in congruence with, the state amnesty policy, Senate Bill 1331 (Texas 911 Lifeline legislation), which provides amnesty against criminal citations for those seeking medical attention as the result of an illegal action, such as minor in consumption or possession of alcohol by a minor. Student Amnesty for Alcohol Emergencies provides protection against formal disciplinary action by the college, whereas the Texas 911 Lifeline legislation provides protection against legal action.

## Amnesty for Victims of Sexual Misconduct (Title IX/VAWA)

TSTC encourages reporting of Title IX incidents involving sexual misconduct which includes sexual harassment, sexual assault, dating violence and/or stalking. Sometimes victims are hesitant to report to college officials because they fear that they themselves may be charged with policy violations. TSTC recognizes that an individual who has been consuming alcohol (including underage consumption) or drugs at the time of an incident may be hesitant to make a report because of potential consequences for that conduct. To encourage reporting, an individual who makes a good faith report of a Title IX offense that was directed at them or another person, or who participates in an investigation as a witness, will not be subject to disciplinary action by TSTC for a conduct or policy violation that is related to and revealed in the sexual misconduct report or investigation, unless it is determined that the violation was serious and/or placed the health or safety of others at risk. Amnesty does not preclude or prevent action by police or other legal authorities. Refer to [Title IX & Violence Against Women Act \(VAWA\) flyer](#) for more information.

## 06. Compact With Texans

Texas State Technical College (TSTC) is a public coeducational institution of higher education offering courses of study in technical education leading to the award of Certificates and Associate of Applied Science Degrees. TSTC also provides workforce training to business and industry, continuing education to the public, and training programs for community and state economic development.

Compact With Texas Complaint Representatives:

Abilene, Breckenridge, Brownwood, Sweetwater, East Williamson County and Waco  
Griselda Sanchez, Coordinator of Transition Services  
griselda.sanchez@tstc.edu  
325-235-7311

Harlingen, Fort Bend, Online Students, Marshall and North Texas  
Janette Gomez, Community Standards Liaison  
janette.gomez@tstc.edu  
956-364-4383

TSTC campuses are located at Abilene, Brownwood, Breckenridge, East Williamson County, Fort Bend County, Harlingen, Marshall, North Texas, Sweetwater and Waco. TSTC serves students from more than 220 counties in Texas, and TSTC graduates may begin their careers in high-paying jobs across the state or continue their education at colleges and universities.



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TSTC graduates are highly valued by business and industry for their work ethic, knowledge and workplace skills.

### TSTC's Customer Service Goal

It is the goal of Texas State Technical College faculty and staff to provide a level of customer service that is beyond expectation. We pledge to be . . .

Friendly to all we meet in our work,

Helpful in all that we do,

Courteous in all of our dealings,

Responsive to customers' needs, and

Accountable for our actions.

We will deliver the highest quality services possible with the highest regard for honesty, integrity and ethical behavior.

### TSTC's Formal Written Complaint /Compact With Texans Complaint Handling Procedure

It is the practice of Texas State Technical College to seek fair, efficient and equitable solutions for problems that arise out of the student/college relationship and to allow any student to be heard when he/she feels that his/her rights have been violated or that an action taken by an employee of the College is unfair.

This procedure is available to all students to present complaints concerning disagreement or dissatisfaction arising out of the student/college relationship.

The filing of a student grievance is not to be interpreted as a way to change existing school policy or rules. The policy, rules or regulations of the College are of themselves not subject to a grievance process, only their implementation. This student grievance procedure is simply a way for the student to indicate that either:

1. An action taken by a school official or employee is inappropriate, improper or too harsh; or
2. He/she is being treated differently from other students.

Most questions or complaints can be resolved through routine channels. Students are encouraged to discuss questions or complaints with the instructor or employee with whom the question or complaint has arisen. Complaints received verbally and resolved through routine channels are not considered official written complaints and are not subject to this procedure.

The right of a student to prompt an equitable resolution of the complaint filed shall not be impaired by the student's pursuit of other remedies, such as filing of a grievance with the responsible federal department or agency. The Student Grievance and Complaint Procedure is posted to the college website, see [SOS ES 3.24 Students Grievance and Complaints](#)

### Nonacademic Grievance Procedures

- A. Initial Contact – The student must first contact the parties responsible for the action or decision that is the basis of the grievance. Students are encouraged to resolve the matter through discussions with the relevant College personnel most directly associated with the matter. College personnel with whom a concern is raised by a student shall address the matter in an open and professional manner and take reasonable and prompt action to resolve it informally. The initial contact should occur within 10 working days from the date of the action or decision that is the basis of the grievance.
- B. Representative – If unsuccessful in resolving the problem, the student must contact the representative at his/her local campus. The representative's name is available online in the TSTC Catalog and Student Handbook. The representative shall assist the student by:
  1. Reviewing the grievance policy with the student. The representative shall also provide the student with a copy of or a link to this [SOS ES 3.24 Student Grievances and Complaints](#)
  2. Providing the student with the [Effective Customer Service form](#) (PDF) so that a formal written grievance may be submitted. The form is also available online in the TSTC Catalog and Student Handbook. The student shall include a summary of the nature of the grievance on the form or in an attached writing.
  3. Acknowledging receipt of the grievance in writing within five working days. The notice is intended to inform the student that the matter is receiving attention and to provide the student with an estimate of the length of time needed to resolve the issue.

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- C. The grievance shall be submitted to the immediate supervisor or designee of the party whose actions are being grieved. The immediate supervisor or designee shall propose a resolution consistent with TSTC policies and with applicable local, state and federal laws. The immediate supervisor or designee shall notify the student and representative of the resolution within 15 working days from receipt of the grievance. The immediate supervisor shall also provide the student with a written copy of the proposed resolution.
- D. If dissatisfied with the proposed resolution, the student may request that the Statewide Review Board Committee review the grievance. This request must be made in writing to the representative within three (3) working days of receipt of the letter outlining the proposed resolution and must specify what in the resolution is unsatisfactory. The committee shall meet within 10 working days of receiving the student's request to review all available documentation. The Statewide Review Board Committee shall provide its written decision to both the student and the employee within five (5) working days from the date of the review. In the event that extenuating circumstances prevent the Statewide Review Board Committee from completing its investigation and/or report within five (5) working days, the student shall be notified of a new time frame. The Statewide Review Board Committee's decision shall be final.

### Academic Grievance Procedures

- A. Initial Contact – The student must first contact the parties responsible for the action or decision that is the basis of the grievance. Students are encouraged to resolve the matter through discussions with the relevant College personnel most directly associated with the matter. College personnel with whom a concern is raised by a student shall address the matter in an open and professional manner and take reasonable and prompt action to resolve it informally. The initial contact should occur 10 working days from the date of the action or decision that is the basis of the grievance.
- B. Representative – If unsuccessful in resolving the problem, the student must contact the representative at his/her local campus. The representative's name is available online in the TSTC Catalog and Student Handbook. The representative shall assist the student by:
  - 1. Reviewing the grievance policy with the student. The representative shall also provide the student with a copy of or a link to this [SOS ES 3.24 Student Grievances and Complaints](#).
  - 2. Providing the student with the [Effective Customer Service form](#) (PDF) so that a formal written grievance may be submitted. The form is also available online in the TSTC Catalog and Student Handbook. The student shall include a summary of the nature of the grievance on the form or in an attached writing.
  - 3. Acknowledging receipt of the grievance in writing within five working days. The notice is intended to inform the student that the matter is receiving attention and to provide the student with an estimate of the length of time needed to resolve the issue.
- C. The grievance shall be submitted to the Provost's office or designee of the party whose actions are being grieved. The Provost or designee shall propose a resolution consistent with TSTC policies and with applicable local, state and federal laws. The Provost or designee shall notify the student and representative of the resolution within 15 working days from receipt of the grievance. The Provost or designee shall also provide the student with a written copy of the proposed resolution.
- D. If dissatisfied with the proposed resolution, the student may request that the Statewide Review Board Committee review the grievance. This request must be made in writing to the representative within three (3) working days of receipt of the letter outlining the proposed resolution and must specify what in the resolution is unsatisfactory. The committee shall meet within 10 working days of receiving the student's request to review all available documentation. The Statewide Review Board Committee shall provide its written decision to both the student and the employee within five (5) working days from the date of the review. In the event that extenuating circumstances prevent the Statewide Review Board Committee from completing its investigation and/or report within five (5) working days, the student shall be notified of a new time frame. The Statewide Review Board Committee's decision shall be final.

### Review Procedures

- 1. The Chair of the Statewide Review Board Committee will be responsible for assembling the committee to hear the review.
- 2. The decision of the Statewide Review Board Committee is final.
- 3. In extenuating circumstances, the time frame(s) may take longer than expected and the student with the grievance will be notified with a new time frame.
- 4. The Statewide Review Board Committee has a maximum of five working days from the date of the review to respond to the student and employee with a decision in writing.

### Compact With Texans Complaint Handling Procedures

- A. The Effective Customer Service Form must be completed and submitted to the campus representative. The form and the representative's name are available online in the TSTC Catalog and Student Handbook.
- B. The representative shall acknowledge receipt of the grievance in writing within five (5) working days. The notice is intended to let the student know the matter is receiving attention and to provide the student with an estimate of the length of time needed to resolve the issue.
- C. The representative shall contact the immediate supervisor about the complaint. The supervisor shall review the

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complaint and interview the employee and/or any witnesses, if applicable.

- D. The immediate supervisor shall provide a letter within 15 working days to the complainant that addresses the complaint and what actions, if any, were taken by TSTC. This letter shall also acknowledge that the complaint has been addressed and resolved in a reasonable time period and in a manner consistent with TSTC policies and with applicable local, state and federal laws.

Student disciplinary decisions that involve severe disciplinary penalties are not subject to the Student Grievance Policy, but should be run through the student conduct process.

Discrimination of a student or a Title IX grievance will be handled in accordance with [SOS HR 2.4.15 Prohibiting Sexual Misconduct and Gender-Based Discrimination](#).

### 08. Family Educational Rights and Privacy Act (FERPA)

TSTC complies with the Family Educational Rights and Privacy Act (FERPA) and informs students of their rights in its handling of student records. Students' rights covered by the act are as follows:

1. The right to inspect and review the academic record within 45 days after the day Texas State Technical College receives a request for access.  
A student should submit to the Office of the Registrar or other appropriate official a written request that identifies the record(s) the student wishes to inspect. The school official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the school official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right of a student to petition to the college to amend or correct any part of his/her academic record that is believed to be inaccurate, misleading or in violation of the privacy or other rights of the student. When the college decides it will not amend or correct a student's record, the student has a right to a hearing to present evidence that the record is inaccurate, misleading or in violation of the privacy or other rights of the student.  
A student who wishes to petition to amend or correct a record may submit a written statement to the custodian of student records identifying the part of the record the student wants changed and specifying why it should be changed. If the college decides not to amend the record as requested, the college will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment.
3. The right to provide written consent before the college discloses personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

Texas State Technical College discloses education records without a student's prior written consent under the exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by Texas State Technical College in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person approved by and under contract to TSTC in a faculty position; a person or company with whom the college has contracted (such as an attorney, auditor or collection agent); a person appointed by the governor and confirmed by the state Senate as a member of the Texas State Technical College Board of Regents; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

A school official has a legitimate educational interest if the official needs to review an educational record in order to fulfill his or her professional responsibilities for Texas State Technical College.

Upon request, the college may also disclose educational records without student written consent to the following:

- a. parents of an eligible student who claim the student as a dependent for income tax purposes (form available in the Enrollment Center);
  - b. in order to comply with a judicial order or a lawfully issued subpoena;
  - c. appropriate parties in a health or safety emergency;
  - d. an alleged victim of any crime of violence or non-forcible sex offense; the disclosure may only include the final results of any institutional disciplinary proceeding with respect to that alleged crime or offense, regardless of whether the institution concluded a violation was committed;
  - e. the general public if the institution determines as a result of a disciplinary hearing that the student committed a crime of violence or non-forcible sex offense in violation of the institution's rules or policy or state or federal law, as authorized by state law;
  - f. parents of a student under the age of 21 regarding a college's determination that the student violated federal, state or local law or institutional policy governing the use or possession of alcohol or a controlled substance.
4. The right of a student to consent to release of semester credit hours taken at other institutions to the Texas Higher Education Coordinating Board.
  5. The right of any person to file a complaint with the Family Education Rights and Privacy Act Office, Department of Education, Family Policy Compliance Office, 400 Maryland Ave. SW, Washington, DC 20202-4605, if TSTC violates the FERPA.

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Under the Family Education Rights and Privacy Act of 1974, the following is designated by TSTC as directory information and may be made public unless the student desires to withhold all or any portion of it: name, preferred address, preferred telephone number, email address, classification of coursework level, enrollment status, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of college attendance, photograph images, degrees, certificates and awards received and most recent previous educational agency or institution attended by the student. A currently enrolled student may prohibit the release of directory information by completing an appropriate request form in the Enrollment Center during registration or within the first five class days of each term. Under the Privacy Act of 1974, official records are not open to the public and will not be divulged without consent from the student. Minors attending the college have the same right regarding their records as adult students. If a student is still a legal dependent of a parent or guardian, the parent has the right to access the records of the dependent student provided the parent can establish this dependency as defined by the Internal Revenue Code of 1954, section 152. This request must be made in person at the Enrollment Center by providing a copy of the most recent federal income tax return and required picture identification.

If you have any questions concerning disclosure of information contact the Office of the Registrar [Student Privacy and FERPA](#) updates are available at TSTC's website.

### Use of Student Photographs and Signatures for Publications

It is the policy of Texas State Technical College to utilize images or signatures of students for promotion or advertising purposes after obtaining the student's written permission to do so. A release form shall be obtained for each set of student images or signatures retained for use by the college. The release form shall be maintained in the student's permanent academic record file. Other copies may be maintained elsewhere at the college's decision.

## 14. Faculty Listing

### 01. Faculty

TSTC faculty bring to the classroom years of industry experience and education.

[tstc.edu/course-schedules](http://tstc.edu/course-schedules).

Abshier, Charles

Instructor Diesel Mechanics Technology

AAS Texas State Technical College

Acevedo, Salvador

Instructor Biology

BS University of Texas Rio Grande Valley

Adams, Jonathan

Instructor Culinary Arts

AAS Le Cordon Bleu College of Culinary Arts

Aguila, Myriam

Instructor Education and Training

MEd University of Texas at Brownsville

Aguirri, Keith

Instructor Diesel Equipment Technology - Heavy Truck

CC Texas State Technical College

## 2023-2024 Catalog & Student Handbook

Ahumada, Manuel

Instructor Welding Technology

AAS Texas State Technical College

Alferez, Juan

Instructor Electromechanical Technology

AAS Texas State Technical College

Alfred, Julian

Instructor General Studies

AGS Central Texas College

Allen, Austin

Instructor Welding Technology

AAS Texas State Technical College

Alvarez, Jose

Instructor Physics

MS University of Detroit

Antilley, Lance

Instructor Industrial Systems

AAS Texas State Technical College

Ardalani, Kyumars

Associate Professor Mathematics

MS Texas A & M University

Avila, Manuel

Master Instructor Mathematics

BA Stephen F Austin State University

Bakus, Matthew

Instructor Advanced Pipe Welding

CC Texas State Technical College

Banda, Jose

Instructor Education and Training

MEd University of Texas Pan American

## 2023-2024 Catalog & Student Handbook

Baugh, John

Instructor Business Management Technology

BS LeTourneau University

Bazan, Pedro

Associate Professor Mathematics

MS University of Texas Pan American

Benitez, Edelmiro

Instructor Information Systems and Cybersecurity

BAT University of Texas at Brownsville

Benson, Russell

Instructor General Studies

AAS Odessa College

Betros, Steven

Senior Instructor Organizational Management

BS Paul Quinn College

Bibb, Jimmy

Instructor Plumbing & Pipefitting Technology

CC Texas State Technical College

Black, Kevin

Instructor Drafting & Design Technology

AAS Texas State Technical College Waco

Blackshear, Yvonne

Instructor Networking & IT Security

BS Texas A&M - Commerce

Blake, Gary

Instructor Mechanical Engineering

AAS Texas State Technical College

Block, Darren

Instructor Mechanical Engineering

AAS Texas State Technical College - Waco

## 2023-2024 Catalog & Student Handbook

Bonkoske, Jonathan

Instructor Electrical Engineering

BS ITT Technical Institute

Borden, Alley

Instructor Physics with Computer Science

BS Tarleton State University

Boyd, Shannon

Instructor - Adjunct Nursing

MS Hardin Simmons University

Brannen, David

Instructor Heating, Ventilation & Air Conditioning (HVAC)

AAS Texas State Technical College

Breshears, Thomas

Instructor Automotive Technology

AAS Texas State Technical College

Briggs, Hiley

Instructor Air Conditioning & Refrigeration Technology

AAS Texas State Technical College - Waco

Brock, Jerod

Instructor Diesel Equipment Technology-Construction Speci

AAS Texas State Technical College - Waco

Brooks, Duston

Instructor Computer Science

BBA Hardin Simmons University

Brooks, Sarah

Instructor Health Information Management Administration

BS University of Cincinnati

Brown, Linnea

Instructor Nursing

MS Grand Canyon University

## 2023-2024 Catalog & Student Handbook

Brown, Michele

Instructor Food Service Management

BS Johnson Wales University

Browning, Yvonne

Associate Professor Urban Studies

MA Trinity University

Bryant, Elizabeth

Instructor Social Sciences

MA Southern University and A & M College

Bryant, James

Instructor Nursing

MS Walden University

Bryant, Joel

Senior Instructor Information Systems and Cybersecurity

BS ITT Technical Institute - Albany

Bufkin, Debra

Instructor Mathematics

MA Western Governors University Texas

Bundick, Patricia

Senior Instructor Psychology

BS Hardin Simmons University

Burke, Mason

Instructor Electrical Lineworker

CC Texas State Technical College - Waco

Burton, Dillon

Instructor Welding Technology

AAS Texas State Technical College - Waco

Buterbaugh, Stacie

Instructor Business Administration

BS Tarleton State University



## 2023-2024 Catalog & Student Handbook

Byrd, James

Instructor Business Administration

BBA Tarleton State University

Byrd, Shirley

Instructor Nursing

MS University of Texas Health Science Center

Cabarubio, Ayla

Instructor Culinary Arts

AAS South Texas College

Cabrera, Jorge

Instructor Air Conditioning & Refrigeration Technology

AAS Texas State Technical College - Harlingen

Calderon, Eutiquio

Instructor Computer Information System

BS University of Texas at Brownsville

Campbell, Jena

Instructor Marine Biology

PhD University of Texas Austin

Campos, Milton

Instructor - Dual Enrollment Automotive Technology

AAS Texas State Technical College

Cantu, Danira

Instructor - 9 Month English

MA University of Texas Pan American

Capps, Robert

Instructor Aviation Maintenance

AAS Hallmark College of Aeronautics

Carithers, Eric

Instructor Electrical Lineworker

AAS Texas State Technical College - Marshall

## 2023-2024 Catalog & Student Handbook

Carrillo, Jesse

Instructor Advanced Pipe Welding

CC Texas State Technical College

Castillo, Charles

Instructor Biology

MS University of Texas Pan American

Cervantez, Rudy

Instructor Automotive Technology

AAS Texas State Technical College - Waco

Chaffin, Tony

Instructor Building Construction Technology

MS Texas A & M University

Chaney, Edward

Instructor Industrial Systems

AAS Texas State Technical College - Marshall

Chapman, Haley

Instructor Business

MBA Stephen F Austin State University

Chawla, Om

Instructor Environmental Science

MS University of Houston - Clear Lake

Chirino, Hermes

Instructor Mechanical Engineering

MS University of Texas Rio Grande Valley

Clark, Bryan

Instructor Drafting & Design Technology

AAS Texas State Technical College - Waco

Clark, Martha

Instructor Computer-Aided Drafting and Design

AAS Texas State Technical College - Waco

## 2023-2024 Catalog & Student Handbook

Claus, Edna

Professor Educational Human Resource

PhD Texas A & M University

Cockrum, Kristin

Instructor Welding Tech - Welding Inspection

AAS Austin Community College

Collins, Curtis

Instructor Industrial Systems

AAS Texas State Technical College - Waco

Colunga-Hernandez, Norma

Associate Professor Cybersecurity

MS Western International University

Conde, Lily

Instructor Dental Hygiene

BAT University of Texas Rio Grande Valley

Contois, Scott

Instructor Mathematics

MS Western Illinois University

Cooper, Meagan

Instructor Electrical Power and Controls

AAS Texas State Technical College - Waco

Coronado, Frank

Instructor Psychology

MA University of Texas at Brownsville

Cram, Nick

Instructor Bio Engineering

BS Texas A & M University

Creps, Emma

Instructor Culinary Arts

AAS South Texas College

## 2023-2024 Catalog & Student Handbook

Cross, Thomas

Instructor Aviation Maintenance

AAS Texas State Technical College - Harlingen

Cuellar, Rolando

Instructor Building Construction Technology

AAS Texas State Technical College - Harlingen

Cuellar, Teresa

Instructor - Adjunct Education and Training

MS Texas A & M University - Kingsville

Davidson, John

Senior Instructor English

MA University of Texas at Brownsville

Dawe, Jon

Master Instructor Automotive Technology

AAS Texas State Technical College - Waco

De la Cerda, Callie

Instructor Psychology

MA Texas State University

De la Fuente, Maria

Instructor - Dual Enrollment Family & Consumer Sciences

BS Texas A & M University - Kingsville

De Leon, Kimberly

Instructor Computer-Aided Drafting and Design

AAS Texas State Technical College - Harlingen

Decanini, Laura

Instructor Biology

MS University of Texas Rio Grande Valley

Del Angel, Maria

Instructor - 9 Month Applied Arts & Sciences

BAAS University of Texas at Brownsville

## 2023-2024 Catalog & Student Handbook

Delgado, Jenny

Instructor Health Information Technology

AAS Texas State Technical College - Harlingen

Demaree, David

Instructor Aircraft Pilot Training Technology

AAS Texas State Technical College - Waco

Desjardins, Tony

Instructor Curriculum & Instruction

EdD University of Houston

Diaz, Daniel

Instructor Industrial Systems

AAS Texas State Technical College - West Texas

Dobbs, Matthew

Instructor Diesel Equipment Technology

AAS Texas State Technical College

Duran, Omar

Instructor Culinary Arts

AAS Texas State Technical College - Waco

Elston, Jeffrey

Instructor Welding Technology

AAS Tarrant County College

Engel, David

Instructor General Studies

AA San Jacinto College

Filgo, Kelly

Instructor Aviation Maintenance

AAS Texas State Technical College - Waco

Flener, Samara

Instructor Welding Tech/Code Welding

AAS Austin Community College

## 2023-2024 Catalog & Student Handbook

Flippin, James

Instructor Micro Comp Appl/CDP

AAS McLennan Community College

Follis, Daniel

Instructor Cybersecurity

AAS Texas State Technical College - Waco

Folz, David

Instructor Diesel Equipment Technology

AAS Texas State Technical College

Ford, Abigail

Master Instructor, English

MA, University of Texas Pan American

Formacio-Serna, Emmanuel

Instructor, General Medicine

BS, Worldwide Education Consultant Services, Inc.

Foster, Brandon

Instructor, Diesel Engine Mechanic and Repairer

AAS, Central Texas College

Fowler, Maxie

Instructor, Auto Collision & Management Technology

AAS, Texas State Technical College - Waco

Garcia, Ida

Dual Enrollment - PT, Education and Training

Med, University of Texas at Brownsville

Garcia, Odelia

Instructor, Education and Training

MS, Capella University

Garza, Rene

Instructor - 9 Month, Art

MA, University of Texas Pan American

## 2023-2024 Catalog & Student Handbook

Gay, Michael

Master Instructor, Interdisciplinary Studies

MA, University of Texas Pan American

Getman, Marta

Associate Professor, Psychology

MA, Baylor University

Gonzales, Michelle

Instructor, Nursing

AAS, Texas State Technical College - Harlingen

Gonzalez, Braulio

Instructor, Mechanical Engineering

BS, University of Texas Rio Grande Valley

Gonzalez, Isaac

Instructor, Machining Tech

AAS, Texas State Technical College - Harlingen

Gonzalez, Marilee

Instructor - Adjunct, Biology

BS, University of St. Francis

Goss, William

Instructor, Precision Machining Technology

CC, University of Texas Austin

Guajardo, Leo

Instructor, Aviation Maintenance

CC, Texas State Technical College - Harlingen

Gutierrez, Jesus

Instructor, English

MA, University of Oklahoma

Hall, Beth

Instructor, Mechanical Engineering

MS, University of Texas Austin

## 2023-2024 Catalog & Student Handbook

Hansen, Paul

Associate Professor, English

MA, University of Texas at Brownsville

Henderson, David

Instructor, Diesel Equipment Technology

AAS, Texas State Technical College

Hensley, John

Instructor - 9 Month, Social Work

MS, University of Texas Pan American

Henson, Justin

Instructor, Diesel Equipment Technology - Heavy Truck

AAS, Texas State Technical College

Hernandez, Luis

Instructor, Chemistry

PhD, New York University

Hernandez, Marisol

Instructor, Biology

MS, University of Texas Pan American

Hightower, JoLynn

Master Instructor, Accounting

BBA, Hardin Simmons University

Hill, Sue

Instructor, Occupational Education

MS, Texas A&M - Corpus Christi

Hogue, James

Instructor, Information Management Technology

MS, Air Force Institute of Technology

Hollis, Christina

Instructor, Advertising Design

BA, International Academy of Design & Technology - Tampa



## 2023-2024 Catalog & Student Handbook

Hope, Stephen

Instructor, Master Welder

CC, Tulsa Welding School

Human, Lucretia

Instructor - 9 Month, Education Technology

Med, University of Texas at Brownsville

Hurtubise, James

Dual Enrollment - PT, Automotive Technology

CC, Universal Technical Institute - Houston

James, Jesse

Instructor 9MO, Biology

MS, University of Texas at Tyler

Jones, Billie

Instructor, Liberal Arts

AA, Western Texas College

Jones, Casey

Instructor, Web Technologies

BS, Bellevue University

Jones, Eric

Certified Flight Instructor, Aircraft Pilot Training Technology

AAS, Texas State Technical College - Waco

Kahl, Carlyn E

Master Instructor, History

MA, Georgia College & State University

Kahler, Kent

Instructor, Diesel Equipment Technology

AAS, Texas State Technical College

Kimberley, Patricia

Senior Instructor, Information Processing Technology

AAS, Texas State Technical College - Waco

## 2023-2024 Catalog & Student Handbook

King, Winnie

Instructor, Emergency Medical Services

AAS, Texas State Technical College - Waco

Kirchmeier, John

Instructor, Automotive Technology

AAS, Texas State Technical College - Waco

Kirk, Richard

Professor, Education Leadership

EdD, University of Texas Pan American

Klix, Keith

Instructor, Air Conditioning & Refrigeration Technology

AAS, Texas State Technical College - Waco

Kluck, Kevin

Instructor, Diesel Equipment Technology

AAS, Texas State Technical College

Knudsen, Martin

Associate Professor, App Tech Training & Dev

MS, University of North Texas

Kunkler, Dane

Instructor, Management

MA, University of Phoenix

Larraga, Hector

Instructor - Adjunct, Curriculum & Instruction

Med, University of Texas at Brownsville

Larrazolo, Francisco

Instructor, Health/Human Performance & Recreation

MEd, Baylor University

Limas, Ricardo

Instructor, Machining Tech

AAS, Texas State Technical College - Harlingen

## 2023-2024 Catalog & Student Handbook

Lloyd, Tony

Instructor - 9 Month, Electrical Systems Technology

AAS, Texas State Technical College - Waco

Lovelace, Robert

Master Instructor, Instrumentation Technology

AAS, Texas State Technical Institute

Loya, Miguel

Instructor, Drafting & Design Technology

AAS, Texas State Technical College - Harlingen

Lozano, Jose

Instructor, Computer Science

AAS, Texas State Technical College - Harlingen

Lucas, Christopher

Instructor, Air Conditioning & Refrigeration Technology

AAS, Texas State Technical College - Waco

Luna, Thelma

Instructor - Adjunct, Counseling & Guidance

MS, Texas A & M University - Kingsville

Macik, Henry

Instructor, Diesel Equipment Technology-Agriculture Special

AAS, Texas State Technical College

Marshall, Tracy

Senior Instructor, Management

AAA, Bee County College

Martin, Heath

Instructor, Elec/Comp Cont/Rbtcs

AAS, Texas State Technical College - Waco

Martin, Linda

Senior Instructor, Instrumentation Technology

BS, Abilene Christian University

## 2023-2024 Catalog & Student Handbook

Martin, Victoria

Instructor, Dental Hygiene

MS, Idaho State University

Mason, Michael

Instructor, Applied Arts & Sciences

BAAS, Texas A & M University

Mast, Jason

Instructor, Applied Physics

PhD, University of South Florida

McClenny, Rix

Instructor, Automotive Technology

AAS, Texas State Technical College - Waco

McGinnis, John

Instructor, Computer Science

BS, Dabney S Lancaster Community College

McKee, Philip

Instructor, Refinishing Specialist - Auto Collision

CC, Texas State Technical College - Waco

McLennan, Stuart

Instructor, Computer Information System

BS, Tarleton State University

McMahan, Brandon

Instructor, Instr/Comp Ctrl's & Robotics

AAS, Texas State Technical College - Waco

Medina, Frank

Instructor - 9 Month, Air Conditioning & Refrigeration Tech

AAS, University of Texas at Brownsville

Medrano, Adrian

Instructor, Computer Networking and Systems Administration

AAS, Texas State Technical College - West Texas

## 2023-2024 Catalog & Student Handbook

Millington, James

Instructor, Applied Science

BS, Tarleton State University

Mills, Matthew

Instructor, Automotive Technology

AAS, Texas State Technical College - Waco

Mitchell, Dustin

Instructor, Electrical Lineworker

ND, Texas State Technical College - Waco

Moncus, Connie

Instructor, Business Administration

MBA, University of Texas at Brownsville

Monk, Leslie

Instructor, Career Technical Education

CC, Home Builders Institute

Murphy, Michael

Master Instructor, Mathematical Sciences

BA, University of Houston

Murrell, Brenda

Instructor, Industrial Systems

BS, University of Texas at Tyler

Myers, James

Instructor, Architectural/Civil Drafting Technology

AAS, Texas State Technical College - Waco

Nauman, Sam

Associate Professor-9 Month, Business Administration

MBA, Southern New Hampshire University

Necessary, Bryan

Instructor, Electrical Systems Technology

AAS, Texas State Technical College - Waco

## 2023-2024 Catalog & Student Handbook

Nesmith, Jan

Master Instructor, Computer Information System

BAT, University of Texas at Brownsville

Newhart, Angel

Instructor, Professional Pilot

BS, Tarleton State University

Nguyen, Dien

Instructor, Air Conditioning & Refrigeration Technology

AAS, Texas State Technical College - Waco

Nicholas, Gregory

Instructor, Master Welder

CC, Tulsa Welding School

Nieto, Javier

Instructor, Computer Science

MS, University of Texas Rio Grande Valley

Nizigiyimana, Deogr

Instructor, Precision Machining Technology

AAS, North Central Texas College

Nutt, John

Instructor, Industrial Maintenance

AAS, Texas State Technical College - Marshall

Obare, Charles

Instructor, Mathematical Sciences

MS, University of Texas Pan American

Ogden, Michael

Instructor, Diesel Equipment Technology

AAS, Texas State Technical College

Olney, Jeff

Instructor, Business

AAS, Cisco College

## 2023-2024 Catalog & Student Handbook

O'Neal, Patricia

Instructor, Mathematics

BS, Saint Mary College

Ortega, Eva

Instructor, Mathematics

BS, University of Texas at Brownsville

Owens, Jonathan

Instructor, Computer Networking and Systems Administration

AAS, Texas State Technical College - Waco

Palacios, Emanuel

Instructor, Computer Networking and Systems Administration

AAS, Texas State Technical College - Waco

Palady, Jayme

Instructor, Heating, Ventilation, & Air Conditioning (HVAC)

AAS, Texas State Technical College - Waco

Parks, Shelley

Instructor, Economics

BA, Baylor University

Parsee, Jerome

Instructor, Sociology

MA, Prairie View A&M University

Pate, John

Instructor, Computer Information System

AAS, Texas State Technical College - Waco

Pawelek, Adrian

Instructor, Restaurant and Culinary Management

AAS, Central Texas College

Phillips, Andrew

Instructor, Computer Science

BBA, Hardin Simmons University

## 2023-2024 Catalog & Student Handbook

Phillips, Daniel

Instructor, Diesel Equipment Technology-Construction Spec

AAS, Texas State Technical College

Pickens, Richard

Instructor, Automotive Technology

AAS, Texas State Technical College - Waco

Pierce, Joe

Master Instructor, Journalism

BA, Sam Houston State University

Pitts, Ronnie

Instructor, Emergency Medical Services

AAS, Texas State Technical College - West Texas

Pizano, Samuel

Instructor, Computer-Aided Drafting and Design

AAS, Texas State Technical College - Harlingen

Porras, Paul

Instructor, Culinary Arts

AAS, Odessa College

Poston, Gregory

Instructor, Air Conditioning & Refrigeration Technology

AAS, Texas State Technical College - Waco

Price, Justin

Instructor, Drafting & Design Technology

AAS, Texas State Technical College - West Texas

Procopio, Jennifer

Instructor - 9 Month, Psychology

MS, University of Texas at Tyler

Proctor, Winona

Instructor, Nursing

MS, Chamberlain University



## 2023-2024 Catalog & Student Handbook

Propst, Michael

Instructor, General Studies

AA, McLennan Community College

Purcell, Teresa

Instructor, Economics

AAS, Texas State Technical College - West Texas

Ramirez, Beyda

Instructor, Interdisciplinary Studies in Allied Health

BS, University of Texas at Brownsville

Ramirez, Victor

Senior Instructor, Architecture

MS, University of Texas at Arlington

Ramirez, Yolanda

Instructor, Health Services

BAT, University of Texas at Brownsville

Reed, Patrick

Instructor, Welding/Mechanical Specialization

AAS, Northeast Texas Community College

Reeves, Brian

Instructor, Robotics

AAS, Texas State Technical College - Waco

Reyes, Adrienne

Instructor, Nursing

MS, Liberty University

Reyna, Jose

Instructor, Diesel Equipment Technology-Agriculture Special

AAS, Texas State Technical College - Waco

Reyna, Jose

Instructor, Diesel Equipment Technology-Heavy Truck Special

AAS, Texas State Technical College - Waco

## 2023-2024 Catalog & Student Handbook

Reynolds, Laura

Instructor, Business

MBA, West Texas A&M University

Reynolds, Thomas

Instructor, Education and Training

BS, East Carolina College

Reynolds, Thomas

Instructor, Education and Training

Med, North Texas State University

Rhoades, Julie

Master Instructor, Business Administration

BBA, Tarleton State University

Rice, Charlene

Instructor, Nursing

MS, Grand Canyon University

Roberts, Samuel

Instructor, Industrial Maintenance

AAS, Texas State Technical College - Marshall

Rocha, Aida

Instructor, Instructional Technology

Med, Wayland Baptist University

Rodriguez, Janie

Instructor, Nursing

MS, Cabrillo College

Rodriguez, Jennifer

Associate Professor, Art

MA, University of Texas Pan American

Ruble, Sherri

Senior Instructor, Computer Networking and Systems Administration

AAS, Texas State Technical College - Waco

## 2023-2024 Catalog & Student Handbook

Russell, Nancy

Associate Professor, Art

MS, Texas A & M University - Kingsville

Saldivar, Eduardo

Instructor, Biology

MS, University of Texas Pan American

Salinas, Christon

Instructor - 9 Month, Political Science

MA, Texas State University

San Pedro, Anna

Senior Instructor, Surgical Technology

AAS, Texas State Technical College - Harlingen

Santos, Anthony

Senior Instructor - 9 Month, Industrial Data Processing

AAS, Texas State Technical College - Harlingen

Sargent, John

Senior Instructor, Architectural Design & Engineering Graph

MA, University of Illinois at Urbana-Champaign

Sauceda, Heather

Instructor, Nursing

AAS, South Texas College

Sauley, David

Instructor - Adjunct, History

MA, American Military University

Scalley, Timothy

Instructor, Emergency Medical Services

AAS, Texas State Technical College - Waco

Schaaf, Connie

Instructor, Organizational Management

EdD, Grand Canyon University

## 2023-2024 Catalog & Student Handbook

Scheler, Carol

Senior Instructor - 9 Month, Computer Networking and Syst

AAS, Texas State Technical College - Waco

Schier, Joshua

Instructor, Networking & IT Security

AAS, Texas State Technical College - Waco

Schmitt, Bruce

Instructor, Automotive Technology

AAS, Texas State Technical College - Waco

Scruggs, Cathy

Instructor, Emergency Medical Services

AAS, Texas State Technical College - West Texas

Senn, Jonathan

Instructor, Aviation Maintenance

AAS, Texas State Technical College - Waco

Sexton, Sharon

Associate Professor, Counseling & Guidance

Med, University of North Texas

Shields, Robert

Instructor, Electrical Technology

AAS, Houston Community College

Silva, Elvia

Master Instructor, Sociology

Med, University of Texas at Brownsville

Slagle, Steven

Instructor, Political Science

MA, University of Houston

Speckels, Jim

Instructor, Communications

MA, Angelo State University

## 2023-2024 Catalog & Student Handbook

Stampley, Josh

Instructor, Drafting & Design Technology

AAS, Kilgore College

Stancil, Karen

Instructor, Plant Molecular & Cellular Biology

PhD, University of Florida

Steelman, Terry

Instructor, Mechanical

AAS, Texas State Technical College - Waco

Steptoe, Ruby

Instructor, Pipe Welding Certificate

CC, Houston Community College

Stevens, Karen

Associate Professor, Computer Networking and Systems Ad

AAS, Texas State Technical College - Waco

Stewart, Heather

Instructor, English

MA, University of Texas Pan American

Stotts, Katrina

Instructor, Health Information Technology

AAS, Texas State Technical College - West Texas

Stranacher, Richard

Instructor, Diesel Equipment Technology

AAS, Texas State Technical College

Strange, Joseph

Instructor, Automotive Technology

AAS, Texas State Technical College - Waco

Szymoniak, Steven

Instructor, Business Administration

MBA, Columbia University

## 2023-2024 Catalog & Student Handbook

Taliancich, William

Senior Instructor, English

MA, University of Texas at Brownsville

Tamez, Amanda

Instructor - 9 Month, Mathematics

BS, University of Texas at Brownsville

Thomas, Miranda

Senior Instructor, Biology

MS, University of Texas at Arlington

Tijerina, Alicia

Instructor - Adjunct, Bilingual Education

Med, University of Texas Pan American

Torres, Tony

Instructor, Information Technology and Mobile Programming

BS, Liberty University

Townsend, Juanita

Instructor, Communications

MA, University of Texas Rio Grande Valley

Trainor, Linda

Instructor 9 Mo, English Teaching

BS, Weber State University

Trawick, Cynthiaanne

Instructor - Adjunct, Nursing Education and Administration

MS, University of Texas at Arlington

Tschirhart, Stephen

Instructor - 9 Month, Professional Aeronautics

BS, Embry Riddle Aeronautical University

Turner, Heather

Senior Instructor, Educational Administration

Med, Baylor University

## 2023-2024 Catalog & Student Handbook

Vaitl, Stephen

Instructor, Chiropractic

DOC, Cleveland Chiropractic College

Valadez, Micaela

Instructor, History

MA, University of Texas at San Antonio

Valdez, Magaly

Instructor, Computer-Aided Drafting and Design

AAS, Texas State Technical College

Van Cleave, Lisa

Instructor, Leadership

EdD, Hardin Simmons University

Van Demark, Adam

Instructor - Adjunct, Air Conditioning & Refrigeration Technology

AAS, Texas State Technical College

Vargas, Rick

Instructor, Construction Supervision

AAS, South Texas College

Vasquez, Jose

Instructor, Auto Collision Technology

AAS, Texas State Technical College

Vavra, JJ

Master Instructor, Multimedia

BA, University of Advancing Computer Technology

Vega, Yolanda

Adjunct Instructor, Family Nursing Practitioner

MS, Maryville University

Viera, Edgard

Instructor, Flight Technology Program

AAS, Central Texas College

## 2023-2024 Catalog & Student Handbook

Villarreal, Everardo

Instructor, Chemistry

MS, University of Texas Rio Grande Valley

Villarreal, Monica

Instructor, Communications

MA, University of Texas Pan American

Wade, Curt

Instructor, Electrical Power and Controls

AAS, Texas State Technical College

Wagner, Greg

Instructor, Air Conditioning & Refrigeration Technology

AAS, Texas State Technical College

Walker, John

Master Instructor, Nuclear Engineering Technology

BS, Thomas Edison State University

Ware, Steven

Instructor, English

AA, McLennan Community College

Warnasch, Craig

Instructor, Air Conditioning & Refrigeration Technology

CC, Texas State Technical College

Washington, John

Associate Professor, Information Systems Management

MBA, Keller Graduate School of Management

Watkins, Susie

Associate Professor, Instructional Technology

MA, Bellevue University

Weakley, Brian

Instructor, Electronic Technology

AAS, Texas A & M University



## 2023-2024 Catalog & Student Handbook

Weaver, Billy

Instructor, Air Conditioning & Refrigeration Technology

AAS, Texas State Technical College

Weems, Melissa

Instructor - Adjunct, Nursing

MS, University of Texas at El Paso

Weir, Shannon

Instructor, Diesel Mechanics

AAS, Texas State Technical College

White, Anneliese

Associate Professor-9 Month, English

MA, Texas State University

White, Joshua

Instructor, Diesel Mechanics

AAS, Texas State Technical College

Wilganowski, Kathr

Instructor, Computer Science

AAS, Texas State Technical College

Wilhite, George

Associate Professor, English

MA, University of Texas at San Antonio

Wilkins, David

Instructor, Aviation Maintenance

AAS, Texas State Technical College

Williams, George

Instructor, Automotive Technology

AAS, Texas State Technical College

Williams, Jeffrey

Instructor, Industrial Systems

AAS, Texas State Technical College

## 2023-2024 Catalog & Student Handbook

Wilson, Allen

Instructor- Dual Enrollment, Automotive Technology

CC, Tennessee Technology Center

Wimberley, Christa

Instructor - 9 Month, Biology

MS, University of Texas at Brownsville

Wingate, Jenny

Instructor, Nursing

BS, Tarleton State University

Wishon, Donna

Master Instructor, Industrial Occupations

BA, Tarleton State University

Withers, Paul

Senior Instructor, Elec/Comp Cont/Rbtcs

AAS, Texas State Technical College

Woods, Deborah

Instructor, Business Administration

BBA, Baker College

Wyche, Sessia

Instructor - 9 Month, Mathematics

MS, Texas A & M University - Kingsville

Zavala, Isaac

Instructor, Nursing

BS, Angelo State University

Zoerner, Patrick

Instructor, Wind Energy Technology

AAS, Texas State Technical College - Waco

Zoleta, Miguel

Instructor, Automotive Technology

AAS, Texas State Technical College

## 15. Workforce Training & Continuing Education

### Automotive Service Technician

- CLASS DELIVERY: In Person
- CLASS DURATION: 176
- CLASS SIZE: 10 - 15

#### Course Description

An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, professional responsibilities, and basic automotive maintenance. May be taught manufacturer specific. Utilize appropriate safety procedures; describe historical development and career information of the automotive industry; demonstrate safe, professional, and responsible work practices; demonstrate the proper use of shop equipment and tools; describe the eight Automotive Service Excellence (ASE) vehicle subsystems; use service information; and perform basic automotive maintenance.



Campus Location(s):

Harlingen

Credentials: Automotive Service Excellence (ASE), TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Aviation Structural Assembly

- CLASS DELIVERY: In Person
- CLASS DURATION: 480 hours
- CLASS SIZE: 15-25

#### Course Description

The aviation structural assembly course offers trainees the opportunity to enter the high-tech aerospace sector with no specific prerequisites. It challenges them to present a winning attitude and develop mechanical dexterity and sound logic skills.



Topics include:

- Shop safety
- Blueprint reading
- Conventional rivets
- Blind rivets
- Bolts
- Safety devices
- Hi-lites
- Jo-bolts
- Chemical conversion
- Electrical bonding

# 2023-2024 Catalog & Student Handbook

Campus Location(s): North Texas

Credentials: Snap-On Sheet Metal Industry Certification, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

## Carpentry Program

- CLASS DELIVERY: In Person
- CLASS DURATION: 262 Hours
- CLASS SIZE: 8-12

Carpenters make up the largest building trades occupation in the industry, and those with all-around skills are in high demand. Carpenters are involved in many different kinds of construction activities, from building highways and bridges to installing kitchen cabinets. Carpenters construct, erect, install and repair structures and fixtures made from wood and other materials.



### **NCCER Core** (77.5 hours)

The NCCER Core Curriculum is a prerequisite and foundation to all other Level 1 craft curriculum.

Its modules cover topics such as basic safety, communication skills and introduction to construction drawings. Completing this curriculum gives the trainee the basic skills needed to continue education in any craft area he or she chooses.

### **NCCER Carpentry Level 1** (162.5 hours)

An introduction to the carpentry trade, including safety, tools, equipment, terminology and methods.

Knowledge and skills required to erect wood frame structures, with emphasis on layout and construction of floors, walls and roofs. Includes safety procedures for using hand and power tools and structural materials.

### **Safety Component** (10 hours)

OSHA General Industry/Construction Safety and Health provides an introduction to specific training techniques involving the safe handling of blood and air-borne pathogens, as well as general safety and security on the premises. Addresses the right to know and MSDS. Outlines occupational Safety and Health Administration (OSHA) regulations, inspections, penalties and compliance. Upon completion, the trainee will be able to:

- Demonstrate proficiency in handling critical and safety situations.
- Explain the importance of performing tasks safely and correctly.
- Maintain a situation in compliance with OSHA regulations.

### **Forklift Component** (12 hours)

- Safety awareness, components identification and field driving exercises.
- Analyzing hydraulic and electrical components and safety precautions.
- Discussion of preventing maintenance and basic repairs.
- Variety of exercises, lifting techniques and additional criteria evaluation such as surface conditions.
- Successfully demonstrate maneuvering exercises around a simulated obstacle course.

Campus Location(s): All

Credentials: NCCER Core Certification, NCCER Carpentry Level I Craft Certification, OSHA 10, Forklift

## 2023-2024 Catalog & Student Handbook

Certification, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Certified Cable Wiring Systems Installer

- CLASS DELIVERY: In Person and Online
- CLASS DURATION: 24 Hours In Person and 24 Hours Online
- CLASS SIZE:

This course is designed for those who design, install or maintain copper and fiber optic systems in commercial buildings and other facilities. It identifies the student as an inside plant installer who demonstrates a practical knowledge of the copper and fiber optic theories, codes, standards and practices widely accepted in commercial buildings and customer-owned outside plants (campus environments).

In addition, this inside plant training incorporates hands-on training of copper and fiber terminations, cable preparations, installation practices and certification testing procedures. Students will learn skills applicable to all of the functions required to safely and competently install advanced copper and fiber communications cabling. All procedures and practices are based on the latest EIA/TIA commercial building cabling standards.



This course will allow students to:

- Understand how to assemble, wire and test various commercial building cabling systems.
- Understand the EIA/TIA standards for advanced inside plant copper cabling systems.
- Understand the EIA/TIA commercial building cabling standards as they pertain to advanced fiber and copper cabling systems.
- Understand advanced copper and fiber testing procedures.
- Understand distance limitations and performance issues and how to test these measurable properties pertaining to copper and fiber media.
- Demonstrate basic skills needed to assemble, wire and test various commercial building and inside plant cabling systems, including advanced laser-optimized fiber optic cabling systems.

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Certified Fiber Optics Installer



## 2023-2024 Catalog & Student Handbook

- CLASS DELIVERY: In Person and Online
- CLASS DURATION: 32 Hours
- CLASS SIZE: Minimum of 10

This course is designed for those who lay out, install or maintain fiber-optic cabling systems. It identifies the student as a fiber optics installer able to demonstrate a practical knowledge of fiber-optic theory, codes, standards and practices widely accepted in the fiber optics industry. In addition, this training incorporates two days of individual hands-on training validating fiber optics installer skills, including fiber terminations, cable preparations, fusion splicing, and optical time-domain reflectometer (OTDR) and optical loss testing. These skills are applicable to all the requirements to safely and competently install, maintain and test fiber-optic cabling systems.



Certified Fiber Optics Installer training will provide the student with the necessary knowledge and skills to:

- Lay out, install or maintain fiber optic cabling systems.
- Demonstrate a practical knowledge of fiber optic theory, codes, standards and installation practices.
- Demonstrate a practical knowledge of individual hands-on skills, including:
  - Performing industry-standard fiber optic terminations.
  - Preparing cables for inside and outside applications.
  - Performing fusion splicing and splice tray preparation.
  - Testing with the OTDR and optical loss test equipment.

Credentials: Fiber Optics Technician Certification, TSTC Certification of Completion

Campus Location(s): All

Credentials: TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Certified Logistics Technician

- CLASS DELIVERY: Online
- CLASS DURATION: 108 hours
- CLASS SIZE: 8-25

#### Course Description

CLT is a nationally portable, industry-led program that prepares individuals for front-line material handling and supply chain logistics jobs in fulfillment centers, warehouses, distribution centers and factories. This online training program includes a stackable certification for employees with the 21st Century, in-demand skills needed for long-term career paths in over 6.2 million supply chain logistics jobs.

The curriculum is designed to provide students with mid-level technical knowledge of the world of supply chain logistics. This course covers the material handling aspect of the global supply chain and describes the mid-level technical knowledge that front-line material handling workers should master to perform well. It is designed to give students more practical insight into the industry and



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how the frontline worker fits into that environment.

Campus Location(s): Online

Cost: \$2,700

Credentials: MSSC Certified Logistics Technician 4.0 Certification, TSTC Certificate of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Certified Production Technician

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 150 Hours
- CLASS SIZE: 8-15

This MSSC certified training is offered in-person and online. Virtual training is enhanced by using Oculus virtual reality headsets to demonstrate hands-on job training simulations. This training will also seek to provide participants with career guidance and connections to manufacturers and allow for a strategic shift to prioritize high-skilled, hands-on learning for in-person training while expanding current reach to the broader military veteran population with foundational training.

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. Learning outcomes/objectives are determined by local occupational needs and business and industry trends.



Student learning outcomes:

- Communicate effectively.
- Integrate technology.
- Learn effectively - use academics effectively.
- Demonstrate cooperative/teamwork skills.
- Apply safety in the workplace.
- Think critically and creatively.
- Demonstrate responsible work ethics.

Program outcomes:

- Apply safe and productive practices in the workplace.
- Utilize quality control practices to meet production standards.
- Implement manufacturing processes and production methods.
- Recognize potential maintenance issues with production equipment.

Campus Location(s): All/Online

Cost: \$2,500

Credentials: MSSC Certified Production Technician Certification, TSTC Certification of Completion

**For more information, please contact:**

### Commercial Driver's License

- CLASS DELIVERY: In Person
- CLASS DURATION: 160 Hours
- CLASS SIZE: 4 Students per Truck

Overview of the State of Texas Class A Commercial Driver's License written test. Includes preparation for mastery of the Commercial Driver's License written examination, general truck-driving skills with hands-on component, and instruction coordinated with the Department of Transportation. The Harlingen and Fort Bend County locations are third-party examining sites.

Students completing this training will be able to:

- Describe basic inspection and testing techniques used for a pre-trip inspection.
- Describe basic air brakes inspection and test.
- Demonstrate proper shifting, double clutching, backing skills, coupling and uncoupling, and yard skills.
- Understand and pass commercial rules, general knowledge, combination and air brakes exams.
- Upon passing the course (70%), each student will receive a certificate of completion and obtain their Commercial Driver's License.



Prerequisites: Be at least 18 years of age, valid Class C Driver's License, obtain a driving record, pass a DOT physical and drug screen as required by the Department of Transportation.

Campus Location(s): Abilene\*, Fort Bend County\*, Harlingen\* and Marshall\*

\* *Current DPS approved testing sites*

Cost: \$4,500

Credentials: Commercial Driver's License, TSTC Certification of Completion

For more information, please contact:

[transportationtraining@tstc.edu](mailto:transportationtraining@tstc.edu)

### Computer Numerical Control Machining



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- CLASS DELIVERY: In Person
- CLASS DURATION: 160
- CLASS SIZE: 10 - 15

### Course Description

This course provides an exploration of the basics in machining, raw materials, use of hand tools, safety and maintenance. Topics include an overview of measurement techniques, materials, safety, machine tool math, quality control and maintenance. Teamwork, critical thinking and problem solving are emphasized. Hands-on experience and practical applications are included.

Campus Location(s): Abilene, Breckenridge



Credentials: National Institute for Metalworking Skills Certifications, TSTC Certificate of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Electrical Motor Control Systems

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 40 Hours
- CLASS SIZE: 8-12

Prepares individuals to connect, adjust, and operate electrical motor control circuits using these electrical components: 3-phase AC motors, reversing magnetic motor starters with overloads, drum switches, control relays, timer relays, pushbutton switches, selector switches, limit switches, pressure switches, and float switches. Other key skills include: adhering to motor control safety rules, reading ladder logic circuit diagrams, checking for proper ground connections, wiring motors for high and low voltage, and interpreting common motor control application circuits. This course supports the SACA Micro-Credential C-202.



Modules included in the course:

- Introduction to Electrical Motor Control.
- Manual Motor Control and Overload Protection.
- Control Transformers.
- Control Ladder Logic.
- Control Relays and Motor Starters.
- Reversing Motor Control.
- Automatic Input Devices.
- Basic Timer Control.

Campus Location(s): All

Credentials: SACA Micro-Credential C-202 Electric Motor Control Systems 1, TSTC Certification of Completion

For more information, please contact:

## Electrical Program

- CLASS DELIVERY: In Person
- CLASS DURATION: 219 hours
- CLASS SIZE: 8-12

Electricians install electrical systems, wiring and other electrical components, as well as following blueprints and conforming to national, state and local codes.

### **NCCER Core** (72.5 hours)

The NCCER Core Curriculum is a prerequisite and foundation to all other Level 1 craft curriculum. Its modules cover topics such as basic safety, communication skills and introduction to construction drawings. Completing this curriculum gives the trainee the basic skills needed to continue education in any craft area he or she chooses.



### **NCCER Electrical Level 1** (112.5 hours)

Presentation of the theory of residential electric circuits. Topics include load calculations and safety in electrical work, installation of wiring, load protection, ground fault and other devices commonly used in 110-volt household applications.

### **Safety Component** (10 hours)

OSHA General Industry/Construction Safety and Health provides an introduction to specific training techniques involving the safe handling of blood- and air-borne pathogens, as well as general safety and security on the premises. Addresses the right to know and MSDS. Outlines occupational Safety and Health Administration (OSHA) regulations, inspections, penalties and compliance. The trainee will be able to:

- Demonstrate proficiency in handling critical and safety situations.
- Explain the importance of performing tasks safely and correctly.
- Maintain a situation in compliance with OSHA regulations.

### **Forklift Component** (12 hours)

- Safety awareness, components identification and field driving exercises.
- Analyzing hydraulic and electrical components and safety precautions.
- Discussion of preventing maintenance and basic repairs.
- Variety of exercises, lifting techniques and additional criteria evaluation such as surface conditions.
- Successfully demonstrate maneuvering exercises around a simulated obstacle course.

### **CPR/AED/First Aid** (12 hours)

- Lifesaving skills of respiratory (choking and near-drowning) and cardiac emergencies involving adults, children and infants. Automated External Defibrillator inclusive. Instruction in first aid for injured and ill persons. Students will discuss and demonstrate assessment and management of injured and/or ill persons as recommended by the certifying agency. Students must meet requirements as specified by the certifying agency. Show proficiency according to current guidelines of the credentialing agency. Lab is required. Upon successful completion of the course, students will receive a certification card.
- Licensure/Certification Agency: American Heart Association, American Safety and Health Institute, National Safety Council.

Campus Location(s): All

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Credentials: NCCER Core Certification, NCCER Electrical Level I Craft Certification, OSHA 10, CPR/AED/First Aid, Forklift Certification, TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

## Electrical System Installation

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 40 Hours
- CLASS SIZE: 8-12

Prepares individuals to install and test/commission electrical motor control circuits using these electrical components: control cabinet enclosures, 3-phase AC motors, reversing magnetic motor starters with overloads, control relays, timer relays, pushbutton switches, selector switches, limit switches, pressure switches, indicators, electro-pneumatic solenoid valves, safety disconnect switches, and circuit protection. Key skills include adhering to motor control installation safety rules, using proper PPE, reading electrical wiring installation diagrams, sizing circuit protection, installing components on DIN rails and cabinet panels, installing and testing ground systems, wiring motors for high and low voltage, selecting and preparing wire for installation, attaching of wire to terminal strips and components/motors, and routing of wire with raceways/conduits. This course supports the SACA Micro-Credential C-206.



Modules included in the course:

- Introduction to Electrical Control Wiring.
- Panel Wiring Fundamentals.
- Grounding Control Systems.
- Connecting Wires in Panels.
- Wiring a Motor.
- Electro-Pneumatic Valves.
- Electro-Pneumatic System Installation.

Campus Location(s): All

Credentials: SACA Micro-Credential C-206 Electrical System Installation 1, TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

## Electrical Systems (Operation)



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- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 48 Hours
- CLASS SIZE: 8-12

Prepares individuals to connect, adjust, operate, troubleshoot, and analyze electrical circuits using basic electrical components: resistors, capacitors, inductors, DC motors, solenoids, manual switches, relays, fuses, circuit breakers, transformers, and indicators. Other key skills include: adhering to electrical safety rules, reading electrical circuit diagrams, applying Ohm's Law and Kirchhoff's Law, using digital multimeters, interpreting series/parallel circuits, and assessing power/circuit protection. This course supports the SACA Micro-Credential C-201.



Modules included in the course:

- Basic Electrical Circuits
- Electrical Measurements
- Circuit Analysis
- Inductance and Capacitance
- Combination circuits
- Transformers

Campus Location(s): All

Credentials: SACA Micro-Credential C-201 Electrical Systems 1, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### FAST Trac Airframe & Powerplant

- CLASS DELIVERY: In Person
- CLASS DURATION: 160 Hours
- CLASS SIZE: 10-16

The Texas State Technical College FAST Trac Airframe and Powerplant Program was developed to prepare veterans, active service personnel and civilian trainees to become well-rounded airframe and powerplant technicians with upward mobility potential. The curriculum is designed for experienced technicians and serves as a refresher program of study around FAA-required curriculum.



Students will focus on the study of Federal Aviation Administration (FAA) subject matter in the general, airframe, and powerplant curricula with a focus on building knowledge of new materials, techniques and physical skills. This program is designed to refresh the knowledge and skills not provided by civilian or military training. Through hands-on labs, students will gain the experience that is required to obtain the civilian Aviation Maintenance Technician certificate.

**General and Airframe**

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Study of Federal Aviation Administration subject matter in the general and airframe curricula with a focus on building knowledge of new materials, techniques, and physical skills. This training is designed to provide the knowledge and skills not provided by civilian or military training and experience that are required to obtain the civilian Aviation Maintenance Technician certificate. Upon completion of this course, students will be able to:

- Weigh aircraft, perform weight and balance checks, and record data and information derived from weight and balance checks.
- Write descriptions of work performed, including aircraft discrepancies, corrective actions using typical aircraft maintenance records and required maintenance forms, records and inspection reports.
- Apply information contained in FAA and manufacturers' aircraft maintenance specifications, data sheets, manuals, publications, and related FAA regulations, airworthiness directives and advisory material.
- Analyze technical data and exercise mechanic privileges within the prescribed limitations.
- Perform precision measurement procedures, identify and select nondestructive testing methods, perform nondestructive testing and heat-treating procedures, identify and select aircraft hardware and materials, fabricate and install fluid lines and fittings, and inspect welds.
- Identify principles of basic aerodynamics, identify design principles of aircraft structures, and describe the theory of flight.
- Start, ground operate, move, service and secure aircraft, identify typical ground operation hazards and safety, inspect, identify, remove and treat aircraft corrosion.
- Calculate and measure electrical power, voltage, current, resistance and continuity, determine the relationship of voltage, current and resistance in electrical circuits, interpret aircraft electrical circuit diagrams, including solid-state devices and logic functions, inspect and service batteries.
- Repair and inspect aircraft electrical systems components; install, check and service airframe electrical wiring, controls, switches, indicators and protective devices and inspect, check, troubleshoot, service and repair alternating- and direct-current electrical systems.
- Inspect, check, troubleshoot, service and repair heating, cooling, air conditioning, oxygen and pressurization systems and air cycle machines, airframe ice and rain control systems, smoke and carbon monoxide detection systems, and aircraft fire detection and extinguishing systems.
- Inspect, check, service, troubleshoot and repair aircraft fuel and management systems, fuel quantity-indicating systems, and hydraulic and pneumatic systems, and identify and select hydraulic fluids.
- Inspect, service and repair landing gear, retraction systems, shock struts, brakes, wheels, tires and steering systems, and service landing-gear systems.
- Select, install and remove special fasteners for metallic structures, inspect and repair sheet metal structures, install conventional rivets, form, lay out and bend sheet metal.
- Perform airframe conformity and airworthiness inspections.
- Rig fixed-wing aircraft; balance, rig and inspect movable primary and secondary flight control surfaces; and jack aircraft.

### Powerplant

Study of FAA subject matter in the General and Powerplant curricula with a focus on building knowledge of new materials, techniques and physical skills. This training is designed to provide the knowledge and skills not provided by civilian or military training and experience that are required to obtain the civilian Aviation Maintenance Technician certificate. Upon completion of this course, students will be able to:

- Weigh aircraft, perform weight and balance checks, and record data and information derived from weight and balance checks.
- Write descriptions of work performed, including aircraft discrepancies, corrective actions using typical aircraft maintenance records and required maintenance forms, records and inspection reports.
- Apply information contained in FAA and manufacturers' aircraft maintenance specifications, data sheets, manuals, publications and related FAA regulations, airworthiness directives and advisory material.
- Analyze technical data and exercise mechanic privileges within the prescribed limitations.  
Perform precision measurement procedures, identify and select nondestructive testing methods, perform nondestructive testing and heat-treating procedures, identify and select aircraft hardware and materials, fabricate and install fluid lines and fittings, and inspect welds.
- Identify principles of basic aerodynamics, identify design principles of aircraft structures, and describe the theory of flight.
- Start, ground operate, move, service and secure aircraft, identify typical ground operation hazards and safety, inspect, identify, remove and treat aircraft corrosion.
- Calculate and measure electrical power, voltage, current, resistance and continuity, determine the relationship of voltage, current and resistance in electrical circuits, interpret aircraft electrical circuit diagrams, including solid-state devices and logic functions; inspect and service batteries.
- Inspect, check, service and repair propeller synchronizing systems, ice control systems, fixed-pitch, constant-speed and feathering propellers and propeller governing systems, and repair aluminum alloy propeller blades.
- Identify the components of a reciprocating engine, inspect, troubleshoot, check, service and repair engine instrument systems, inspect, service and repair lubrication and exhaust systems.
- Maintain powerplant electrical systems and components, maintain powerplant ignition, starting and fire protection systems.

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- Inspect, check, service, troubleshoot and repair engine fuel systems and components, fuel metering systems and components, reciprocating and turbine engine fuel metering systems, engine ice and rain control systems, heat exchangers, superchargers, turbine engine airflow, and temperature control systems.
- Overhaul reciprocating engines; inspect, check, service and repair reciprocating engines and engine installations.
- Overhaul turbine engines; inspect, check and repair turbine engines.
- Perform powerplant conformity inspections and powerplant airworthiness inspections.

FAA authorization to take General and Airframe, General and Powerplant, or General, Airframe, and Powerplant written, oral, and practical exams.

Campus Location(s): Abilene (Harlingen and Waco capable)

Credentials: TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### FAST Trac Dental Assistant

- CLASS DELIVERY: In Person
- CLASS DURATION: 100 Hours
- CLASS SIZE: 10-16

The purpose of this program is to familiarize students with all areas of administrative and clinical dental assisting, focusing on the responsibilities required to function as an assistant in a dental practice. This course covers the following key areas and topics:

- Introduction to the dental office, and history of dentistry and dental assisting.
- Legal aspects of dentistry, including policies and guidelines.
- Introductory oral anatomy, dental operations and dental equipment.
- Introductory tooth structure, including primary and permanent teeth.
- The oral-related structures.
- Dental handpieces, sterilization and other areas.



Tuition Includes:

- Textbooks
- TSBDE Exam Fee and Proctoring
- CPR Certification Course
- Clinical Externship Placement (40 hours)

Tuition Does Not Include:

- DANB-RHS/ICE Exam Fees
- Immunizations
- Background Check
- Scrubs (Required)

NOTE: Enrolled students transferring out of state are eligible for the online course with clinical externship placement. Outside of Texas, most states and employers require DANB-RHS/ICE certification. The cost for taking the RHS and ICE exams together is \$375.

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Campus Location(s): Abilene and Harlingen

Credentials: TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### **FAST Trac Welding (GMAW & FCAW)**

- CLASS DELIVERY: In Person
- CLASS DURATION: 160 Hours
- CLASS SIZE: 10-25

The Welding program is a 160 clock-hour program that provides both didactic and experiential learning in fillet and groove welds 2F-4F and 2G-4G (GMAW & FCAW).

This course is designed to instruct welding and safety guidelines using the Flux Core Arc Welding process and Gas Metal Arc Welding process on carbon plates for fillet welds and Groove Welds.

It teaches the basics and intermediate of the craft, students start with safety, cutting, grinding and GMAW & FCAW welding on carbon steel for fillet welds. In addition, students will culminate their ability to weld in three positions (horizontal, vertical and overhead).



Campus Location(s): All

Credentials: TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### **FAST Trac Wind Energy Technician**



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- CLASS DELIVERY: In Person
- CLASS DURATION: 296 Hours
- CLASS SIZE: 10-16

The FAST Trac Wind Energy Technician program prepares students for an entry level position in the high-growth wind industry. This fast-paced 10-week program will provide you with the knowledge and certifications needed to work in the wind industry. Students will learn the essential skills through classroom and lab exercises that are required of entry level wind technicians. Students should be prepared for a course that is rigorous and fast paced. After successful completion of the Certified Electronics Technician Associate section, students will be registered to take the CET(a) Examination. Successful completion of the exam will provide students with an industry recognized certification as well as nine credit hours that can be applied toward an associate degree at Texas State Technical College.

Courses include:

- CETT 1003 - DC Circuits (48 hours)
- TECM1003 - Technical Calculations (48 hours)
- WIND 1000 -Introduction to Wind Energy (32 hours)
- WIND 1002 -Wind Safety (16 hours)
- CETT 1005 - AC Circuits (48 hours)
- CETT 1025 - Digital Fundamentals (48 hours)
- ELMT 1005 - Basic Fluid Power (8 hours)
- ELMT 2035 - Certified Electronics Technician Training (48 hours)

Campus Location(s): Abilene, Breckenridge, Brownwood, Harlingen, and Sweetwater

Credentials: TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



### Fiber Optic Broadband Technician

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 105 Hours
- CLASS SIZE: 8-10

This course provides information on the standards, describes materials, methods, and verification criteria for producing high-quality entry level Technician in Broadband fields of Fiber Optics and categories five and six network cabling. Basic electricity and safety, data communications basics, definitions, symbols, and abbreviations; cable construction and types, cable performance characteristics, cabling standards, basic network topologies, basic network architectures, National Electrical Code (NEC®), cabling system components, DCIC installation tools, connectors and outlets; cabling system design, cabling installation, connector installation, cabling testing and certification, cabling troubleshooting, and documentation are covered. A fiber optics installer is proficient in the installation of connectors on various types of fiber-optic cables using multiple types of connectors and can perform mechanical and fusion splicing.





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Modules included in the course:

- What is Structural Wiring
- Which Standards Apply
- LAN topology
- Cat 5e and Cat 6 Systems
- Fiber Optic Connectivity
- Installation Technics
- Fiber Optic Splicing
- Cable Termination
- Fiber Optic Certification
- System Testing

Campus Location(s): All

Credentials: TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Forklift Training

- CLASS DELIVERY: In Person
- CLASS DURATION: 8 hours
- CLASS SIZE: 8 - 12

The Forklift Operator program will give you hands-on training as forklift operator and teach you safe practice for the workplace. Training can lead to positions in construction, logistics, or manufacturing.

Modules included in the course:

- Introduction
- Principles of Stability
- Pre-operational Safety Check
- Safety Operating Procedures
- Propane, Gasoline, and Diesel Refueling
- Battery Care and Recharging
- Operator Exam & Practical Test

Campus Location(s): All

Credentials: Forklift Operator Certification, TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



### Geometric Dimensioning and Tolerancing

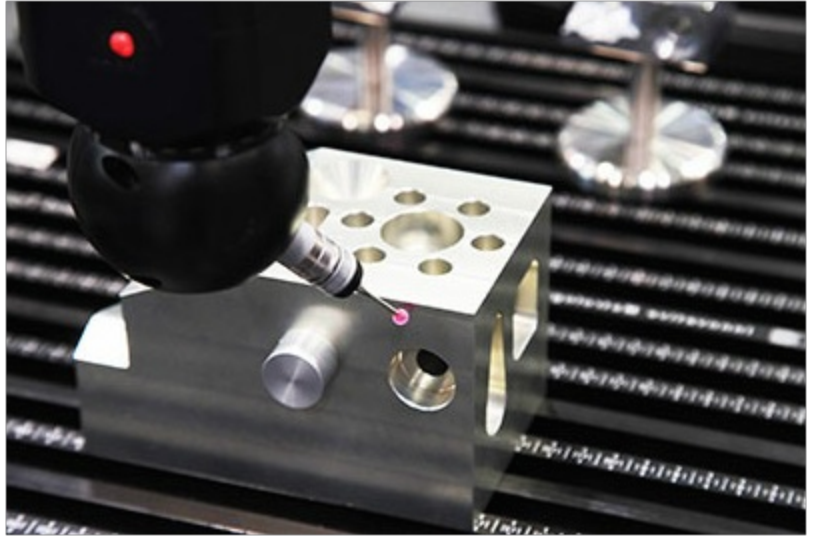
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- CLASS DELIVERY: Online
- CLASS DURATION: 16Hrs
- CLASS SIZE: 0-40

### Course Description

Upon completion of GD&T training, participants will be able to:

- Identify the types of functional geometric characteristics existing on parts, realize the limitations of numeric tolerances, and understand the need for geometric tolerances.
- Analyze tolerances expressed numerically and calculate minimum and maximum allowable values for dimensions.
- Understand and apply the symbols used with the geometric system of tolerances.
- Recognize basic dimensions on prints and properly interpret their meaning.
- Properly evaluate inspection data considering tolerance zones defined by geometric controls.
- Apply tolerances with bonus when suited to the application and properly interpret tolerances when bonus tolerance applies.
- Identify and properly interpret geometric controls on location, orientation, form, profile and runout.
- Recognize datum feature identifiers applied to features with size and surfaces.
- Identify and interpret the datum reference frame including order of precedence.
- Create specifications using appropriate geometric tolerances and datum reference frames.



Campus Location(s): Online

Credentials: TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### HAZMAT Endorsement

- CLASS DELIVERY: Online
- CLASS DURATION: 8
- CLASS SIZE: 10 - 30

### Course Description

Often associated with tanker driving, this endorsement equips a driver to safely transport hazardous materials such as gas, oil and other liquid chemicals that must be carried in bulk.

Topics include:

- The Intent of the Regulations
- Bulk Tank Loading, Unloading and Marking
- Driver Responsibilities
- Driving and Parking Rules
- Communicating Rules
- Emergencies
- Loading and Unloading



Campus Location(s): All Locations and Online

Credentials: Hazardous Material Endorsement and TSTC Certificate of Completion

## 2023-2024 Catalog & Student Handbook

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Heavy Duty Diesel Engine Specialist

- CLASS DELIVERY: In Person
- CLASS DURATION: 240 Hours
- CLASS SIZE: 8-12

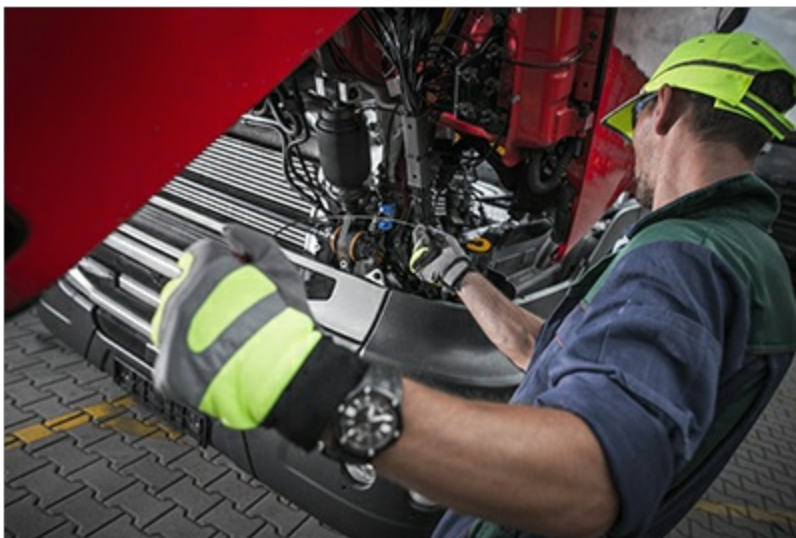
Diesel Equipment Technology students will acquire the knowledge and skills necessary for the repair of diesel engines and troubleshooting/diagnostic procedures through a combination of lecture and lab work over the course of six weeks. Our classrooms and labs are interactive and have a real-world setting. This program gives students knowledge and hands-on skills to prepare them for a rapidly growing industry that is requiring a growing number of qualified technicians.

Campus Location(s): Harlingen

Credentials: TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



### HVAC Continuing Education

- CLASS DELIVERY: In Person
- CLASS DURATION: 8 Hours
- CLASS SIZE: 10-15

The Texas 8-Hour ACR HVAC Renewal Course meets all Texas Department of Licensing and Regulation (TDLR) requirements for all air conditioning contractors renewing their licenses.

Topics may include:

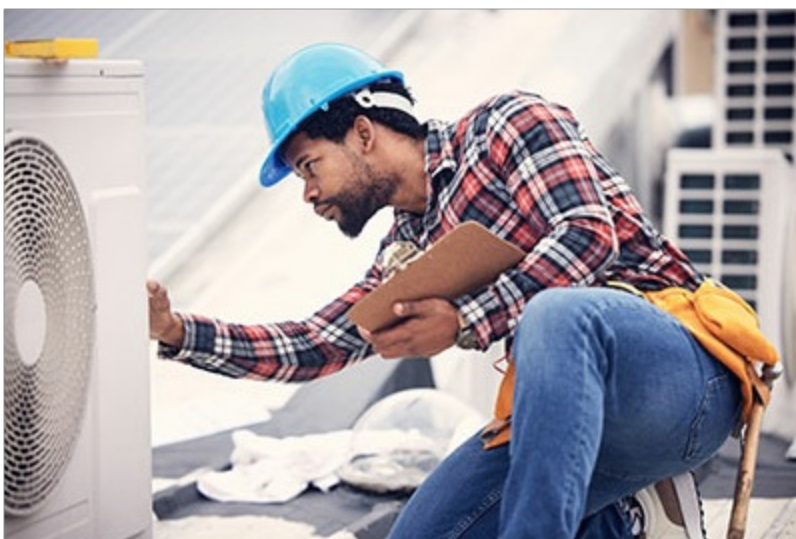
- The required Texas laws and rules.
- Scheduling and project management.
- Bidding and estimating.
- Employee management.
- Choosing your business structure.
- Getting work.
- Customer service.

Campus location(s): All

Credentials: TDLR Continuing Education Unit, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



### Hydraulic Systems



## 2023-2024 Catalog & Student Handbook

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 40 Hours
- CLASS SIZE: 8-12

Prepares individuals to connect, adjust, operate, and analyze hydraulic circuits using these components: quick connect fittings, tee and cross fittings, fixed displacement pumps, filters, pilot-operated and direct operated relief valves, gauges, flow meters, directional control valves, flow control valves, check valves, pressure reducing valves, sequence valves, accumulators, pressure compensated flow control valves, cylinders, and motors. Other key skills include: adhering to hydraulic safety rules, reading hydraulic circuit symbols and diagrams, applying the Force-Pressure-Area formula, converting absolute/gauge pressure units, performing hydraulic power unit startup/shutdown, applying Pascal's Law, charging accumulators, reservoir refilling, and measuring delta P.



Modules included in the course:

- Introduction to Hydraulics
- Hydraulic Pumps
- Basic Hydraulic Circuits
- Hydraulic Pressure and Flow Concepts
- Hydraulic Pressure Control
- Hydraulic Flow Control
- Hydraulic Sequence Control

Campus Location(s): All

Credentials: TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Hydraulic Troubleshooting

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 40 Hours
- CLASS SIZE: 8-12

This course covers hydraulic pumps, circuits, pressure, flow concepts and control, and sequence control. Examples of topics include: how to read a pressure gauge; the operation of a hydraulic unit; the function of a 3-position, 4-way directional control valve; calculating the force output of a hydraulic cylinder in retraction; the advantages of a pilot-operated relief valve; the effect of actuator load changes on flow control valve operation; and the operation of a direct-acting sequence valve.

Modules included in the course:

- Hydraulic Troubleshooting Concepts



## 2023-2024 Catalog & Student Handbook

- Troubleshooting Hydraulic Pumps
- Troubleshooting Hydraulic Actuators
- Troubleshooting Hydraulic Valves 1
- Troubleshooting Hydraulic Valves 2
- Troubleshooting Hydraulic Systems

Campus Location(s): All

Credentials: TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Industrial Maintenance Electrical and Instrumentation (IM E&I) Technician

The Industrial Maintenance Electrical and Instrumentation (IM E&I) Technician program serves to build connections with the manufacturing industry, providing transitioning service members, National Guard and reservists, veterans, military spouses, and civilians with the skills and certifications to find and excel in careers in manufacturing. Resources are also available to assist manufacturers with recruiting, hiring and retaining talent from the military community.

#### Certifications include:

NCCER - Industrial Maintenance Electrical and Instrumentation (IM E&I) Technician, Level 1

#### Program Information:

Courses:

- Electrical Safety for Qualified Electrical Personnel
- Motor Control and Troubleshooting
- Industrial Automation Principles
- Controller Technology and Programming
- Drive Configuration and Troubleshooting
- NCCER Core and Industrial Maintenance

Program Total: 347 hours

Tuition & Fees: \$2,750

**For more information, please contact:**

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Industrial Systems Training Program

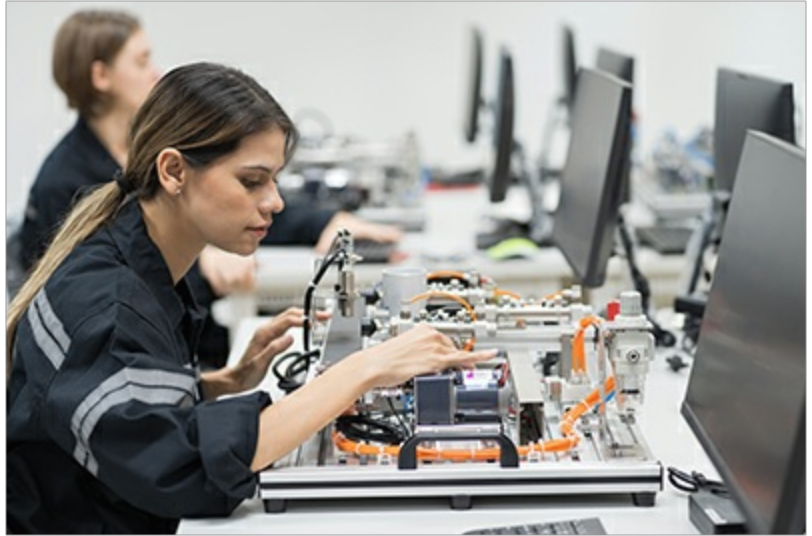


## 2023-2024 Catalog & Student Handbook

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 288 Hours
- CLASS SIZE: 8-12

Manufacturing is a diverse and rewarding high-growth career in all industry segments and sectors in nearly every community in Texas. It is the backbone of our state's economy, driving solutions and innovations while improving the quality of our lives.

Industrial systems is an emerging field that integrates electrical and mechanical engineering, advanced manufacturing, and computer technology. This is a 12-week course of accelerated training for in-demand industry certifications.



### **Electrical Systems (48 hours)**

Prepares individuals to connect, adjust, operate, troubleshoot, and analyze electrical circuits using basic electrical components such as resistors, capacitors, inductors, DC motors, solenoids, manual switches, relays, fuses, circuit breakers, transformers, and indicators. Other key skills include adhering to electrical safety rules, reading electrical circuit diagrams, applying Ohm's Law and Kirchhoff's Law, using digital multimeters, interpreting series/parallel circuits, and assessing power/circuit protection.

### **Electric Motor Control Systems (40 hours)**

Prepares individuals to connect, adjust and operate electrical motor control circuits using these electrical components: 3-phase AC motors, reversing magnetic motor starters with overloads, drum switches, control relays, timer relays, push-button switches, selector switches, limit switches, pressure switches, and float switches. Other key skills include adhering to motor control safety rules, reading ladder logic circuit diagrams, checking for proper ground connections, wiring motors for high and low voltage, and interpreting common motor control application circuits.

### **Variable Frequency Drive Systems (32 hours)**

Prepares individuals to connect, configure, adjust, and operate AC variable frequency motor drives using basic volts per hertz mode. Key skills include adhering to VFD safety rules, operating VFD in manual using keypad, performing normal VFD startup and shutdown, performing emergency shutdown, viewing and editing parameters, changing speed with potentiometer, interfacing/configuring external discrete I/O, interpreting error codes, resetting drive errors, and configuring for acceleration, deceleration and braking.

### **Electrical System Installation (40 hours)**

Prepares individuals to install and test/commission electrical motor control circuits using these electrical components: control cabinet enclosures, 3-phase AC motors, reversing magnetic motor starters with overloads, control relays, timer relays, push-button switches, selector switches, limit switches, pressure switches, indicators, electro-pneumatic solenoid valves, safety disconnect switches, and circuit protection. Key skills include adhering to motor control installation safety rules, using proper PPE, reading electrical wiring installation diagrams, sizing circuit protection, installing components on DIN rails and cabinet panels, installing and testing ground systems, wiring motors for high and low voltage, selecting and preparing wire for installation, attaching of wire to terminal strips and components/motors, and routing of wire with raceways/conduits.

### **Programmable Controller Systems (40 hours)**

Prepares individuals to program, configuration, adjust, monitor, and operate industrial programmable logic controller (PLC) systems. Key skills include adhering to PLC safety rules, performing normal startup/shutdown, operating PLC in different modes, performing emergency shutdown and reset, monitoring for proper operation through indicators and PC-based PLC software, configuring processor software drivers for communication to PC, configuring and loading of HMI programs, operating HMI with PLC, configuring PLC discrete I/O, transferring programs between PC and PLC processor, interpreting basic and intermediate level PLC ladder logic programs (with contacts, coils, timers, counters, math, comparison instructions), PLC project creation/editing, and interpreting common PLC program logic applications using electro-pneumatic actuators and on/off motor control systems.



## 2023-2024 Catalog & Student Handbook

### **Pneumatic Systems** (40 hours)

Prepares individuals to connect, adjust, operate and analyze pneumatic circuits using these components: quick-connect fittings, tee and cross fittings, air compressors, filters, regulators, lubricators, gauges, rotameters, directional control valves, flow control valves, check valves, cylinders, and motors. Other key skills include adhering to pneumatic safety rules, reading pneumatic circuit symbols and diagrams, applying the Force-Pressure-Area formula, converting absolute/gauge pressure units, performing reciprocating compressor startup/shutdown, applying Pascal's Law, setting pressure switch, filter draining, setting lubricator rate, lubricator refilling, and measuring delta P.

### **Mechanical Power Systems** (48 hours)

Prepares individuals to install, adjust, align, tension, operate and analyze basic mechanical power transmission drive systems using these components: motors, shafts, flexible jaw couplings, fractional horsepower (FHP) chain drives, FHP V-belt drives, spur gear drives, pillow block bearings and flange bearings. Other key skills include adhering to mechanical drive safety rules, mounting and leveling motors, testing and correcting for soft foot, installing components and shafts with keyways, sizing keys, aligning shafts using feeler gauge and straight-edge method, calculating speed and torque from component size ratios, interpreting rotary power specifications, determining mechanical efficiency, greasing bearings using a grease gun, refilling oil lubrication reservoirs, interpreting lubrication specifications, and identifying component given a model number.

Campus Location(s): All

Cost: \$4,500

Credentials: C201 Electrical Systems, C202 Electric Motor Control Systems, C203 Variable Frequency Drive Systems, C206 Electrical System Installation, C207 Programmable Controller Systems, C209 Pneumatic Systems, C210 Mechanical Power Systems and TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### **Injection Mold Setting and Processing**

- CLASS DELIVERY: Online
- CLASS DURATION: 145 (18 weeks)
- CLASS SIZE: 10 - 30

#### **Course Description**

An introduction to mold setting and processing. Courses begin with Blueprint Reading and Math, move into Molds for Plastics, Mold Repair with basic welding, and conclude with 10 hours total of CAD and CAM instruction.

Teamwork, critical thinking and problem solving are emphasized. Hands-on experience and practical applications are achieved through on-the-job training via registered apprenticeship.

Campus Location(s): East Williamson County

Credentials: TSTC Certificate of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



### IPC J-STD-001 Soldering Certification

- CLASS DELIVERY: In Person
- CLASS DURATION: 40 Hours
- CLASS SIZE: 8-10

This course provides information on the standards for producing high-quality soldered leaded and lead-free interconnections, and describes the materials, methods and verification criteria for them. It emphasizes process control and establishes industry consensus requirements for a broad range of electronic connections. There are hands-on exercises for component placement and soldering connectivity. Upon completion of the course, the participants will be able to identify component connectivity, component requirements and soldering methods required to successfully assemble a project, and qualify to test for the IPC J-STD-001 certification.



Modules included in the course:

- Wires and Terminals
- PCB, Coating, Encapsulation and Staking
- Through-Hole Connectivity
- Surface Mount Connectivity
- Inspection

Campus Location(s): All

Credentials: IPC J-STD-001 Certification, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Laser Shaft Alignment

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 16 Hours
- CLASS SIZE: 8-12

Prepares individuals to install, configure, adjust and operate laser shaft alignment systems to perform precision alignment of mechanical power transmission shafts. Other key skills include: adhering to laser system safety rules, using jack bolts for rough alignments, using laser system to correct for soft foot, and determining proper alignment tolerances from manufacturer's documentation.

Modules included in the course:

- Introduction to Laser Shaft Alignment
- Laser Shaft Alignment Operation

Campus Location(s): All





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Credentials: TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

## Leadership Course Offerings

*(through contracted third-party partners)*

### Active Listening Skills

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8 Hours
- CLASS SIZE: 8-12

Training session will focus specifically on identifying and understanding the fundamental communication process and requirements to be effective. Emphasis will be placed on developing strong skills, identifying appropriate communication channels, emphasizing the power of listening and understanding the importance of both efficient and effective communication.

Elements in this course include:

- To understand the building blocks of good communication.
- To be able to make use of nonverbal factors to reinforce the intent of your message.
- To understand how to effectively present ideas (designing clear, concise messages.)
- Learning the importance of listening to communicate.
- To be able to identify and overcome barriers to good communication.
- To understand and effectively communicate within a team.



### Conflict Resolution

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 4 Hours
- CLASS SIZE: 8-12

Training session explores the way supervisors and employees can work together to resolve conflict in the workplace. Practical steps and techniques, such as negotiation, will be included to help facilitate conflict resolution and ways to improve work relationships. Training will include awareness that conflict and difficult situations are a natural part of our lives both in personal and work environments. The focus will be on resolution and an understanding that the goal is finding a peaceful solution.

Elements in this course include:

- Practical ways to produce a solution that all those involved can agree to.
- To address the issue while maintaining sensitivity to the relationship.
- To understand the importance of finding peaceful and workable solutions.
- To develop a model to follow when dealing with difficult situations.
- To explore and develop practical negotiation skills that seek a positive outcome.

### Customer Service Skills

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- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 16 Hours
- CLASS SIZE: 8-12

Training session will focus specifically on teaching employees the skills and competencies needed to effectively work in the customer service environment. Key to this environment are the areas of communication, listening, interacting with customers and creating a strong service focus. Emphasis will be placed on developing a solid foundation of customer understanding (needs) and how to communicate effectively with customers.

Elements in this course include:

- Trust & rapport building (relationship building.)
- Active listening skills.
- Managing customer expectations.
- Creating customer loyalty.
- Communication etiquette (verbal, telephone and written.)
- Understand and effectively work within a customer service environment.

### **Fundamentals of Management Workshop**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8-16 Hours
- CLASS SIZE: 8-12

This seminar provides the framework for organizations to build strength among managers at all levels. Participants learn in what way their management style influences how they manage time, make decisions, approach problems, and what they need to do to adapt to the styles of others to bring out the best in each and every employee. Participants receive the tools they need to coach and develop competent, motivated employees by gaining a deeper understanding of individual strengths and challenges.

Elements in this course include:

- Learn one's personal management style based on this proven model.
- Know priorities, strengths and challenges as it relates to management and the DiSC Model.
- Understand how to direct and delegate by style.
- Create a motivating environment that engages employees.
- Have strategies to adapt communications and address conflict.
- Help individuals work better with their own manager.

### **Attributes of a Successful Supervisor**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 4-8 Hours
- CLASS SIZE: 8-12

Supervisors can empower and energize their teams or they can create frustration, confusion, or even paralysis. This seminar provides a way to understand the impact that their behavior has on others, and they discover how others may respond to their style. Participants will learn four different approaches to supervision, discover their unique strengths and challenges and understand how they can be overused. Becoming a new supervisor means added responsibilities, different challenges and unique rewards.

Elements in this course include:

- Understand the supervisor mindset.
- Know the ANT philosophy versus the ENT philosophy of managing and which is better.
- Develop leadership expectations and attitudes.
- Fundamental duties including problem solving, decision making, motivating, delegating, championing change can be incorporated.

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- Learn how to communicate effectively with team members and employees.

### **Communicate with Style**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8 Hours
- CLASS SIZE: 8-12

This seminar provides an engaging framework for learners to reach further across their organizations and improve effectiveness. This session will create a personalized learning experience to help participants understand and appreciate the different priorities, preferences, and values each individual brings to the workplace, and how they can learn to adapt to the style of others. This session delivers a comprehensive, workplace development solution to engage every employee—regardless of title or position, department or function—in building more productive and effective relationships at work.

Elements in this course include:

- Learn about the DiSC model and 4 Quadrants of behavior.
- Understand DiSC in the workplace.
- Know energizers and drainers.
- Recognize strengths and challenges of each communication style.
- Learn how to read the style of other team members.
- Adapt communication style as needed.

### **Conflict Resolution for Manager and Supervisors**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 4-8 Hours
- CLASS SIZE: 8-12

Provides a straightforward approach that helps participants develop the understanding and self-awareness necessary to resolve interpersonal conflict. In addition to learning how to work through conflict on an individual basis, a strong foundation for resolving issues within an entire team is offered. This builds important skills that are necessary for effective communication and teamwork by providing the keys to maintaining a well-balanced workplace by helping individuals understand their behavior in conflict and providing the problem solving skills needed to manage adversity within the team.

Elements in this course include:

- Explore different approaches to conflict.
- Understand how our natural styles influence those approaches.
- Discover the importance of finding common goals in conflict situations.
- Learn to share all perspectives in conflict situations.
- Explore ways to improve ability to generate solutions.
- Discover the benefits of a balanced approach.
- Make better decisions that satisfy the needs of all involved.
- Develop new strategies for working through conflict.

### **Time Management Skills for Enhanced Effectiveness**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 4-8 Hours
- CLASS SIZE: 8-12

Participants will gain an understanding of the relationship of goals, planning, analyzing, and prioritizing for time management and identify their personal time wasters. Strategies and tools for improving time management and scheduling are discussed. This training helps people assess their time-management effectiveness and create a personal plan for improving skills in key areas.

Elements in this course include:

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- Understand the importance of goals, planning and prioritizing.
- Identify common time wasters.
- Utilize strategies for improving time management.
- Recognize over commitment and how to avoid it.
- Learn to leverage production time.
- Review a proven time management matrix.
- Ability to focus on the Key Result Areas (KRA's.)

### **Improving Listening Skills**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 4-8 Hours
- CLASS SIZE: 8-12

Participants recognize the importance of developing good listening skills by reflecting on their past listening experiences. The five different approaches to listening and the specific characteristics of each approach are discussed. Participants will identify their most natural listening approach, explore their strengths and challenges as listeners and practice modifying their listening approaches to meet the situation. Attendees will create action plans to improve their ability to communicate effectively using the different approaches.

Elements in this course include:

- Know the value of listening in the workplace.
- Understand the difference between hearing and listening.
- Understand listening filters.
- Learn five different listening approaches.
- Learn when to adapt your listening approach.
- Find strategies for improving skills.

### **Building A Collaborative Team**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 4-8 Hours
- CLASS SIZE: 8-12

A high-functioning team makes real progress and everyone is glad to be on the team. This workshop provides the key to building and maintaining peak performing teams by helping individuals identify their strengths and challenges. We will explore how team members can work together more productively by tapping their strengths to contribute to the overall success of the team. Participants will learn the five different roles within teams and the diversity of inherent talents each role brings to the team. They will develop teamwork strategies to help create, advance, refine and implement new ideas or projects. Participants will discover effective ways to balance, integrate and capitalize on different strengths of each member.

Elements in this course include:

- Know the strengths of team members.
- Uncover hidden talents.
- Understand how tasks impacts co-workers and team.
- Match individual strengths with team roles.
- Learn strategies for collaboration and open dialogue.
- Use the Z process for projects and innovation.

### **Decision Making**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 4-8 Hours
- CLASS SIZE: 8-12

Decision making is a skill and to become better at it requires knowing how to make a decision and practice over time to build confidence. Good and quick decisions require research and not focusing too much on a specific portion of the problem

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or issue. Business difficulties can be addressed by exploring the different approaches to making decisions, understanding traps people fall into when making decisions, and learning to use a defined process for better decision making. Participants will understand: how personal filters and perception can affect their decision making process, different methods for decision making, how to stop a bad decision before it goes terribly wrong, how to sell and own their decisions, and the importance of planning and execution.

Elements in this course include:

- Understand the impact of minor and major decisions.
- Awareness of selective perception and filters.
- Learn a four step process to better decision making at all levels.
- Know the role intuition and risk tolerance play in decisions.
- Gaining alignment for the decision.
- Know how to manage and implement decisions for successful execution.

### **Reducing Workplace Conflict**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8 Hours
- CLASS SIZE: 8-12

This seminar provides a straightforward approach that helps participants develop the understanding and self-awareness necessary to resolve interpersonal conflict. In addition to learning how to work through conflict on an individual basis, a strong foundation for resolving issues within an entire team are reviewed. This builds the keys to maintaining a well-balanced workplace by helping individuals understand their behavior in conflict and providing the problem solving skills needed to manage adversity within the team.

Elements in this course include:

- Understand the four approaches to conflict.
- Discover the importance of finding conflict resolution goals.
- Stages of conflict and reactions to intense stress.
- Explore ways to generate effective solutions.
- Develop strategies for a balanced approach to working through conflict.

### **Problem Solving**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8 Hours
- CLASS SIZE: 8-12

Participants learn proven techniques for generating new ideas and increasing their capacity for creativity and innovation. This workshop provides a blueprint for establishing an environment of problem solving and generating new ideas. Participants engage in an interactive, hands-on process where they discover new ways of breaking through mental barriers and overcoming roadblocks to improve performance and unleash creative potential.

Elements in this course include:

- Understand common approaches to solving problems.
- Get employees in the habit of isolating the problem and looking for the cause.
- Avoidance of treating simply the symptoms.
- Give employees a process for problem solving leading to better decisions.
- Use the art of questioning to identify alternate solutions.
- Watching the role our own motivations plays in implementing a solution.
- Utilize team strengths to solve problems.

Campus Location(s): All

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Credentials: TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### LEAN 101

- CLASS DELIVERY: In person
- CLASS DURATION: 8 hours
- CLASS SIZE: 8-12

#### Course description

Designed for an understanding of the eight ways of manufacturing, employees will learn lessons in identifying value-added and non-value-added activities. The concepts learned will be used in an engaging factory simulation geared to the manufacturing floor employees.

Campus Location(s): All Locations

Credentials: Certificate of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



### LEAN for Leaders

- CLASS DELIVERY: In person
- CLASS DURATION: 8 hours
- CLASS SIZE: 8-12

#### Course description

Designed for an understanding of the major LEAN concepts, managers will learn lessons in identifying value-added and non-value-added activities, LEAN concepts and tools used in a LEAN transformation. The concepts learned will be used in an engaging simulation geared to managerial staff.

Campus Location(s): All Locations

Credentials: Certificate of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



### Mechanical Power Systems

## 2023-2024 Catalog & Student Handbook

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 48 Hours
- CLASS SIZE: 8-12

Prepares individuals to install, adjust, align, tension, operate, and analyze basic mechanical power transmission drive systems using these components: motors, shafts, flexible jaw couplings, fractional horsepower (FHP) chain drives, FHP v-belt drives, spur gear drives, pillow block bearings, and flange bearings. Other key skills include: adhering to mechanical drive safety rules, mounting and leveling motors, testing and correcting for soft foot, installing components and shafts with keyways, sizing keys, aligning shafts using feeler gage and straight edge method, calculating speed and torque from component size ratios, interpreting rotary power specifications, determining mechanical efficiency, greasing bearings using a grease gun, refilling oil lubrication reservoirs, interpreting lubrication specifications, and identifying component given a model number. This course supports the SACA Micro-Credential C-210.



Modules included in the course:

- Introduction to Mechanical Drive Systems
- Motor Mounting
- Key Fasteners
- Torque, Power, Efficiency
- Power Transmission Systems
- Introduction to V-belt Drives
- V-belt Operation
- Introduction to Chain Drives
- Chain Drive Operation
- Chain Tensioning and Installation
- Introduction to Spur Gear Drives
- Spur Gear Drive Operation
- Multiple Shaft Drives

Campus Location(s): All

Credentials: SACA Micro-Credential C-210 Mechanical Power Systems 1, TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Microsoft Office Course Offerings

*(through contracted third-party partners)*



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### Word - Basic

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8 Hours
- CLASS SIZE: 8-12

This is an introductory level course designed to familiarize trainees on the use and application of Microsoft Word software. An assessment of each trainee's knowledge and skill level will be taken on the first day of class as well as at the end of the class. Results will be reported back to the sponsor company.

Elements in this course include:

- Use the Help system and navigate documents.
- Enter and edit text, create and save documents, and learn how to enhance the appearance of a document by using various formatting options.
- Create tables, insert headers and footers, proof and print documents, and insert graphics.
- Insert graphics and clip art, move graphics, wrap text around graphics, and modify graphics.
- Examine and compare text formatting, work with character styles, and work with a document outline.
- Proof a document by checking spelling and grammar, use AutoCorrect, preview and print documents, create PDF and XPS documents, and edit PDF documents in Word.



### Word - Intermediate

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8-16 Hours
- CLASS SIZE: 8-12

This is an intermediate to advanced level course designed to build on the skills and concepts taught in Microsoft Word - Basic. An assessment of each trainee's knowledge and skill level will be taken on the first day of training as well as at the end of class. Results will be reported back to the sponsor company.

Elements in this course include:

- Use the elements of the Word window, create and save documents, and navigate a document and select text by using the keyboard and the mouse.
- Insert and delete text; create hyperlinks; use the Undo and Redo commands; cut, copy, and paste text; and find and replace text.
- Use document templates, manage document revisions, and work with Web features.
- Create tables, work with text in a table, adjust a table's structure, apply table formatting and styles, and work with data in a table.
- Add headers and footers, set and change document margins, change page orientation, set text flow options, and add and delete manual page breaks.
- Work with styles, sections and columns and will use the Navigation pane to work with outlines.
- Examine and compare text formatting, work with character styles, and work with a document outline.
- Format tables, print labels and envelopes, and work with graphics.

### Excel - Basic

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8 Hours
- CLASS SIZE: 8-12

This is an introductory level course designed to familiarize trainees on the use and application of Microsoft Excel software. An assessment of each trainee's knowledge and skill level will be taken on the first day of class as well as at the end of the class. Results will be reported back to the sponsor company.



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Elements in this course include:

- Use the Help system and navigate worksheets and workbooks.
- Recognize spreadsheet terminology.
- Start Microsoft Excel and identify the components of the Excel interface.
- Enter and edit text, values, formulas and pictures.
- Understand how to save workbooks in various formats.
- Move and copy data, learn about absolute and relative references, and work with ranges, rows, and columns.
- Use simple functions, basic formatting techniques, and printing.
- Create and modify charts and learn how to manage large workbooks.
- Check spelling, find and replace text and data, preview and print a worksheet, set page orientation and margins, create and format headers and footers, and print gridlines.

### **Excel - Intermediate**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8-16 Hours
- CLASS SIZE: 8-12

This course builds on the skills and concepts taught in Microsoft Excel – Basic. An assessment of each trainee’s knowledge and skill level will be taken on the first day of class as well as at the end of the class. Results will be reported back to the sponsor company.

Elements in this course include:

- Enter and edit text and values; use AutoFill; enter formulas and examine the order of operations; save and update a workbook; and save a workbook in different file formats.
- Move and copy data; use the Office Clipboard; move and copy formulas; use AutoFill to copy formulas; use Paste Link; view formulas; work with relative and absolute references; and insert and delete ranges, rows, and columns.
- Use the SUM function, AutoSum, and the AVERAGE, MIN, MAX, COUNT, and COUNTA functions to perform calculations in a worksheet.
- Format text, cells, rows, and columns; merge cells; apply color and borders; format numbers; create conditional formats; and use the Format Painter.
- Create, format, modify, and print charts based on worksheet data; work with various chart elements; and apply chart types and chart styles.
- Create, format and modify pivot tables.
- Insert and modify a picture; represent data graphically within cells by applying three forms of conditional formatting (data bars, color scales, and icon sets); and insert and modify SmartArt graphics.
- Check spelling; find and replace text and data; preview and print a worksheet; set page orientation and margins; create and format headers and footers; and print gridlines.

### **Powerpoint - Basic**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8 Hours
- CLASS SIZE: 8-12

This introductory course covers the basic functions of Microsoft PowerPoint software including the window components and the Help system. An assessment of each trainee’s knowledge and skill level will be taken on the first day of class as well as at the end of the class. Results will be reported back to the sponsor company.

Elements in this course include:

- Create, save, and rearrange presentations,
- Format text, use drawing objects, work with graphics, and insert tables and charts,
- Use templates and themes, slide masters, and transition effects,
- Proof, run, and print presentations.

### **Powerpoint - Intermediate**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8-16 Hours

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### ● CLASS SIZE: 8-12

This course builds on the skills and concepts taught in PowerPoint - Basic. An assessment of each trainee's knowledge and skill level will be taken on the first day of class as well as at the end of the class. Results will be reported back to the sponsor company.

Elements in this course include:

- Customize PowerPoint by modifying the Ribbon and changing application settings.
- Apply themes and templates, and they will work with SmartArt graphics and tables.
- Add multimedia content and interactive elements to slides, and they will learn about presentation distribution options including PDF, HTML, and online broadcasts.
- Integrate PowerPoint with Word and Excel.

Campus Location(s): All

Credentials: TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### **NCCER Carpentry Level 1 - Craft Training**

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 162.5 Hours
- CLASS SIZE: 8-12

Carpenters make up the largest building trades occupation in the industry, and those with all-around skills are in high demand. Carpenters are involved in many different kinds of construction activities, from building highways and bridges to installing kitchen cabinets. Carpenters construct, erect, install, and repair structures and fixtures made from wood and other materials.

Modules included in the course:

- Orientation to the Trade
- Building Materials, Fasteners, and Adhesives
- Hand and Power Tools
- Introduction to Construction Drawings, Specifications, and Layout
- Floor Systems
- Wall Systems
- Ceiling and Roof Framing
- Introduction to Building Envelope Systems
- Basic Stair Layout



Campus Location(s): All

Credentials: NCCER Carpentry Level I Craft Certification, TSTC Certification of Completion

For more information, please contact:

### NCCER Core

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 80 Hours
- CLASS SIZE: 8-12

NCCER Core is designed as a rigorous, competency-based, industry-recognized program for career and technical education. Students may complete the required elements sooner or later than the recommended 150 hours of knowledge and skills-based instruction, depending on their individual proficiency in mastering the content.

NCCER Core is a prerequisite to all other Level 1 craft curriculum. Its modules cover topics such as Basic Safety, Communication Skills and Introduction to Construction Drawings. The recently released sixth edition of Core features a new, elective module introducing construction careers, more rigorous performance tests and extensive updates on math, hand tools, power tools and drawings. Completing this curriculum gives the trainee the basic skills needed to continue their education in any craft area he or she chooses.



Modules included in the course:

- Basic Safety
- Introduction to Construction Math
- Introduction to Hand Tools
- Introduction to Power Tools
- Introduction to Construction Drawings
- Introduction to Basic Rigging
- Basic Communication Skills
- Basic Employability Skills
- Introduction to Material Handling

Campus Location(s): All

Credentials: NCCER Core Certification, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### NCCER Industrial Maintenance Electrical & Instrumental Level 1 - Craft Training

## 2023-2024 Catalog & Student Handbook

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 122.5 Hours
- CLASS SIZE: 8-12

Industrial maintenance electrical and instrumentation (IM E&I) technicians are needed in every industry that uses machinery, from automotive assembly plants to computer manufacturers. Not only do they repair and maintain electrical instruments and equipment, they also install and dismantle them. Every time a new appliance leaves a factory or a new car rolls off the line, a skilled electrical and instrumentation technician plays a role in producing it.



Modules included in the course:

- Orientation to the Trade
- Tools of the Trade
- Fasteners and Anchors
- Oxy-fuel Cutting
- Gaskets and Packing
- Craft Related Mathematics
- Construction Drawings
- Pumps and Drivers
- Valves
- Introduction to Test Instruments
- Material Handling and Hand Rigging
- Mobile and Support Equipment
- Lubrication

Campus Location(s): All

Credentials: NCCER Industrial Maintenance Electrical & Instrumentation Level I Craft Certification, TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### NCCER Maritime Welding Level 1 Program

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 275 Hours
- CLASS SIZE: 8-12

The National Center for Construction Education & Research (NCCER) Maritime Welding Level 1 curriculum is a 275 instruction-hour program that is the first course in a series of three courses that comprise the NCCER Maritime Welding curriculum. It is a basic introduction to the welding trade made up of 21 modules consisting of specific learning objectives and performance tasks and includes a nine-module core curriculum that is a prerequisite for all NCCER craft training. Completing this curriculum gives the trainee the basic entry-level skills needed for employment and to continue their education in the welding trade with an introduction to the maritime



industry.

Modules included in the course:

- Basic Site Safety
- Introduction to Construction Math
- Introduction to Hand Tools
- Introduction to Power Tools
- Introduction to Construction Drawings
- Introduction to Basic Rigging
- Basic Communication Skills
- Basic Employability Skills
- Introduction to Material Handling
- Introduction to Maritime Industry
- NCCER Welding Level 1 Curriculum
- Welding Safety
- Oxy-Fuel Cutting
- Plasma Arc Cutting
- Air-Carbon Arc Cutting and Gouging
- Base Metal Preparation
- Weld Quality
- SMAW – Equipment and Setup
- SMAW Electrodes
- SMAW – Beads and Fillet Welds
- Joint Fit-Up and Alignment
- SMAW – Groove Welds with Backing
- SMAW – Open-Root Groove Welds – Plate

Campus Location(s): Harlingen

Credentials: NCCER Maritime Industry Fundamentals Certification, NCCER Maritime Welding Level I Craft Certification, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### **NCCER Welding Level 1 Program**



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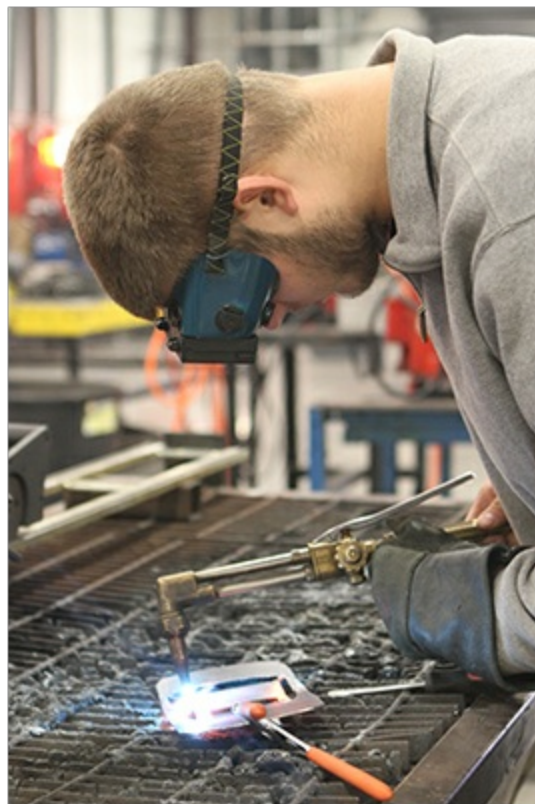
- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 287.5 Hours
- CLASS SIZE: 8-12

### Course Description:

Welding is a high-tech industry that can take you places all over the world. From ladders to aircraft carriers, from NASCAR to national defense, and from the laboratory to sales and repair, the varied welding industry impacts virtually every industry. Technology is creating more uses for welding in the workplace. For example, new ways are being developed to bond dissimilar materials and non-metallic materials, such as plastics, composites, and alloys. Also, advances in laser beam and electron beam welding, new fluxes, and other new technologies and techniques all point to an increasing need for highly trained and skilled workers.

### Modules included in the course:

- Welding Safety
- Oxyfuel Cutting
- Plasma Arc Cutting
- Air-Carbon Arc Cutting and Gouging
- Base Metal Preparation
- Weld Quality
- SMAW-Equipment and Setup
- SMAW Electrodes
- SMAW - Beads and Fillet Welds
- Join Fit-Up and Alignment
- SMAW - Groove Welds and Backing
- SMAW - Open Root Groove Welds - Plate



Campus Location(s): All

Credentials: NCCER Welding Level 1 Craft Training, TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### NFPA 70E ARC Flash

## 2023-2024 Catalog & Student Handbook

- CLASS DELIVERY: In Person or Virtual
- CLASS DURATION: 8 Hours
- CLASS SIZE: 6-16

This course provides guidance in order to comply with OSHA and NFPA 70E electrical safety regulations, including arc flash protection.

Modules included in the course:

- Policies and Regulations applicable to electrical safety in the workplace
- General safety hazards and precautions associated with electrical systems
- Electrical tool and equipment safety
- Electrical system Lockout/Tagout requirements
- Requirements for working on energized equipment
- Requirements associated with Arc Flash protection
- Proper use of PPE (Personal Protective Equipment)
- Grounding Control Systems

Campus Location(s): All

Credentials: TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



### OSHA 10 for Construction Industry

- CLASS DELIVERY: In Person
- CLASS DURATION: 10 Hours
- CLASS SIZE: 8-40

The OSHA 10-hour Outreach Training for the Construction Industry course provides students with a basic safety and health knowledge to include OSHA policies, procedures, and standards. Special emphasis is placed on those areas that are most hazardous. Upon completion of this course, a wallet card will be issued certifying that the student has completed 10 hours of OSHA training for Construction Industry.

Modules included in the course:

- Introduction to OSHA
- OSHA Focus Four
- Personal Protective and Lifesaving Equipment
- Health Hazards in Construction
- Stairways and Ladders
- Confined Space Entry
- Cranes, Derricks, Hoist, Elevators, and Conveyors
- Excavations
- Machine Handling Storage and Use
- Scaffolds
- Tools – Hand and Power



Campus Location(s): All

# 2023-2024 Catalog & Student Handbook

Credentials: OSHA 10 Certification, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

## OSHA 10 for General Industry

- CLASS DELIVERY: In Person
- CLASS DURATION: 10 Hours
- CLASS SIZE: 8-40

The OSHA 10-hour Outreach Training for General Industry course provides students with a basic safety and health knowledge to include OSHA policies, procedures, and standards. Special emphasis is placed on those areas that are most hazardous. Upon completion of this course, a wallet card will be issued certifying that the student has completed 10 hours of OSHA training for General Industry.

Modules included in the course:

- Introduction to OSHA
- Walking and Working Surfaces, Including Fall Protection
- Exit Routes, Emergency Action Plans, Fire Prevention Plans, and Fire Protection
- Electrical
- Personal Protective Equipment
- Hazard Communication
- Hazardous Materials
- Material Handling
- Machine Guarding
- Introduction to Industrial Hygiene
- Permit Required Confined Space
- Respiratory Protection



Campus Location(s): All

Credentials: OSHA 10 Certification, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

## OSHA 30 for Construction Industry



## 2023-2024 Catalog & Student Handbook

- CLASS DELIVERY: In Person
- CLASS DURATION: 30 Hours
- CLASS SIZE: 8-40

The OSHA 30-hour Outreach Training for the Construction Industry course provides students with a basic safety and health knowledge to include OSHA policies, procedures and standards. Special emphasis is placed on those areas that are most hazardous. Upon completion of this course, a wallet card will be issued certifying that the student has completed 30 hours of OSHA training for Construction Industry.



Modules included in the course:

- Introduction to OSHA
- Managing Safety and Health
- OSHA Focus Four
- Personal Protective and Lifesaving Equipment
- Health Hazards in Construction
- Stairways and Ladders
- Confined Space Entry
- Cranes, Derricks, Hoist, Elevators and Conveyors
- Excavations
- Fire Protection
- Material Handling Storage and Use
- Motor Vehicles and Mechanized Equipment
- Powered Industrial Vehicles
- Scaffolds
- Tools – Hand and Power
- Welding and Cutting
- Safety and Health Programs
- Foundations for Safety Leadership

Campus Location(s): All

Credentials: OSHA 30 Certification, TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### **OSHA 30 for General Industry**

## 2023-2024 Catalog & Student Handbook

- CLASS DELIVERY: In Person
- CLASS DURATION: 30 Hours
- CLASS SIZE: 8-40

The OSHA 30-hour Outreach Training for General Industry course provides students with a basic safety and health knowledge to include OSHA policies, procedures, and standards. Special emphasis is placed on those areas that are most hazardous. Upon completion of this course, a wallet card will be issued certifying that the student has completed 30 hours of OSHA training for General Industry.

Modules included in the course:

- Introduction to OSHA
- Managing Safety and Health
- Walking and Working Surfaces, Including Fall Protection
- Exit Routes, Emergency Action Plans, Fire Prevention Plans, and Fire Protection
- Electrical
- Personal Protective Equipment
- Hazard Communication
- Hazardous Materials
- Permit Required Confined Space
- Lockout / Tagout
- Machine Guarding
- Welding, Cutting, and Brazing
- Introduction to Industrial Hygiene
- Bloodborne Pathogens
- Ergonomics
- Fall Protection
- Safety and Health Programs
- Powered Industrial Vehicles



Campus Location(s): All

Credentials: OSHA 30 Certification, TSTC Certification of Completion

For more information, please contact:  
[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Patient Care Technician

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- CLASS DELIVERY: In Person and Online
- CLASS DURATION: 155
- CLASS SIZE: 15-20

### Course Description

Patient Care Technicians are involved with a variety of tasks including primary patient care, conducting blood draws, catheterizations, wound care, and the removal of sutures and staples. They can also administer electrocardiography (ECGs), take vital signs, perform emergency room procedures, and operate dialysis equipment. The PCT program is ideal for those who have a passion for working with patients, nurses, doctors and patients' families.

Campus Location(s): Abilene, Breckenridge, Brownwood, Harlingen and Sweetwater



Credentials: Certified Patient Care Technician/Assistant (CPCT/A), TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Phlebotomy Technician

- CLASS DELIVERY: In Person
- CLASS DURATION: 86 Hours
- CLASS SIZE: 10-16

The Phlebotomy course prepares the student in the various blood collection methods, using proper techniques and universal precautions. Recommended by NCCLS, students will be trained on vacuum collection devices, syringes, capillary skin puncture blood-culture, and specimen collection. Students will learn medical terminology, related anatomy, physiology, and utilization of laboratory equipment. High emphasis is placed on professionalism, ethics, proper patient identification, labeling of specimens, quality specimen handling, and processing. Successful completion of the course will prepare students to challenge the ASCP National Registry Exam.



Employment of phlebotomists is projected to grow 25% by 2026, much faster than the average for all occupations. Hospitals, diagnostic laboratories, blood donor centers and other locations will need phlebotomists to perform blood work.

Employment or possible career opportunities:

- Hospitals and clinics
- Diagnostic laboratories
- Blood donor centers
- Health maintenance organizations
- Public health agencies
- Nursing homes
- Research institutions

Campus Location(s): Abilene, Breckenridge, Brownwood, Harlingen and Sweetwater

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Credentials: First Aid/CPR, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

## Plumber Continuing Education

- CLASS DELIVERY: In Person
- CLASS DURATION: 6 Hours
- CLASS SIZE: 10-15

This course includes the six hours of continuing education required by the Texas State Board of Plumbing Examiners (TSBPE) to renew plumbing licenses in Texas (Inspector, Master, Journeyman, Tradesman or Apprentice with endorsements). It may also be used toward the initial licensing requirements for the Journeyman or Tradesman examinations.

Topics may include:

- State of the industry.
- Tankless water heaters.
- Water heaters (IPC Chapter 5).
- Gas piping installation (IFGC Chapter 4).
- Professional ethics.
- Resiliency and building codes.

This course has been approved by the state of Texas for six hours of continuing professional education credit for all plumbing licenses.

Campus Location(s): All

Credentials: TSBPE Continuing Education Unit, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

## Pneumatic Systems





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- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 40 Hours
- CLASS SIZE: 8-12

Prepares individuals to connect, adjust, operate, and analyze pneumatic circuits using these components: quick connect fittings, tee and cross fittings, air compressors, filters, regulators, lubricators, gauges, rotameters, directional control valves, flow control valves, check valves, cylinders, and motors. Other key skills include: adhering to pneumatic safety rules, reading pneumatic circuit symbols and diagrams, applying the Force-Pressure-Area formula, converting absolute/gauge pressure units, performing reciprocating compressor startup/shutdown, applying Pascal's Law, setting pressure switch, filter draining, setting lubricator rate, lubricator refilling, and measuring delta P. This course supports the SACA Micro-Credential C-209.



Modules included in the course:

- Pneumatic power systems
- Basic Pneumatic circuits
- Principles of Pneumatic Pressure and Flow
- Pneumatic Speed Control Circuits
- Pneumatic DCV Applications
- Air Logic
- Pneumatic Maintenance

Campus Location(s): All

Credentials: SACA Micro-Credential C-209 Pneumatic Systems 1, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Professional Bus Driver Training

- CLASS DELIVERY: In Person
- CLASS DURATION: 120 Hours
- CLASS SIZE: 24

This course prepares students to take their written permit exam in order to receive a Class B CDL with Endorsements, including:

- Passenger
- School Bus

Students must pass the written CDL Permit with the Texas Department of Motor Vehicles. Students will not be permitted to drive on public roads until a CDL permit has been obtained. The Harlingen location is a third-party examining site.



Training covers topics in basic operations, safe operating practices, vehicle maintenance, and other activities such as

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railroad crossings, speed and space management, documentation regulations, accident procedures, and extreme conditions.

Requirements for admission to TSTC and the Commercial Bus Driver program are:

- Must be at least 18 years of age. The U.S. Department of Transportation requires that all interstate drivers be at least 21 years of age.
- Must provide a driving record free of current serious violations.
- Must be able to pass a Department of Transportation physical as required by federal & state agencies.
- Must be able to pass a drug screen when administered.
- No felony convictions in the past five years. All criminal records are subject to review and may be required to provide a letter of intent to hire from a prospective employer.

Campus Location(s): Harlingen

Credentials: Class B Commercial Driver's License with Passenger Endorsement and/or School Bus Endorsement, TSTC Certification of Completion

For more information, please contact:  
[transportationtraining@tstc.edu](mailto:transportationtraining@tstc.edu)

### Programmable Controller Systems (PLC)

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 40 Hours
- CLASS SIZE: 8-12

Prepares individuals to program, configure, adjust, monitor, and operate industrial programmable logic controller (PLC) systems. Key skills include: adhering to PLC safety rules, performing normal startup/shutdown, operating PLC in different modes, performing emergency shutdown and reset, monitoring for proper operation through indicators and PC-based PLC software, configuring processor software drivers for communication to PC, configuring and loading of HMI programs, operating HMI with PLC, configuring PLC discrete I/O, transferring programs between PC and PLC processor, interpreting basic and intermediate level PLC ladder logic programs (with contacts, coils, timers, counters, math, comparison instructions), PLC project creation/editing, and interpreting common PLC program logic applications using electro-pneumatic actuators and on/off motor control systems. This course supports the SACA Micro-Credential C-207.



Modules included in the course:

- Programmable Controller Operation
- PLC Ethernet Communication
- Basic PLC Program Instructions
- PLC Project Elements
- PLC Motor Control
- PLC Timer Instructions
- PLC Event Sequencing 1
- PLC Event Sequencing 2
- PLC Counter Instructions
- HMI Ethernet Operation
- Program Control Instructions
- Math and Data Move Instructions
- Component Troubleshooting

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- Systems Troubleshooting

Campus Location(s): All

Credentials: SACA Micro-Credential C-207 Programmable Controller Systems 1, TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Safety Course Offerings

*(through contracted third-party partners)*

#### General Plant Safety

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 4 Hours
- CLASS SIZE: 8-12

This course is designed to provide an overview of general responsibilities concerning safe work practices as they apply to the safety and health of employees during the performance of his or her job. It will include the latest updates to the Hazard Communication standard with the changes to chemicals.

Elements in this course include:

- Develop an awareness of hazards in the workplace and understand the importance of working safely.
- Ability to describe chemical safety such as hazard communications, chemical handling and lab safety.
- Demonstrate the use of personal protective gear.
- Awareness of blood borne pathogens, slips, trips, falls, ergonomics and back safety as a part of Worker Protection.
- General understanding of workplace safety including fire safety, machine guarding and confined space.
- Knowledge in HAZMAT topics such as Hazardous Materials, Drum Handling and Small Spills and Leaks.
- Understanding of Lockout/Tagout procedures and Electrical Safety.



#### Fall Protection Awareness

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8 Hours
- CLASS SIZE: 8-12

This course covers the basic principles of fall protection required by OSHA 1926.503. The course fulfills basic requirements for those employees who may be exposed to hazards involving falls.

Elements in this course include:

- Employee/Employer responsibilities.
- Hazard Identification and Analysis.
- Fall Protection Hierarchy.
- Equipment identification and use.
- Proper inspection and maintenance procedures.
- Post-fall issues: rescue, victim management, emergency services involvement.
- Regulatory issues.

## **Confined Space**

- CLASS DELIVERY: In Person
- CLASS DURATION: 16 Hours
- CLASS SIZE: 8-12

## **Course Description**

Many workplaces contain spaces that are considered to be “confined” because their configurations hinder the activities of employees who must enter into, work in or exit from. The OSHA 16 Hour Confined Space Entry course provides Confined Space Entry training to any personnel required to enter confined spaces where a permit is required.

## **Learning Objectives**

- Describe permit Confined Space.
- Assess a confined space entry.
- Work in accordance with confined space requirements.
- Safety use of equipment and personal protective equipment.

## **CPR, First Aid and AED**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 8 Hours
- CLASS SIZE: 8-12

First Aid BasicPlus is a combined adult CPR, AED and first aid training program designed specifically for the occupational first aid provider. This course will help employers meet OSHA and other federal and state regulatory requirements for training employees how to respond and care for medical emergencies at work.

Elements in this course include:

- Demonstrate proficiency at opening airways, stopping bleeding and preventing shock.
- Demonstrate ability to provide proper first aid for head injuries, chest and abdominal wounds and burn injuries.
- Demonstrate ability to apply proper bandages, splinting and tourniquets.

## **Elevated Emergency Management**

- CLASS DELIVERY: In Person or Online
- CLASS DURATION: 16 Hours
- CLASS SIZE: 8-12

This course provides the knowledge and skills needed to perform basic first aid, victim stabilization, packaging and evacuation from remote, elevated work locations. Most rural emergency response teams do not have the training or tools to reach a victim that is often over 300' aloft.

Elements in this course include:

- Recognize and manage an emergency in inaccessible locations.
- Prioritize care for life-threatening injuries.
- Recognize and care for traumatic injuries, including burns, external bleeding, electrocution and amputation.
- Identify and care for muscle, bone and joint injuries, including injuries to the head & neck.
- Evacuate victims with a minimal disruption in patient care.

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



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- CLASS DELIVERY: In Person
- CLASS DURATION: 80 Hours
- CLASS SIZE: 8-10

This practical, hands-on course introduces participants to the basic concepts, tools, materials, processes, and skills required to hand solder through-hole and surface mount chip components according to industry standards.

Modules included in the course:

- Introduction
- Safety and ESD
- Materials
- Equipment and tools
- Soldering concept
- Through hole component soldering
- Basic surface mount component soldering
- Cleaning

Campus Location(s): All

Credentials: TSTC Certification of Completion

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)



### Variable Frequency Drive Systems

- CLASS DELIVERY: In Person or Hybrid
- CLASS DURATION: 32 Hours
- CLASS SIZE: 8-12

Prepares individuals to connect, configure, adjust, and operate AC variable frequency motor drives using basic volts per hertz mode. Key skills include: adhering to VFD safety rules, operating VFD in manual using keypad, performing normal VFD startup and shutdown, performing emergency shutdown, viewing and editing parameters, changing speed with potentiometer, interfacing/configuring external discrete I/O, interpreting error codes, resetting drive errors, and configuring for acceleration, deceleration and braking. This course supports the SACA Micro-Credential C-203.



Modules included in the course:

- Introduction to Variable Frequency Drives
- Introduction to Speed Control
- Speed and Torque Control
- Acceleration, Deceleration, and Braking

Campus Location(s): All

Credentials: SACA Micro-Credential C-203 Variable Frequency Drive Systems 1, TSTC Certification of Completion

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For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

### Welding Safety

- CLASS DELIVERY: In Person
- CLASS DURATION: 196
- CLASS SIZE: 8-10

#### Course Description

An introduction to the fundamentals of equipment used in oxy-fuel and arc welding, including welding and cutting safety, basic oxy-fuel welding and cutting, basic arc welding processes, and basic metallurgy. Demonstrate safety procedures associated with oxy-fuel and arc process, perform basic welds using oxy-fuel and arc welding equipment, and identify various metals.

An overview of terminology, safety procedures and equipment set-up. Practice in performing various joints using Flux Arc Welding (FCAW) equipment. Demonstrate equipment safety checks, identify Flux Core Arc Welding (FCAW) equipment parts, and demonstrate the procedures of welding various joints in various positions.



**Campus Location(s):** Harlingen

**Credentials:** TSTC Certification of Completion, OSHA10, Forklift

For more information, please contact:

[workforcetraining@tstc.edu](mailto:workforcetraining@tstc.edu)

## 16. Essential Program Functions

### Aircraft Airframe and Powerplant Technology

**Robert Capps**

[rjcapps@tstc.edu](mailto:rjcapps@tstc.edu)

#### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Flexibility of Closure: The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information, such as words, numbers, pictures, and procedures.
- Number Facility: The ability to add, subtract, multiply, or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.

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- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- Rate Control: The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- Reaction Time: The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
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- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Explosive Strength: The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.
- Extent Flexibility: The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.

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- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Night Vision: The ability to see under low light conditions.
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.

### Aircraft Pilot Training Technology

Angel Newhart

[adnewhart@tstc.edu](mailto:adnewhart@tstc.edu)

### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
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- Speed of Closure: The ability to quickly make sense of, combine and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
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- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
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- Rate Control: The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
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- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot or other body part.
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### Physical Abilities

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### Sensory Abilities

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- Far Vision\*: The ability to see details at a distance.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision\*: The ability to see details at close range (within a few feet of the observer).
- Night Vision: The ability to see under low light conditions.
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- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

\*Near and far vision ability can be achieved with corrective lenses

### Additional Information

Students who wish to enter the APT program must pass an FAA Class II Flight Physical as defined at

[https://www.faa.gov/about/office\\_org/headquarters\\_offices/avs/offices/aam/ame/guide/standards/](https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/standards/).

Students who wish to enter a career as an Airline Transport Pilot must pass an FAA Class I Flight Physical as defined at the same address above.

### Auto Collision & Management Technology

**Clint Campbell**

[cmccampbell@tstc.edu](mailto:cmccampbell@tstc.edu)

### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
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and sentences.

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### Physical Abilities

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- Extent Flexibility: The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
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### Sensory Abilities

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- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.

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- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Automation and Controls Technology

Juan Alferez

[jaalferez@tstc.edu](mailto:jaalferez@tstc.edu)

### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
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### Psychomotor Abilities

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### Physical Abilities

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- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Explosive Strength: The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting) or to throw an object.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs and torso together when the

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whole body is in motion.

- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
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- Near Vision: The ability to see details at close range (within a few feet of the observer).
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- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Automotive Technology

**Rudy Cervantez**

[rcervantez@tstc.edu](mailto:rcervantez@tstc.edu)

### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
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## Psychomotor Abilities

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- **Rate Control:** The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- **Reaction Time:** The ability to quickly respond (with the hand, finger or foot) to a signal (sound, light, picture) when it appears.
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- **Speed of Limb Movement:** The ability to quickly move the arms and legs.
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## Physical Abilities

- **Dynamic Flexibility:** The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- **Dynamic Strength:** The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- **Explosive Strength:** The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.
- **Extent Flexibility:** The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- **Gross Body Equilibrium:** The ability to keep or regain your body balance or stay upright when in an unstable position.
- **Stamina:** The ability to exert yourself physically over long periods of time without getting winded or out of breath.
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## Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.
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- **Sound Localization:** The ability to tell the direction from which a sound originated.
- **Speech Clarity:** The ability to speak clearly so others can understand you.
- **Speech Recognition:** The ability to identify and understand the speech of another person.
- **Visual Color Discrimination:** The ability to match or detect differences between colors, including shades of color and brightness.

## Avionics Technology

**Martin Segraves**

[masegraves@tstc.edu](mailto:masegraves@tstc.edu)

## Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in

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different ways.

- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
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- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.
- Other: Per FAA requirement, the ability to read, write, and understand the English language.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- Rate Control: The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- Reaction Time: The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures.) It includes the speed with which the correct response is started with the hand, foot, or other body part.
- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Extent Flexibility: The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull, or carry objects.

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- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.
- Other: The ability to work in confined spaces that require significant flexibility.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer.)
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Additional Information

Avionics Technicians often climb ladders and work on scaffolds.

### Biology

**Michael Gay**

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### Cognitive Abilities

- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity.)
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)
- Memorization: The ability to remember information, such as words, numbers, pictures, and procedures.
- Number Facility: The ability to add, subtract, multiply, or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Biomedical Equipment Technology

**David Sanchez**

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### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Flexibility of Closure: The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity.)
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, and mathematical operations.)
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information such as words, numbers, pictures, and procedures.
- Number Facility: The ability to add, subtract, multiply, or divide quickly and correctly.

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- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- Rate Control: The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- Reaction Time: The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures.) It includes the speed with which the correct response is started with the hand, foot, or other body part.
- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Extent Flexibility: The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Far Vision: The ability to see details at a distance.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.

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- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer.)
- Night Vision: The ability to see under low light conditions.
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Additional Information

Biomedical Equipment Technicians must be able to communicate with many different people while in stressful situations: patients, nurses, doctors, surgeons, technicians, administration, as well as supervisors and other technical persons.

### Building Construction Technology

**Rick Vargas**

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### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Flexibility of Closure: The ability to identify or detect a known pattern (a figure, object, word or sound) that is hidden in other distracting material.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness or creativity).
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information such as words, numbers, pictures and procedures.
- Number Facility: The ability to add, subtract, multiply or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing that there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate or assemble objects.
- Multi-Limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg

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and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.

- Rate Control: The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- Reaction Time: The ability to quickly respond (with the hand, finger or foot) to a signal (sound, light, picture) when it appears.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot or other body part.
- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands and wrists.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Explosive Strength: The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting) or throw an object.
- Extent Flexibility: The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Far Vision: The ability to see details at a distance.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Hearing Sensitivity: The ability to detect or tell the difference between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Night Vision: The ability to see under low light conditions.
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Business Management Technology

**JoLynn Hightower**

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### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Flexibility of Closure: The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity.)
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information such as words, numbers, pictures, and procedures.

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- Number Facility: The ability to add, subtract, multiply, or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Near Vision: The ability to see details at close range (within a few feet of the observer.)
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

## Chemical Dependency Counseling

**Patricia Bundick**  
[pbundick@tstc.edu](mailto:pbundick@tstc.edu)

### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Memorization: The ability to remember information, such as words, numbers, pictures and procedures.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Physical Abilities

- The ability to stand or sit for extended periods of time.

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## Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.

## Computer Networking & Systems Administration

**Emanuel Palacios**

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## Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Flexibility of Closure: The ability to identify or detect a known pattern (a figure, object, word or sound) that is hidden in other distracting material.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness or creativity).
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information, such as words, numbers, pictures and procedures.
- Number Facility: The ability to add, subtract, multiply or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing that there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

## Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate or assemble objects.
- Multi-Limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.
- Reaction Time: The ability to quickly respond (with the hand, finger or foot) to a signal (sound, light, picture) when it appears.
- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands and wrists.



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## Physical Abilities

- **Dynamic Flexibility:** The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- **Dynamic Strength:** The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- **Explosive Strength:** The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting) or to throw an object.
- **Extent Flexibility:** The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- **Gross Body Equilibrium:** The ability to keep or regain your body balance or stay upright when in an unstable position.
- **Stamina:** The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- **Static Strength:** The ability to exert maximum muscle force to lift, push, pull or carry objects.
- **Trunk Strength:** The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

## Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.
- **Depth Perception:** The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- **Far Vision:** The ability to see details at a distance.
- **Glare Sensitivity:** The ability to see objects in the presence of glare or bright lighting.
- **Hearing Sensitivity:** The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- **Near Vision:** The ability to see details at close range (within a few feet of the observer).
- **Night Vision:** The ability to see under low light conditions.
- **Peripheral Vision:** The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- **Sound Localization:** The ability to tell the direction from which a sound originated.
- **Speech Clarity:** The ability to speak clearly so others can understand you.
- **Speech Recognition:** The ability to identify and understand the speech of another person.
- **Visual Color Discrimination:** The ability to match or detect differences between colors, including shades of color and brightness.

## Computer Programming Technology

**Shannon Ferguson**

[sferguson10691@tstc.edu](mailto:sferguson10691@tstc.edu)

## Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
- **Deductive Reasoning:** The ability to apply general rules to specific problems to produce answers that make sense.
- **Flexibility of Closure:** The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
- **Fluency of Ideas:** The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity.)
- **Inductive Reasoning:** The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- **Information Ordering:** The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)
- **Mathematical Reasoning:** The ability to choose the right mathematical methods or formulas to solve a problem.
- **Memorization:** The ability to remember information, such as words, numbers, pictures, and procedures.
- **Number Facility:** The ability to add, subtract, multiply, or divide quickly and correctly.
- **Oral Comprehension:** The ability to listen to and understand information and ideas presented through spoken words and sentences.
- **Oral Expression:** The ability to communicate information and ideas in speaking so others will understand.
- **Originality:** The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- **Perceptual Speed:** The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- **Problem Sensitivity:** The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Selective Attention:** The ability to concentrate on a task over a period of time without being distracted.

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- **Spatial Orientation:** The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- **Speed of Closure:** The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- **Time Sharing:** The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- **Visualization:** The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- **Written Comprehension:** The ability to read and understand information and ideas presented in writing.
- **Written Expression:** The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Finger Dexterity:** The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- **Manual Dexterity:** The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- **Rate Control:** The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- **Response Orientation:** The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures.) It includes the speed with which the correct response is started with the hand, foot, or other body part.
- **Wrist-Finger Speed:** The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

### Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.
- **Depth Perception:** The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- **Glare Sensitivity:** The ability to see objects in the presence of glare or bright lighting.
- **Hearing Sensitivity:** The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- **Near Vision:** The ability to see details at close range (within a few feet of the observer).
- **Peripheral Vision:** The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- **Sound Localization:** The ability to tell the direction from which a sound originated.
- **Speech Clarity:** The ability to speak clearly so others can understand you.
- **Speech Recognition:** The ability to identify and understand the speech of another person.
- **Visual Color Discrimination:** The ability to match or detect differences between colors, including shades of color and brightness.

### Computer Science

**Javier Nieto**

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### Cognitive Abilities:

- **Category Flexibility:** The ability to generate or apply various rules for combining or grouping elements in diverse ways.
- **Deductive Reasoning:** The ability to apply general rules to specific problems, producing logical answers.
- **Flexibility of Closure:** The ability to identify or detect known patterns (figures, objects, words, or sounds) within distracting material.
- **Fluency of Ideas:** The ability to generate numerous ideas about a topic (prioritizing quantity rather than quality, correctness, or creativity.)
- **Inductive Reasoning:** The ability to synthesize information to create general rules or conclusions (including finding relationships among seemingly unrelated events.)
- **Information Ordering:** The ability to arrange items or actions in a specific order or pattern according to a designated rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)
- **Mathematical Reasoning:** The ability to select the appropriate mathematical methods or formulas to solve problems.
- **Number Facility:** The ability to perform basic arithmetic operations (addition, subtraction, multiplication, or division) quickly and accurately.
- **Oral Comprehension:** Listening to and understanding information and ideas conveyed through spoken words and sentences.
- **Oral Expression:** The ability to verbally communicate information and ideas effectively.
- **Perceptual Speed:** The ability to compare similarities and differences rapidly and accurately among sets of letters,

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numbers, objects, pictures, or patterns, including comparing presented objects with remembered ones.

- Problem Sensitivity: The ability to recognize when something is wrong or likely to go wrong, without necessarily solving the problem.
- Selective Attention: The ability to focus on a task over an extended period without distractions.
- Speed of Closure: The ability to swiftly make sense of, combine, and organize information into coherent patterns.
- Time Sharing: The ability to switch between two or more activities or information sources (such as speech, sounds, touch, or other sources) seamlessly.
- Visualization: The ability to imagine the appearance of an object after it has been moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in the text.
- Written Expression: The ability to effectively communicate information and ideas in writing.

### Sensory Abilities:

- Auditory Attention: The ability to concentrate on a single sound source amidst other distracting noises.
- Peripheral Vision: The ability to perceive objects or movement in one's peripheral field while looking straight ahead.
- Sound Localization: The ability to determine the origin of a sound.
- Speech Clarity: The ability to articulate words clearly for easy understanding by others.

### Culinary Arts

**Len Pawelek**

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### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness or creativity.)
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information such as words, numbers, pictures, and procedures.
- Number Facility: The ability to add, subtract, multiply or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources.)
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.

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- **Finger Dexterity:** The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects.
- **Manual Dexterity:** The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate or assemble objects.
- **Multi-limb Coordination:** The ability to coordinate two or more limbs (for example, two arms, two legs or one leg and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.
- **Rate Control:** The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- **Reaction Time:** The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- **Response Orientation:** The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot or other body part.
- **Speed of Limb Movement:** The ability to quickly move the arms and legs.
- **Wrist-Finger Speed:** The ability to make fast, simple, repeated movements of the fingers, hands and wrists.

### Physical Abilities

- **Dynamic Flexibility:** The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- **Extent Flexibility:** The ability to bend, stretch, twist, or reach with your body, arms and/or legs.
- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- **Gross Body Equilibrium:** The ability to keep or regain your body balance or stay upright when in an unstable position.
- **Stamina:** The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- **Trunk Strength:** The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.
- **Depth Perception:** The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- **Glare Sensitivity:** The ability to see objects in the presence of glare or bright lighting.
- **Hearing Sensitivity:** The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- **Near Vision:** The ability to see details at close range (within a few feet of the observer.)
- **Peripheral Vision:** The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- **Sound Localization:** The ability to tell the direction from which a sound originated.
- **Speech Clarity:** The ability to speak clearly so others can understand you.
- **Speech Recognition:** The ability to identify and understand the speech of another person.
- **Visual Color Discrimination:** The ability to match or detect differences between colors, including shades of color and brightness.

### Cybersecurity

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### Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
- **Deductive Reasoning:** The ability to apply general rules to specific problems to produce answers that make sense.
- **Flexibility of Closure:** The ability to identify or detect a known pattern (a figure, object, word or sound) that is hidden in other distracting material.
- **Fluency of Ideas:** The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness or creativity).
- **Inductive Reasoning:** The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- **Information Ordering:** The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- **Mathematical Reasoning:** The ability to choose the right mathematical methods or formulas to solve a problem.
- **Memorization:** The ability to remember information, such as words, numbers, pictures and procedures.
- **Number Facility:** The ability to add, subtract, multiply or divide quickly and correctly.

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- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm or your two hands to grasp, manipulate or assemble objects.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands and wrists.

### Physical Abilities

- Static Strength: The ability to exert maximum muscle force to lift, push, pull or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Dental Hygiene

**Raquel Rico**

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### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity.)
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific

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rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)

- Memorization: The ability to remember information, such as words, numbers, pictures, and procedures.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- Rate Control: The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- Reaction Time: The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.
- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Extent Flexibility: The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Far Vision: The ability to see details at a distance.
- Near Vision: The ability to see details at close range (within a few feet of the observer.)
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

## Diesel Equipment Technology

Thomas Breshears

## Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
- **Deductive Reasoning:** The ability to apply general rules to specific problems to produce answers that make sense.
- **Flexibility of Closure:** The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
- **Fluency of Ideas:** The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity.)
- **Inductive Reasoning:** The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- **Information Ordering:** The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations,)
- **Mathematical Reasoning:** The ability to choose the right mathematical methods or formulas to solve a problem.
- **Memorization:** The ability to remember information such as words, numbers, pictures, and procedures.
- **Number Facility:** The ability to add, subtract, multiply, or divide quickly and correctly.
- **Oral Comprehension:** The ability to listen to and understand information and ideas presented through spoken words and sentences.
- **Oral Expression:** The ability to communicate information and ideas in speaking so others will understand.
- **Originality:** The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- **Perceptual Speed:** The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- **Problem Sensitivity:** The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Selective Attention:** The ability to concentrate on a task over a period of time without being distracted.
- **Spatial Orientation:** The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- **Speed of Closure:** The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- **Time Sharing:** The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- **Visualization:** The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- **Written Comprehension:** The ability to read and understand information and ideas presented in writing.
- **Written Expression:** The ability to communicate information and ideas in writing so others will understand.

## Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Control Precision:** The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- **Finger Dexterity:** The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- **Manual Dexterity:** The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- **Multi-limb Coordination:** The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- **Rate Control:** The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- **Reaction Time:** The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- **Response Orientation:** The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.
- **Speed of Limb Movement:** The ability to quickly move the arms and legs.
- **Wrist-Finger Speed:** The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

## Physical Abilities

- **Dynamic Flexibility:** The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- **Dynamic Strength:** The ability to exert muscle force repeatedly or continuously over time. This involves muscular



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endurance and resistance to muscle fatigue.

- Explosive Strength: The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.
- Extent Flexibility: The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Far Vision: The ability to see details at a distance.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer.)
- Night Vision: The ability to see under low light conditions.
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.

### Digital Media Design

**Christina Hollis**

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### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Flexibility of Closure: The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- Memorization: The ability to remember information, such as words, numbers, pictures, and procedures.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.



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## Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Finger Dexterity:** The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- **Manual Dexterity:** The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- **Multi-limb Coordination:** The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- **Rate Control:** The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- **Reaction Time:** The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- **Response Orientation:** The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.
- **Speed of Limb Movement:** The ability to quickly move the arms and legs.
- **Wrist-Finger Speed:** The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

## Physical Abilities

- **Dynamic Flexibility:** The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- **Gross Body Equilibrium:** The ability to keep or regain your body balance or stay upright when in an unstable position.
- **Static Strength:** The ability to exert maximum muscle force to lift, push, pull, or carry objects.

## Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.
- **Depth Perception:** The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- **Far Vision:** The ability to see details at a distance.
- **Glare Sensitivity:** The ability to see objects in the presence of glare or bright lighting.
- **Hearing Sensitivity:** The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- **Near Vision:** The ability to see details at close range (within a few feet of the observer).
- **Peripheral Vision:** The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- **Sound Localization:** The ability to tell the direction from which a sound originated.
- **Speech Clarity:** The ability to speak clearly so others can understand you.
- **Speech Recognition:** The ability to identify and understand the speech of another person.
- **Visual Color Discrimination:** The ability to match or detect differences between colors, including shades of color and brightness.

## Education and Training

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## Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
- **Deductive Reasoning:** The ability to apply general rules to specific problems to produce answers that make sense.
- **Flexibility of Closure:** The ability to identify or detect a known pattern (a figure, object, word or sound) that is hidden in other distracting material.
- **Fluency of Ideas:** The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness or creativity).
- **Inductive Reasoning:** The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- **Information Ordering:** The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- **Mathematical Reasoning:** The ability to choose the right mathematical methods or formulas to solve a problem.

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- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing that there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate or assemble objects.
- Multi-Limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.
- Reaction Time: The ability to quickly respond (with the hand, finger or foot) to a signal (sound, light, picture) when it appears.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot or other body part.
- Speed of Limb Movement: The ability to quickly move the arms and legs.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- Extent Flexibility: The ability to bend, stretch, twist or reach with your body, arms and/or legs.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Far Vision: The ability to see details at a distance.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Electrical Lineworker & Management Technology

**Eric Carithers**

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### Cognitive Abilities

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different ways.

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- **Selective Attention:** The ability to concentrate on a task over a period of time without being distracted.
- **Spatial Orientation:** The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- **Speed of Closure:** The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- **Time Sharing:** The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- **Visualization:** The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- **Written Comprehension:** The ability to read and understand information and ideas presented in writing.
- **Written Expression:** The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Control Precision:** The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- **Finger Dexterity:** The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects.
- **Manual Dexterity:** The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- **Multi-limb Coordination:** The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.
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- **Speed of Limb Movement:** The ability to quickly move the arms and legs.
- **Wrist-Finger Speed:** The ability to make fast, simple, repeated movements of the fingers, hands and wrists.

### Physical Abilities

- **Dynamic Flexibility:** The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- **Dynamic Strength:** The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- **Explosive Strength:** The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.
- **Extent Flexibility:** The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs and torso together when the

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whole body is in motion.

- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Far Vision: The ability to see details at a distance.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Night Vision: The ability to see under low light conditions.
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Electrical Power & Controls

**Richard Filut**

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### Cognitive Abilities

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### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to

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grasp, manipulate, or assemble objects.

## Physical Abilities

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- **Dynamic Strength:** The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
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## Sensory Abilities

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- **Visual Color Discrimination:** The ability to match or detect differences between colors, including shades of color and brightness.

## Electromechanical Technology

**Juan Alferez**

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### Physical Abilities

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- Explosive Strength: The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting) or to throw an object.
- Extent Flexibility: The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull or carry objects.
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### Sensory Abilities

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### Emergency Medical Services (EMS)

Ronnie Pitts

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- Extent Flexibility: The ability to bend, stretch, twist or reach with your body, arms and/or legs.
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### Engineering

**Hermes Chirino**

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### Physical Abilities

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### Health Information Technology

**Sarah Brooks**

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#### Cognitive Abilities

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- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

#### Sensory Abilities

- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

#### Additional Information

- The ability to work in the online environment with industry-related technology.

### HVAC Technology

**Lance Lucas**

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#### Cognitive Abilities

- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.

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- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information, such as words, numbers, pictures and procedures.
- Number Facility: The ability to add, subtract, multiply or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
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- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands and wrists.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- Extent Flexibility: The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Industrial Systems

Edward Chaney

## Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
- **Deductive Reasoning:** The ability to apply general rules to specific problems to produce answers that make sense.
- **Flexibility of Closure:** The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
- **Inductive Reasoning:** The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
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## Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
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- **Multi-limb Coordination:** The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- **Rate Control:** The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- **Reaction Time:** The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- **Response Orientation:** The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.

## Physical Abilities

- **Extent Flexibility:** The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- **Gross Body Equilibrium:** The ability to keep or regain your body balance or stay upright when in an unstable position.

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## Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

## Instrumentation Technology

**Robert Lovelace**

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## Cognitive Abilities

- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Flexibility of Closure: The ability to identify or detect a known pattern (a figure, object, word or sound) that is hidden in other distracting material.
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information such as words, numbers, pictures and procedures.
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- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

## Psychomotor Abilities

- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm or your two hands to grasp, manipulate or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs or one leg and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.
- Reaction Time: The ability to quickly respond (with the hand, finger or foot) to a signal (sound, light, picture) when it appears.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot or other body part.
- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands and wrists.

## Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- Extent Flexibility: The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull or carry objects.

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- **Trunk Strength:** The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

### Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.
- **Depth Perception:** The ability to judge which of several objects is closer or farther away from you or to judge the distance between you and an object.
- **Far Vision:** The ability to see details at a distance.
- **Hearing Sensitivity:** The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- **Near Vision:** The ability to see details at close range (within a few feet of the observer).
- **Peripheral Vision:** The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- **Sound Localization:** The ability to tell the direction from which a sound originated.
- **Speech Clarity:** The ability to speak clearly so others can understand you.
- **Speech Recognition:** The ability to identify and understand the speech of another person.
- **Visual Color Discrimination:** The ability to match or detect differences between colors, including shades of color and brightness.

### Mathematics

**Kyumars Ardalani**

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### Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
- **Flexibility of Closure:** The ability to identify or detect a known pattern (a figure, object, word or sound) that is hidden in other distracting material.
- **Fluency of Ideas:** The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness or creativity).
- **Inductive Reasoning:** The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- **Mathematical Reasoning:** The ability to choose the right mathematical methods or formulas to solve a problem.
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- **Speed of Closure:** The ability to quickly make sense of, combine and organize information into meaningful patterns.
- **Visualization:** The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- **Written Comprehension:** The ability to read and understand information and ideas presented in writing.
- **Written Expression:** The ability to communicate information and ideas in writing so others will understand.

### Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.

### Mechatronics Technology

**Juan Alferez**

[jaalferez@tstc.edu](mailto:jaalferez@tstc.edu)

### Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
- **Deductive Reasoning:** The ability to apply general rules to specific problems to produce answers that make sense.
- **Flexibility of Closure:** The ability to identify or detect a known pattern (a figure, object, word or sound) that is hidden in other distracting material.

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- **Fluency of Ideas:** The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness or creativity).
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- **Oral Expression:** The ability to communicate information and ideas in speaking so others will understand.
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- **Perceptual Speed:** The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- **Problem Sensitivity:** The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Selective Attention:** The ability to concentrate on a task over a period of time without being distracted.
- **Spatial Orientation:** The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- **Speed of Closure:** The ability to quickly make sense of, combine and organize information into meaningful patterns.
- **Time Sharing:** The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).
- **Visualization:** The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- **Written Comprehension:** The ability to read and understand information and ideas presented in writing.
- **Written Expression:** The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Control Precision:** The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- **Finger Dexterity:** The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate or assemble very small objects.
- **Manual Dexterity:** The ability to quickly move your hand, your hand together with your arm or your two hands to grasp, manipulate or assemble objects.
- **Multi-limb Coordination:** The ability to coordinate two or more limbs (for example, two arms, two legs or one leg and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.
- **Rate Control:** The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- **Reaction Time:** The ability to quickly respond (with the hand, finger or foot) to a signal (sound, light, picture) when it appears.
- **Response Orientation:** The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot or other body part.
- **Speed of Limb Movement:** The ability to quickly move the arms and legs.
- **Wrist-Finger Speed:** The ability to make fast, simple, repeated movements of the fingers, hands and wrists.

### Physical Abilities

- **Dynamic Flexibility:** The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- **Dynamic Strength:** The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- **Explosive Strength:** The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting) or to throw an object.
- **Extent Flexibility:** The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- **Gross Body Equilibrium:** The ability to keep or regain your body balance or stay upright when in an unstable position.
- **Stamina:** The ability to exert yourself physically over long periods of time without getting winded or out of breath.

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- **Static Strength:** The ability to exert maximum muscle force to lift, push, pull or carry objects.
- **Trunk Strength:** The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.
- **Depth Perception:** The ability to judge which of several objects is closer or farther away from you or to judge the distance between you and an object.
- **Far Vision:** The ability to see details at a distance.
- **Glare Sensitivity:** The ability to see objects in the presence of glare or bright lighting.
- **Hearing Sensitivity:** The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- **Near Vision:** The ability to see details at close range (within a few feet of the observer).
- **Night Vision:** The ability to see under low light conditions.
- **Peripheral Vision:** The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- **Sound Localization:** The ability to tell the direction from which a sound originated.
- **Speech Clarity:** The ability to speak clearly so others can understand you.
- **Speech Recognition:** The ability to identify and understand the speech of another person.
- **Visual Color Discrimination:** The ability to match or detect differences between colors, including shades of color and brightness.

### Nursing — ADN Transition Program

**Adrienne Reyes**

**adrienne.reyes@tstc.edu**

### Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
- **Deductive Reasoning:** The ability to apply general rules to specific problems to produce answers that make sense.
- **Flexibility of Closure:** The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
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- **Mathematical Reasoning:** The ability to choose the right mathematical methods or formulas to solve a problem.
- **Memorization:** The ability to remember information, such as words, numbers, pictures, and procedures.
- **Number Facility:** The ability to add, subtract, multiply, or divide quickly and correctly.
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- **Written Expression:** The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Control Precision:** The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- **Finger Dexterity:** The ability to make precisely coordinated movements of the fingers of one or both hands to grasp,

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manipulate, or assemble very small objects.

- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.
- Speed of Limb Movement: The ability to quickly move the arms and legs.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Extent Flexibility: The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
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- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Additional Information

- Ability to walk the equivalent of five (5) miles a day and climb two or more flights of stairs.
- Ability to reach above shoulder level.
- Ability to bend, stoop and lift from low area/floor to waist high level.
- Ability to lift, balance and carry up to fifty (50) pounds unassisted.
- Ability to grip 5-10 pounds of pressure and dexterity to pick up small items.
- Ability to sit or stand for long periods of time — three (3) or more hours at a time.
- Ability to perform CPR with compressions at a rate of 100 beats per minute.
- Ability to hear tape recorded transcriptions and distinguish emergency monitors/sounds.
- Ability to distinguish colors; good overall eyesight corrected with glasses if necessary.
- Ability to view small numbers on medication vials/ read small print.
- Ability to interpret written and oral forms of instructions (ENGLISH/abbreviations/ terminology).
- Ability to converse, interview/communicate with co-workers, patients and family members.
- Ability to read and document legibly in ENGLISH at or above the college level.
- Ability to work in high risk/high stress areas as is common to the profession.
- Ability to read and comprehend college level coursework including math calculations for pharmacology.

### Occupational Safety and Environmental Compliance Technology

**Martin Knudsen**

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## Cognitive Abilities

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- **Information Ordering:** The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)
- **Memorization:** The ability to remember information such as words, numbers, pictures, and procedures.
- **Oral Comprehension:** The ability to listen to and understand information and ideas presented through spoken words and sentences.
- **Oral Expression:** The ability to communicate information and ideas in speaking so others will understand.
- **Originality:** The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- **Perceptual Speed:** The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- **Problem Sensitivity:** The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Selective Attention:** The ability to concentrate on a task over a period of time without being distracted.
- **Spatial Orientation:** The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- **Speed of Closure:** The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- **Time Sharing:** The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- **Visualization:** The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- **Written Comprehension:** The ability to read and understand information and ideas presented in writing.
- **Written Expression:** The ability to communicate information and ideas in writing so others will understand.

## Psychomotor Abilities

- **Wrist-Finger Speed:** The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

## Physical Abilities

- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.

## Sensory Abilities

- **Depth Perception:** The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- **Sound Localization:** The ability to tell the direction from which a sound originated.
- **Speech Clarity:** The ability to speak clearly so others can understand you.
- **Speech Recognition:** The ability to identify and understand the speech of another person.

## Additional Information

- The ability to present thoughts and information to groups of people.

## Physics

**Jaime Romo**

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## Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.

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- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Flexibility of Closure: The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity.)
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information, such as words, numbers, pictures, and procedures.
- Number Facility: The ability to add, subtract, multiply, or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Plumbing & Pipefitting Technology

**Jimmy Bibb**

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#### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity.)
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)
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- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as

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speech, sounds, touch, or other sources.)

- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- Rate Control: The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- Reaction Time: The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.
- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Explosive Strength: The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.
- Extent Flexibility: The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer.)
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Precision Machining Technology

Isaac Gonzalez

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## Cognitive Abilities

- **Deductive Reasoning:** The ability to apply general rules to specific problems to produce answers that make sense.
- **Information Ordering:** The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- **Mathematical Reasoning:** The ability to choose the right mathematical methods or formulas to solve a problem.
- **Memorization:** The ability to remember information such as words, numbers, pictures and procedures.
- **Number Facility:** The ability to add, subtract, multiply or divide quickly and correctly.
- **Oral Comprehension:** The ability to listen to and understand information and ideas presented through spoken words and sentences.
- **Oral Expression:** The ability to communicate information and ideas in speaking so others will understand.
- **Originality:** The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- **Problem Sensitivity:** The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Selective Attention:** The ability to concentrate on a task over a period of time without being distracted.
- **Spatial Orientation:** The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- **Speed of Closure:** The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- **Visualization:** The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- **Written Comprehension:** The ability to read and understand information and ideas presented in writing.
- **Written Expression:** The ability to communicate information and ideas in writing so others will understand.

## Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Control Precision:** The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- **Finger Dexterity:** The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- **Manual Dexterity:** The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate or assemble objects.
- **Multi-limb Coordination:** The ability to coordinate two or more limbs (for example, two arms, two legs or one leg and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.
- **Rate Control:** The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- **Reaction Time:** The ability to quickly respond (with the hand, finger or foot) to a signal (sound, light, picture) when it appears.
- **Response Orientation:** The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot or other body part.
- **Speed of Limb Movement:** The ability to quickly move the arms and legs.
- **Wrist-Finger Speed:** The ability to make fast, simple, repeated movements of the fingers, hands and wrists.

## Physical Abilities

- **Dynamic Flexibility:** The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- **Dynamic Strength:** The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- **Explosive Strength:** The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.
- **Extent Flexibility:** The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- **Gross Body Equilibrium:** The ability to keep or regain your body balance or stay upright when in an unstable position.
- **Stamina:** The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- **Static Strength:** The ability to exert maximum muscle force to lift, push, pull or carry objects.
- **Trunk Strength:** The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

## Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.

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- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Recognition: The ability to identify and understand the speech of another person.

### Process Operations

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### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Fluency of Ideas: The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity.)
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Memorization: The ability to remember information, such as words, numbers, pictures, and procedures.
- Number Facility: The ability to add, subtract, multiply, or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Spatial Orientation: The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

- Arm-Hand Steadiness: The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Finger Dexterity: The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- Rate Control: The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- Reaction Time: The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more

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different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.

- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

### Physical Abilities

- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Extent Flexibility: The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Static Strength: The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- Far Vision: The ability to see details at a distance.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer.)
- Night Vision: The ability to see under low light conditions.
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Robotics & Industrial Controls

**Brandon McMahan**

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### Cognitive Abilities

- Category Flexibility: The ability to generate or use different sets of rules for combining or grouping things in different ways.
- Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.
- Flexibility of Closure: The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
- Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events.)
- Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.
- Number Facility: The ability to add, subtract, multiply, or divide quickly and correctly.
- Oral Comprehension: The ability to listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression: The ability to communicate information and ideas in speaking so others will understand.
- Originality: The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Selective Attention: The ability to concentrate on a task over a period of time without being distracted.
- Speed of Closure: The ability to quickly make sense of, combine, and organize information into meaningful patterns.
- Time Sharing: The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources.)
- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
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## Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- **Finger Dexterity:** The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- **Manual Dexterity:** The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- **Multi-limb Coordination:** The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.

## Physical Abilities

- **Gross Body Equilibrium:** The ability to keep or regain your body balance or stay upright when in an unstable position.

## Sensory Abilities

- **Auditory Attention:** The ability to focus on a single source of sound in the presence of other distracting sounds.
- **Depth Perception:** The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- **Hearing Sensitivity:** The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- **Near Vision:** The ability to see details at close range (within a few feet of the observer.)
- **Peripheral Vision:** The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- **Sound Localization:** The ability to tell the direction from which a sound originated.
- **Speech Clarity:** The ability to speak clearly so others can understand you.
- **Speech Recognition:** The ability to identify and understand the speech of another person.
- **Visual Color Discrimination:** The ability to match or detect differences between colors, including shades of color and brightness.

## Solar Energy and Electrical Construction

**Patti Tate**

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## Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
- **Deductive Reasoning:** The ability to apply general rules to specific problems to produce answers that make sense.
- **Flexibility of Closure:** The ability to identify or detect a known pattern (a figure, object, word or sound) that is hidden in other distracting material.
- **Fluency of Ideas:** The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness or creativity).
- **Inductive Reasoning:** The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- **Information Ordering:** The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- **Mathematical Reasoning:** The ability to choose the right mathematical methods or formulas to solve a problem.
- **Memorization:** The ability to remember information such as words, numbers, pictures and procedures.
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- **Oral Expression:** The ability to communicate information and ideas in speaking so others will understand.
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- **Problem Sensitivity:** The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Selective Attention:** The ability to concentrate on a task over a period of time without being distracted.
- **Spatial Orientation:** The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- **Speed of Closure:** The ability to quickly make sense of, combine and organize information into meaningful patterns.
- **Time Sharing:** The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch or other sources).

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- Visualization: The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension: The ability to read and understand information and ideas presented in writing.
- Written Expression: The ability to communicate information and ideas in writing so others will understand.

### Psychomotor Abilities

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- Manual Dexterity: The ability to quickly move your hand, your hand together with your arm or your two hands to grasp, manipulate or assemble objects.
- Multi-limb Coordination: The ability to coordinate two or more limbs (for example, two arms, two legs or one leg and one arm) while sitting, standing or lying down. It does not involve performing the activities while the whole body is in motion.
- Rate Control: The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.
- Reaction Time: The ability to quickly respond (with the hand, finger or foot) to a signal (sound, light, picture) when it appears.
- Response Orientation: The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot or other body part.
- Speed of Limb Movement: The ability to quickly move the arms and legs.
- Wrist-Finger Speed: The ability to make fast, simple, repeated movements of the fingers, hands and wrists.

### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist or reach out with your body, arms and/or legs.
- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Explosive Strength: The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting) or to throw an object.
- Extent Flexibility: The ability to bend, stretch, twist or reach with your body, arms and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
- Stamina: The ability to exert yourself physically over long periods of time without getting winded or out of breath.
- Strength: The ability to exert maximum muscle force to lift, push, pull or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you or to judge the distance between you and an object.
- Far Vision: The ability to see details at a distance.
- Glare Sensitivity: The ability to see objects in the presence of glare or bright lighting.
- Hearing Sensitivity: The ability to detect or tell the differences between sounds that vary in pitch and loudness.
- Near Vision: The ability to see details at close range (within a few feet of the observer).
- Night Vision: The ability to see under low light conditions.
- Peripheral Vision: The ability to see objects or movement of objects to one's side when the eyes are looking ahead.
- Sound Localization: The ability to tell the direction from which a sound originated.
- Speech Clarity: The ability to speak clearly so others can understand you.
- Speech Recognition: The ability to identify and understand the speech of another person.
- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Surgical Technology

**Anna San Pedro**



## Cognitive Abilities

- **Category Flexibility:** The ability to generate or use different sets of rules for combining or grouping things in different ways.
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- **Problem Sensitivity:** The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Selective Attention:** The ability to concentrate on a task over a period of time without being distracted.
- **Spatial Orientation:** The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- **Speed of Closure:** The ability to quickly make sense of, combine, and organize information into meaningful patterns.
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- **Visualization:** The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
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- **Written Expression:** The ability to communicate information and ideas in writing so others will understand.

## Psychomotor Abilities

- **Arm-Hand Steadiness:** The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
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## Physical Abilities

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- **Dynamic Strength:** The ability to exert muscle force repeatedly or continuously over time. This involves muscular

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endurance and resistance to muscle fatigue.

- Extent Flexibility: The ability to bend, stretch, twist or reach with your body, arms and/or legs.
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- Static Strength: The ability to exert maximum muscle force to lift, push, pull or carry objects.
- Trunk Strength: The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

### Sensory Abilities

- Auditory Attention: The ability to focus on a single source of sound in the presence of other distracting sounds.
- Depth Perception: The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
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- Visual Color Discrimination: The ability to match or detect differences between colors, including shades of color and brightness.

### Visual Communication Technology

**Christina Hollis**

[cmhollis@tstc.edu](mailto:cmhollis@tstc.edu)

### Cognitive Abilities

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## Psychomotor Abilities

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- **Wrist-Finger Speed:** The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

## Physical Abilities

- **Dynamic Flexibility:** The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- **Gross Body Coordination:** The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- **Gross Body Equilibrium:** The ability to keep or regain your body balance or stay upright when in an unstable position.
- **Static Strength:** The ability to exert maximum muscle force to lift, push, pull, or carry objects.

## Sensory Abilities

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## Vocational Nursing

**Heather Saucedo**

[hmsauceda@tstc.edu](mailto:hmsauceda@tstc.edu)

## Cognitive Abilities

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### Physical Abilities

- **Trunk Strength:** The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

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## Additional Information

- Necessary accommodations that a student needs can be reviewed to ensure the student has every opportunity to participate in our VN Program.

## Welding Technology

Ashley Yezak

[aayezak@tstc.edu](mailto:aayezak@tstc.edu)

## Cognitive Abilities

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### \*What are Essential Program Functions?

All students in a program are expected to perform certain essential functions based on industry requirements and standards for completion of all phases of the program. Essential functions as stated here are not conditions of admission to the program of study, but rather, reflect performance abilities that are necessary for a student to successfully complete the requirements of the specified program. Students should verify their ability to perform these essential functions with or without accommodations.

Any student who believes they may not be able to perform the functions listed may contact the Access and Learning Accommodations ([adarequest@tstc.edu](mailto:adarequest@tstc.edu)) office to discuss whether reasonable accommodations can be made without fundamental alteration to the requirements of the program.

### Wind Energy Technology

**Billie Jones**

[billie.jones@tstc.edu](mailto:billie.jones@tstc.edu)

### Cognitive Abilities

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### Physical Abilities

- Dynamic Flexibility: The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
- Dynamic Strength: The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- Explosive Strength: The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.
- Extent Flexibility: The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- Gross Body Coordination: The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.
- Gross Body Equilibrium: The ability to keep or regain your body balance or stay upright when in an unstable position.
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# Program Areas

## Academic Core Curriculum

### Description

TSTC's Academic Core can provide you with a broad general understanding of communication skills, critical thinking, inquiry and research, and multiple perspectives about an individual and the world that we live in. With Academic Core classes, you can transfer credits to another public college or university, complete an AAS or AS at TSTC and transfer all the classes as a block to another public college or university, and get your "basics" out of the way. After completing the Academic Core courses at TSTC, you'll receive an institutional certificate of completion.

## Academic Core Curriculum - Academic Core Curriculum CCC

### Locations

Harlingen

### Program Requirements

Semester 1

12 Total Credits

- Complete the following:
  - ENGL1301 - Composition I (3)
  - GOVT2305 - Federal Government (Federal constitution & topics) (3)
  - ACGM3CAR - Creative Arts Elective (3)
  - ACGM3CAOB - Component Area Option (3)

Semester 2

15 Total Credits

- Complete the following:
  - ENGL1302 - Composition II (3)
  - GOVT2306 - Texas Government (Texas constitution & topics) (3)
  - HIST1301 - United States History I (3)
  - ACGM3LPS - Life and Physical Science Elective (3)
  - ACGM3CAOA - Component Area Option A (3)

Semester 3

15 Total Credits

- Complete the following:
  - ACGM3LPS - Life and Physical Science Elective (3)
  - HIST1302 - United States History II (3)
  - ACGM3MTH - Gen Ed Mathematics Elective (3)
  - ACGM3LPC - Language, Philosophy and Culture Elective (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **42**

### Pre/Corequisites

- ENGL 1302 Prerequisite(s): ENGL 1301

### Elective Options

- Complete at least 1 courses from the following:  
Creative Arts Elective
  - ARTS1301 - Art Appreciation (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Component Area Option B (for Academic Core Curriculum)
  - SPCH1311 - Introduction to Speech Communication (3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication (3)

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- Complete at least 2 courses from the following:  
Life & Physical Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - PHYS1301 - College Physics I (lecture)(3)
  - PHYS1302 - College Physics II (lecture)(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Component Area Option A (for Academic Core Curriculum)
  - BIOL1106 - Biology for Science Majors Laboratory I (lab)(1)
  - BIOL1107 - Biology for Science Majors II Lab(1)
  - BIOL1108 - Biology Non-Science Majors Laboratory I(1)
  - BIOL1109 - Biology for Non-Science Majors II Lab(1)
  - BIOL2101 - Anatomy & Physiology I (lab)(1)
  - BIOL2102 - Anatomy & Physiology II (lab)(1)
  - CHEM1111 - General Chemistry I (lab)(1)
  - CHEM1112 - General Chemistry II (lab)(1)
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2331 - World Literature(3)
  - PHYS1101 - College Physics Laboratory I(1)
  - PHYS1102 - College Physics Lab II(1)
  - PHYS1115 - Physical Science Lab I(1)
  - PHYS1117 - Physical Science Lab II(1)
  - PSYC2314 - Lifespan Growth & Development(3)
- Complete at least 1 courses from the following:  
Mathematics Elective (for Academic Core)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH2312 - Pre-Calculus Math (3 SCH version)(3)
- Complete at least 1 courses from the following:  
Language, Philosophy & Culture Elective
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2331 - World Literature(3)
  - PHIL1304 - Introduction to World Religions(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective (for Academic Core Majors)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - SOCI1301 - Introduction to Sociology (3)
- Complete all courses from the following:  
Communication (for Academic Core)
  - ENGL1301 - Composition I(3)
  - ENGL1302 - Composition II(3)
- Complete all courses from the following:  
Government/Political Science
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
- Complete all courses from the following:  
American History
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)

### **Aircraft Airframe Technology**

#### **Description**

Aviation maintenance technicians are a vital part of the aerospace industry workforce, inspecting, servicing and maintaining aircraft worldwide. The Aircraft Airframe specialty trains students specifically in major airframe components and structures such as hydraulics/pneumatics, landing gear systems, sheet metal and composite technology. Airframe technicians are employed by repair stations, contract maintenance facilities, general aviation maintenance, and regional and national airlines. For quicker entry into the industry, an Aircraft Airframe Technician certificate is also available.

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## Aircraft Airframe Technology - Aircraft Airframe Technician CER2

### Locations

Waco  
Harlingen  
Abilene

### Program Requirements

#### Semester 1

15 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AERM1107 - Aviation Mathematics (1)
    - AERM1109 - Aviation Physics (1)
    - AERM1112 - Aviation Drawings (1)
    - AERM1315 - Aviation Science (3)
  - Complete the following:
    - AERM1203 - Shop Practices (2)
    - AERM1205 - Weight and Balance (2)
    - AERM1208 - Federal Aviation Regulations (2)
    - AERM1210 - Ground Operations (2)
    - AERM1414 - Basic Electricity (4)

#### Semester 2

13 Total Credits

- Complete the following:
  - AERM1347 - Airframe Auxiliary Systems (3)
  - AERM1345 - Airframe Electrical Systems (3)
  - AERM1350 - Landing Gear Systems (3)
  - AERM1449 - Hydraulic, Pneumatic, and Fuel Systems (4)

#### Semester 3

7 Total Credits

- Complete the following:
  - AERM1241 - Wood, Fabric, and Finishes (2)
  - AERM1243 - Instruments and Navigation/Communication (2)
  - AERM1153 - Aircraft Welding (1)
  - AERM1254 - Aircraft Composites (2)

#### Semester 4

10 Total Credits

- Complete the following:
  - AERM1352 - Aircraft Sheet Metal (3)
  - AERM2230 - FAA Review - Airframe (2)
  - AERM2231 - Airframe Inspection (2)
  - AERM2333 - Assembly and Rigging (3)

Degree Plan Credits **45**

### Capstone

- Complete the following:
  - AERM2230 - FAA Review - Airframe (2)

### Pre/Corequisites

- AERM 1347 Prerequisite(s): (AERM 1109 OR AERM 1315) AND (AERM 1314 OR AERM 1414)
- AERM 1345, AERM 1243 Prerequisite(s): AERM 1314 OR AERM 1414
- AERM 1350 Prerequisite(s): (AERM 1203, AERM 1315) OR (AERM 1203, AERM 1109)
- AERM 1449, AERM 2333 Prerequisite(s): AERM 1109 or AERM 1315
- AERM 1352 Prerequisite(s): (AERM 1107, AERM 1112, AERM 1203) or (AERM 1315, AERM 1203)

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## Aircraft Airframe Technology - Aircraft Airframe Technology AAS

### Locations

Waco  
Harlingen  
Abilene

### Program Requirements

#### Semester 1

15 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AERM1107 - Aviation Mathematics (1)
    - AERM1109 - Aviation Physics (1)
    - AERM1112 - Aviation Drawings (1)
    - AERM1315 - Aviation Science (3)
  - Complete the following:
    - AERM1203 - Shop Practices (2)
    - AERM1205 - Weight and Balance (2)
    - AERM1208 - Federal Aviation Regulations (2)
    - AERM1210 - Ground Operations (2)
    - AERM1414 - Basic Electricity (4)

#### Semester 2

16 Total Credits

- Complete the following:
  - AERM1347 - Airframe Auxiliary Systems (3)
  - AERM1345 - Airframe Electrical Systems (3)
  - AERM1350 - Landing Gear Systems (3)
  - AERM1449 - Hydraulic, Pneumatic, and Fuel Systems (4)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

#### Semester 3

13 Total Credits

- Complete the following:
  - AERM1241 - Wood, Fabric, and Finishes (2)
  - AERM1243 - Instruments and Navigation/Communication (2)
  - AERM1153 - Aircraft Welding (1)
  - AERM1254 - Aircraft Composites (2)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

#### Semester 4

16 Total Credits

- Complete all of the following
  - Complete the following:
    - AERM1352 - Aircraft Sheet Metal (3)
    - AERM2230 - FAA Review - Airframe (2)
    - AERM2231 - Airframe Inspection (2)
    - AERM2333 - Assembly and Rigging (3)
    - ACGM3GED - Gen Ed Elective (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

Degree Plan Credits **60**

### Capstone

- Complete the following:
  - AERM2230 - FAA Review - Airframe (2)

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### Pre/Corequisites

- AERM 1347 Prerequisite(s): (AERM 1109 or AERM 1315) and (AERM 1314 or AERM 1414)
- AERM 1345, AERM 1243 Prerequisite(s): AERM 1314 or AERM 1414
- AERM 1350 Prerequisite(s): (AERM 1203, AERM 1315) or (AERM 1203, AERM 1109)
- AERM 1449, AERM 2333 Prerequisite(s): AERM 1109 or AERM 1315
- AERM 1153 Prerequisite(s): AERM 1203
- AERM 1352 Prerequisite(s): (AERM 1107, AERM 1112, AERM 1203) or (AERM 1315, AERM 1203)

### Elective Options

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete 1 General Education Elective as recommended by program

## **Aircraft Airframe Technology - Aircraft Line Technician CER1**

### **Locations**

Waco  
Harlingen  
Abilene

### **Program Requirements**

Semester 1

15 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AERM1107 - Aviation Mathematics (1)
    - AERM1109 - Aviation Physics (1)
    - AERM1112 - Aviation Drawings (1)
    - AERM1315 - Aviation Science (3)
  - Complete the following:
    - AERM1203 - Shop Practices (2)
    - AERM1205 - Weight and Balance (2)
    - AERM1208 - Federal Aviation Regulations (2)
    - AERM1210 - Ground Operations (2)
    - AERM1414 - Basic Electricity (4)

Degree Plan Credits **15**

### **Capstone**

- Complete the following:
  - AERM1414 - Basic Electricity (4)

## **Aircraft Pilot Training Technology**

### **Description**

With aviation experience dating back more than 50 years, TSTC has been a proud provider of professional pilots throughout the aviation industry. Our students get a first-class education with hands-on training in the world's most popular training aircraft along with classroom and one-on-one ground instruction with industry professionals. Students spend most of their time learning by doing while training to become industry professionals. All Aircraft Pilot Training students must submit an application to the program after being accepted as TSTC students. The application includes providing evidence of a Class II flight physical and a current Class II medical record. All new students must successfully complete a Texas Success Initiative evaluation (or equivalent) and any necessary remedial academic courses before registering for classes in this program. Flight costs vary per term and are subject to change due to variables such as fluctuating fuel and flight-time costs.

## **Aircraft Pilot Training Technology - Aircraft Pilot Training Technology - Airplane Specialization AAS**

### **Locations**

Waco

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - AIRP1215 - Private Flight (2)
  - AIRP1301 - Air Navigation (3)
  - AIRP1307 - Aviation Meteorology (3)
  - AIRP1417 - Private Pilot Ground School (4)

### Semester 2

13 Total Credits

- Complete the following:
  - AIRP1343 - Aerodynamics (3)
  - AIRP2355 - Propulsion Systems (3)
  - AIRP1345 - Aviation Safety (3)
  - AIRP1175 - Intermediate Flight (1)
  - ACGM3MTH - Gen Ed Mathematics Elective (3)

### Semester 3

12 Total Credits

- Complete all of the following
  - Complete the following:
    - AIRP1451 - Instrument Ground School (4)
    - AIRP2250 - Instrument Flight (2)
    - ACGM3GED - Gen Ed Elective (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 4

11 Total Credits

- Complete the following:
  - AIRP2357 - Turbine Aircraft Systems Ground School (3)
  - AIRP2337 - Commercial Ground School (3)
  - AIRP2239 - Commercial Flight (2)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete 1 of the following
    - Complete the following:
      - AIRP2236 - Certified Flight Instructor - Flight (2)
    - Complete the following:
      - AIRP2251 - Multiengine Flight (2)
  - Complete the following:
    - AVIM2337 - Aviation Law (3)
    - AIRP2449 - Instructor Ground School (4)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - AIRP2449 - Instructor Ground School (4)

## **Pre/Corequisites**

- AIRP 1175, AIRP 2250 Prerequisite(s): AIRP 1215
- AIRP 2239 Prerequisite(s): AIRP 2250
- AIRP 2236, AIRP 2251 Prerequisite(s): AIRP 2239



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### Elective Options

- Complete at least 1 courses from the following:  
Mathematics Elective
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1325 - Calculus for Business & Social Sciences(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - MATH1350 - Math - Teachers I Fundamentals of Math I(3)
  - MATH1351 - Fundamentals of Mathematics II(3)
  - MATH2312 - Pre-Calculus Math (3 SCH version)(3)
  - MATH2313 - Calculus I(3)
  - MATH2318 - Linear Algebra (3)
  - MATH2320 - Differential Equations (3 SCH version)(3)
  - MATH2342 - Elementary Statistical Methods(3)
  - MATH2313 - Calculus I(3)
  - MATH2414 - Calculus II (4 SCH version)(4)
  - MATH2415 - Calculus III (4 SCH version)(4)
- Complete 1 General Education Elective as recommended by program
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology(3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics(3)
  - ECON2302 - Principles of Microeconomics(3)
  - GEOG1302 - Human Geography(3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework(1)
  - PSYC2301 - General Psychology(3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology(3)
  - SOCI1306 - Social Problems(3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies(3)
  - HUMA2323 - World Cultures(3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation(3)
  - ARTS2326 - Sculpture I(3)
  - ARTS2326 - Sculpture I(3)
  - MUSI1306 - Music Appreciation(3)

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### **Aircraft Pilot Training Technology - Aircraft Pilot Training Unmanned Aerial Vehicle CER1**

#### **Locations**

Waco

#### **Program Requirements**

Semester 1

19 Total Credits

- Complete the following:
  - AIRP1301 - Air Navigation (3)
  - AIRP1307 - Aviation Meteorology (3)
  - MRKG1301 - Customer Relationship Management (3)
  - AIRP1417 - Private Pilot Ground School (4)
  - AIRP1345 - Aviation Safety (3)
  - AVIM1391 - Special Topics in Aviation Management (3)

Degree Plan Credits **19**

#### **Capstone**

- Complete the following:
  - AVIM1391 - Special Topics in Aviation Management (3)

### **Aircraft Powerplant Technology**

#### **Description**

Aircraft Powerplant Technology students learn basic aviation knowledge, shop practices, aircraft engines and electrical, troubleshooting and overhaul. Graduates from this program can seek positions in engine maintenance, contract maintenance, general aviation operations and regional and national airline technicians specializing in powerplant accessories, components and reciprocating and turbine engine technology. For quicker entry into the industry, an Aircraft Powerplant Technology certificate is available.

### **Aircraft Powerplant Technology - Aircraft Powerplant Technician CER2**

#### **Locations**

Waco

Harlingen

Abilene

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

15 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AERM1107 - Aviation Mathematics (1)
    - AERM1109 - Aviation Physics (1)
    - AERM1112 - Aviation Drawings (1)
    - AERM1315 - Aviation Science (3)
  - Complete the following:
    - AERM1203 - Shop Practices (2)
    - AERM1205 - Weight and Balance (2)
    - AERM1208 - Federal Aviation Regulations (2)
    - AERM1210 - Ground Operations (2)
    - AERM1414 - Basic Electricity (4)

### Semester 2

13 Total Credits

- Complete the following:
  - AERM1351 - Aircraft Turbine Engine Theory (3)
  - AERM1357 - Fuel Metering and Induction Systems (3)
  - AERM1444 - Aircraft Reciprocating Engines (4)
  - AERM1356 - Aircraft Powerplant Electrical (3)

### Semester 3

8 Total Credits

- Complete the following:
  - AERM1240 - Aircraft Propellers (2)
  - AERM2341 - Powerplant and Auxiliary Power Units (3)
  - AERM2351 - Aircraft Turbine Engine Overhaul (3)

### Semester 4

9 Total Credits

- Complete the following:
  - AERM2234 - FAA Review - Powerplant (2)
  - AERM2352 - Aircraft Powerplant Inspection (3)
  - AERM2447 - Aircraft Reciprocating Engine Overhaul (4)

Degree Plan Credits **45**

## **Capstone**

- Complete the following:
  - AERM2234 - FAA Review - Powerplant (2)

## **Pre/Corequisites**

- AERM 1351, AERM 1357, AERM 1444, AERM 1240, AERM 2341 Prerequisite(s): AERM 1109 or AERM 1315
- AERM 1356 Prerequisite(s): AERM 1314 or AERM 1414
- AERM 2351 Prerequisite(s): AERM 1351
- AERM 2447 Prerequisite(s): AERM 1444

## **Aircraft Powerplant Technology - Aircraft Powerplant Technology AAS**

### **Locations**

Waco  
Harlingen  
Abilene

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

15 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AERM1107 - Aviation Mathematics (1)
    - AERM1109 - Aviation Physics (1)
    - AERM1112 - Aviation Drawings (1)
    - AERM1315 - Aviation Science (3)
  - Complete the following:
    - AERM1203 - Shop Practices (2)
    - AERM1205 - Weight and Balance (2)
    - AERM1208 - Federal Aviation Regulations (2)
    - AERM1210 - Ground Operations (2)
    - AERM1414 - Basic Electricity (4)

### Semester 2

16 Total Credits

- Complete the following:
  - AERM1351 - Aircraft Turbine Engine Theory (3)
  - AERM1357 - Fuel Metering and Induction Systems (3)
  - AERM1444 - Aircraft Reciprocating Engines (4)
  - AERM1356 - Aircraft Powerplant Electrical (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

### Semester 3

14 Total Credits

- Complete the following:
  - AERM1240 - Aircraft Propellers (2)
  - AERM2341 - Powerplant and Auxiliary Power Units (3)
  - AERM2351 - Aircraft Turbine Engine Overhaul (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 4

15 Total Credits

- Complete all of the following
  - Complete the following:
    - AERM2234 - FAA Review - Powerplant (2)
    - AERM2352 - Aircraft Powerplant Inspection (3)
    - AERM2447 - Aircraft Reciprocating Engine Overhaul (4)
    - ACGM3GED - Gen Ed Elective (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - AERM2234 - FAA Review - Powerplant (2)

## **Pre/Corequisites**

- AERM 1351, AERM 1357, AERM 1444, AERM 1240, AERM 2341 Prerequisite(s): AERM 1109 or AERM 1315
- AERM 1356 Prerequisite(s): AERM 1314 or AERM 1414
- AERM 2351 Prerequisite(s): AERM 1351
- AERM 2447 Prerequisite(s): AERM 1444

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## Elective Options

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete 1 General Education Elective as recommended by program

## **Architectural Design & Engineering**

### Description

The Architectural Design & Engineering Graphics Technology program works with designers and engineers to convert their ideas and concepts for new products and designs into accurate drawings that specify size, shape, materials and specifications. These drawings are then used by professionals in manufacturing, consulting and construction to produce the desired product or structure. Designs are created using computer-aided drafting (CAD) equipment. Solid modeling and parametric concepts are introduced and utilized early in the program and throughout the curriculum.

**Locations**

Online - TSTC Connect  
Harlingen  
Waco

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## **Program Requirements**

### Semester 1

9 Total Credits

- Complete all of the following
  - Complete the following:
    - Course Not Found
  - Complete at least 3 credits from the following:
    - DFTG1345 - Parametric Modeling and Design (3)
    - ENGR1304 - Engineering Graphics I (3 Sch version) (3)
  - Complete at least 3 credits from the following:
    - SRVY1341 - Land Surveying (3)
    - DFTG1325 - Blueprint Reading and Sketching (3)
  - Complete the following:
    - MATH1314 - College Algebra (3 SCH version) (3)

### Semester 2

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ARCE1321 - Architectural Illustration (3)
    - DFTG1333 - Mechanical Drafting (3)
    - DFTG1330 - Civil Drafting 1 (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 3

12 Total Credits

- Complete the following:
  - DFTG2302 - Machine Drafting (3)
  - DFTG1317 - Architectural Drafting - Residential (3)
  - DFTG2321 - Topographical Drafting (3)
  - ACGM3SPH - Gen Ed Speech Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - DFTG2328 - Architectural Drafting - Commercial (3)
  - DFTG2335 - Advanced Technologies in Mechanical Design and Drafting (3)
  - DFTG1393 - Special Topics in Civil Drafting Civil Engineering CAD/CADD (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ARCE1352 - Structural Drafting (3)
  - Complete at least 3 credits from the following:
    - DFTG1392 - Special Topics in Architectural Drafting and ArchitecturalCAD/CADD (3)
    - DFTG1395 - Special Topics in Mechanical Drafting and Mechanical Drafting Cad/Cadd (3)
    - DFTG2386 - Internship - Drafting and Design Technology/Technician, General (3)
  - Complete the following:
    - DFTG2357 - Advanced Technologies in Pipe Design and Drafting (3)
  - Complete the following:
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **57**

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## **Capstone**

- Complete the following:
  - ARCE1352 - Structural Drafting (3)

## **Pre/Corequisites**

- ENGR 1304 Prerequisite(s): MATH 1314
- ARCE 1321 Prerequisite(s): DFTG 1309 (Prerequisite or Corequisite)
- DFTG 1333, DFTG 1330, DFTG 2386, DFTG 2357 Prerequisite(s): DFTG 1309
- DFTG 2302 Prerequisite(s): DFTG 1333
- DFTG 1317 Prerequisite(s): ARCE 1321
- DFTG 2321 Prerequisite(s): DFTG 1330
- DFTG 2328 Prerequisite(s): DFTG 1317
- DFTG 2335 Prerequisite(s): DFTG 2302
- DFTG 1393 Prerequisite(s): DFTG 2321
- ARCE 1352, DFTG 1392 Prerequisite(s): DFTG 2328
- DFTG 1395 Prerequisite(s): DFTG 2335

## **Elective Options**

- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)



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### **Architectural Design & Engineering - Architectural Design & Engineering Graphics Technology CER1**

#### **Locations**

Online - TSTC Connect  
Waco  
Harlingen

#### **Program Requirements**

Semester 1

6 Total Credits

- Complete all of the following
  - Complete the following:
    - Course Not Found
  - Complete at least 3 credits from the following:
    - DFTG1345 - Parametric Modeling and Design (3)
    - ENGR1304 - Engineering Graphics I (3 Sch version) (3)
  - Complete at least 3 credits from the following:
    - SRVY1341 - Land Surveying (3)
    - DFTG1325 - Blueprint Reading and Sketching (3)

Semester 2

9 Total Credits

- Complete the following:
  - ARCE1321 - Architectural Illustration (3)
  - DFTG1333 - Mechanical Drafting (3)
  - DFTG1330 - Civil Drafting 1 (3)

Degree Plan Credits **15**

#### **Capstone**

- Complete the following:
  - DFTG1333 - Mechanical Drafting (3)

#### **Pre/Corequisites**

- ENGR 1304 Prerequisite(s): MATH 1314
- ARCE 1321 Prerequisite(s): DFTG 1309 (Prerequisite or Corequisite)
- DFTG 1333, DFTG 1330 Prerequisite(s): DFTG 1309

### **Architectural Design & Engineering - Architectural Design & Engineering Graphics Technology CER2**

#### **Locations**

Online - TSTC Connect  
Waco  
Harlingen  
Marshall

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## **Program Requirements**

### Semester 1

6 Total Credits

- Complete all of the following
  - Complete the following:
    - Course Not Found
  - Complete at least 3 credits from the following:
    - DFTG1345 - Parametric Modeling and Design (3)
    - ENGR1304 - Engineering Graphics I (3 Sch version) (3)
  - Complete at least 3 credits from the following:
    - SRVY1341 - Land Surveying (3)
    - DFTG1325 - Blueprint Reading and Sketching (3)

### Semester 2

9 Total Credits

- Complete the following:
  - ARCE1321 - Architectural Illustration (3)
  - DFTG1333 - Mechanical Drafting (3)
  - DFTG1330 - Civil Drafting 1 (3)

### Semester 3

9 Total Credits

- Complete the following:
  - DFTG2302 - Machine Drafting (3)
  - DFTG1317 - Architectural Drafting - Residential (3)
  - DFTG2321 - Topographical Drafting (3)

### Semester 4

9 Total Credits

- Complete the following:
  - DFTG2328 - Architectural Drafting - Commercial (3)
  - DFTG2335 - Advanced Technologies in Mechanical Design and Drafting (3)
  - DFTG1393 - Special Topics in Civil Drafting Civil Engineering CAD/CADD (3)

Degree Plan Credits **33**

## **Capstone**

- Complete the following:
  - DFTG2335 - Advanced Technologies in Mechanical Design and Drafting (3)

## **Pre/Corequisites**

- ENGR 1304 Prerequisite(s): MATH 1314
- ARCE 1321 Prerequisite(s): DFTG 1309 (Prerequisite or Corequisite)
- DFTG 1333, DFTG 1330 Prerequisite(s): DFTG 1309
- DFTG 2302 Prerequisite(s): DFTG 1333
- DFTG 1317 Prerequisite(s): ARCE 1321
- DFTG 2321 Prerequisite(s): DFTG 1330
- DFTG 2328 Prerequisite(s): DFTG 1317
- DFTG 2335 Prerequisite(s): DFTG 2302
- DFTG 1393 Prerequisite(s): DFTG 2321

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## **Architectural Design & Engineering - Basic Architectural/Mechanical Drafting OSA**

### **Locations**

Online - TSTC Connect  
Harlingen  
Waco  
Marshall

### **Program Requirements**

Semester 1  
6 Total Credits

- Complete the following:
  - Course Not Found
  - DFTG1345 - Parametric Modeling and Design (3)
  - ARCE1321 - Architectural Illustration (3)

Degree Plan Credits **6**

## **Architectural/Civil Drafting Technology**

### **Description**

Whether it's as large as a high-rise building or as small as a shed, nothing can be built without first envisioning a plan — a blueprint, sketch or drawing detailing everything a project needs for completion. Drafting is a universal language; it is the common language used in many major industries as a first step to bringing this vision to life. TSTC Architectural/Civil Drafting students prepare for drafting applications in commercial architecture; building structures; mechanical, electrical and plumbing systems for buildings; site work; and many other areas of construction-related drafting. During your educational training at TSTC, you will use the latest in computer software and hardware to gain valuable experience utilizing today's most popular drafting tool — Computer-Aided Drafting, or CAD, systems.

## **Architectural/Civil Drafting Technology - Architectural/Civil Drafting Technology AAS**

### **Locations**

Online - TSTC Connect  
Waco  
Harlingen

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## **Program Requirements**

### Semester 1

9 Total Credits

- Complete all of the following
  - Complete the following:
    - Course Not Found
    - ARCE1321 - Architectural Illustration (3)
  - Complete at least 3 credits from the following:
    - DFTG1325 - Blueprint Reading and Sketching (3)
    - SRVY1341 - Land Surveying (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ARCE1303 - Architectural Materials and Methods of Construction (3)
  - DFTG1317 - Architectural Drafting - Residential (3)
  - DFTG1330 - Civil Drafting 1 (3)
  - MATH1314 - College Algebra (3 SCH version) (3)

### Semester 3

12 Total Credits

- Complete the following:
  - DFTG2328 - Architectural Drafting - Commercial (3)
  - DFTG2321 - Topographical Drafting (3)
  - ARCE1342 - Codes, Specifications, and Contract Documents (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - ARCE2352 - Mechanical and Electrical Systems (3)
  - ARCE1352 - Structural Drafting (3)
  - DFTG1393 - Special Topics in Civil Drafting Civil Engineering CAD/CADD (3)
  - ACGM3SPH - Gen Ed Speech Elective (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete the following:
    - DFTG2312 - Technical Illustration and Presentation (3)
    - DFTG2331 - Adv Techn-Architect Design & Drafting Design and Drafting (3)
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
  - Complete at least 3 credits from the following:
    - DFTG1392 - Special Topics in Architectural Drafting and ArchitecturalCAD/CADD (3)
    - DFTG2386 - Internship - Drafting and Design Technology/Technician, General (3)

Degree Plan Credits **57**

## **Capstone**

- Complete the following:
  - DFTG2331 - Adv Techn-Architect Design & Drafting Design and Drafting (3)

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### **Pre/Corequisites**

- ARCE 1303, DFTG 1330, DFTG 2386 Prerequisite(s): DFTG 1309
- DFTG 1317 Prerequisite(s): ARCE 1321
- DFTG 2328 Prerequisite(s): DFTG 1317
- DFTG 2321 Prerequisite(s): DFTG 1330
- ARCE 1342 Prerequisite(s): ARCE 1303 (Prerequisite or Corequisite)
- ARCE 2352 Prerequisite(s): DFTG 2328 (Prerequisite or Corequisite)
- ARCE 1352 Prerequisite(s): DFTG 2328
- DFTG 1393 Prerequisite(s): DFTG 2321
- DFTG 2312, DFTG 2331, DFTG 1392 Prerequisite(s): DFTG 2328

### **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)

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## **Architectural/Civil Drafting Technology - Architectural/Civil Drafting Technology CER1**

### **Locations**

Online - TSTC Connect  
Waco  
Harlingen  
Marshall  
North Texas

### **Program Requirements**

Semester 1  
6 Total Credits

- Complete all of the following
  - Complete the following:
    - Course Not Found
    - ARCE1321 - Architectural Illustration (3)
  - Complete at least 3 credits from the following:
    - DFTG1325 - Blueprint Reading and Sketching (3)
    - SRVY1341 - Land Surveying (3)

Semester 2  
9 Total Credits

- Complete the following:
  - ARCE1303 - Architectural Materials and Methods of Construction (3)
  - DFTG1317 - Architectural Drafting - Residential (3)
  - DFTG1330 - Civil Drafting 1 (3)

Degree Plan Credits **15**

### **Capstone**

- Complete the following:
  - DFTG1317 - Architectural Drafting - Residential (3)

### **Pre/Corequisites**

- ARCE 1303, DFTG1330 Prerequisite(s): DFTG 1309
- DFTG1317 Prerequisite(s): ARCE 1321

## **Architectural/Civil Drafting Technology - Architectural/Civil Drafting Technology CER2**

### **Locations**

Online - TSTC Connect  
Waco  
Harlingen  
Marshall  
North Texas

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

6 Total Credits

- Complete all of the following
  - Complete the following:
    - Course Not Found
    - ARCE1321 - Architectural Illustration (3)
  - Complete at least 3 credits from the following:
    - DFTG1325 - Blueprint Reading and Sketching (3)
    - SRVY1341 - Land Surveying (3)

### Semester 2

9 Total Credits

- Complete the following:
  - ARCE1303 - Architectural Materials and Methods of Construction (3)
  - DFTG1317 - Architectural Drafting - Residential (3)
  - DFTG1330 - Civil Drafting 1 (3)

### Semester 3

9 Total Credits

- Complete the following:
  - DFTG2328 - Architectural Drafting - Commercial (3)
  - DFTG2321 - Topographical Drafting (3)
  - ARCE1342 - Codes, Specifications, and Contract Documents (3)

### Semester 4

9 Total Credits

- Complete the following:
  - ARCE2352 - Mechanical and Electrical Systems (3)
  - ARCE1352 - Structural Drafting (3)
  - DFTG1393 - Special Topics in Civil Drafting Civil Engineering CAD/CADD (3)

Degree Plan Credits **33**

## **Capstone**

- Complete the following:
  - ARCE1352 - Structural Drafting (3)

## **Pre/Corequisites**

- ARCE 1303, DFTG 1330 Prerequisite(s): DFTG 1309
- DFTG 1317 Prerequisite(s): ARCE 1321
- DFTG 2328 Prerequisite(s): DFTG 1317
- DFTG 2321 Prerequisite(s): DFTG 1330
- ARCE 1342 Prerequisite(s): ARCE 1303 (Prerequisite or Corequisite)
- ARCE 2352 Prerequisite(s): DFTG 2328 (Prerequisite or Corequisite)
- ARCE 1352 Prerequisite(s): DFTG 2328
- DFTG 1393 Prerequisite(s): DFTG 2321

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## **Associate Degree in Nursing**

### **Description**

Registered nurses (RNs) make up the largest health care occupation in the United States. Statistics show that there are almost 3 million jobs available and over 100,000 vacant positions. Nurses are a critical and essential resource in patient care. They consider the patient as a “whole,” which includes emotional, mental and physical needs. They work to restore health and wellness, prevent disease, provide and coordinate patient care, and educate patients and the public about various health conditions.

RNs can work in hospitals, physicians’ offices, home health care services, nursing care facilities, correctional facilities, schools, the military and more. TSTC nursing students participate in an active learning environment, including simulation learning labs that are led by instructors with multiple medical/surgical backgrounds.

The Associate Degree in Nursing (ADN) program at TSTC is a fast-paced associate degree nursing program. TSTC works hand in hand with health care industry leaders to train highly qualified nurses. There is a significant and growing need for registered nurses throughout the state of Texas and all over the United States.

The program includes three semesters of nursing-related courses and clinicals. The entire program requires 60 credits, taking approximately three years to complete from start to finish (including one full year in the Vocational Nursing program).

Students scoring less than 80% as a final course average in nursing courses will not progress to the next level or graduate from the program. Otherwise, they will be dismissed and given the option to reapply and repeat the program in full. If students fail more than one course with less than an 80%, they will be dismissed from the program without the opportunity to apply for readmission to the TSTC RN program.

The 80% passing rate in the TSTC RN program is based on preparation of our students to pass the Texas Board of Nursing NCLEX Exam. The NCLEX Exam, which is required to become a registered nurse, requires 80% to pass.

## **Associate Degree in Nursing - Associate Degree in Nursing AAS**

### **Locations**

Harlingen  
Sweetwater



# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

13 Total Credits

- Complete all of the following
  - Complete at least 4 credits from the following:
    - BIOL2401 - Anatomy & Physiology I (lecture + lab) (4)
    - BIOL2301 - Anatomy & Physiology I (lecture) (3)
    - BIOL2101 - Anatomy & Physiology I (lab) (1)
  - Complete the following:
    - ENGL1301 - Composition I (3)
  - Complete the following:
    - PSYC2314 - Lifespan Growth & Development (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 2

11 Total Credits

- Complete all of the following
  - Complete at least 4 credits from the following:
    - BIOL2402 - Anatomy & Physiology II (lecture + lab) (4)
    - BIOL2302 - Anatomy & Physiology II (lecture) (3)
    - BIOL2102 - Anatomy & Physiology II (lab) (1)
  - Complete at least 4 credits from the following:
    - BIOL2420 - Microbiology for Non-Science Majors (lecture + lab) (4)
    - BIOL2320 - Microbiology for Non-Science Majors (lecture) (3)
    - BIOL2120 - Microbiology for Non-Science Majors Laboratory (lab) (1)
  - Complete the following:
    - PSYC2301 - General Psychology (3)

### Semester 3

12 Total Credits

- Complete the following:
  - RNSG1210 - Introduction to Community-Based Nursing (2)
  - RNSG1227 - Transition to Professional Nursing (2)
  - RNSG1261 - Clinical - Registered Nursing/Registered Nurse (2)
  - RNSG1300 - Health Assessment Across the Lifespan (3)
  - RNSG1301 - Pharmacology (3)

### Semester 4

12 Total Credits

- Complete the following:
  - RNSG1343 - Complex Concepts of Adult Health (3)
  - RNSG1412 - Nursing Care of the Childbearing and Childrearing Family (4)
  - RNSG2162 - Clinical - Registered Nursing/Registered Nurse (1)
  - RNSG2213 - Mental Health Nursing (2)
  - RNSG2262 - Clinical - Registered Nursing/Registered Nurse (2)

### Semester 5

12 Total Credits

- Complete the following:
  - RNSG1463 - Clinical - Registered Nursing/Registered Nurse (4)
  - RNSG2221 - Professional Nursing: Leadership and Management (2)
  - RNSG2230 - Professional Nursing Review and Licensure Preparation (2)
  - RNSG2432 - Enhanced Concepts of Adult Health (4)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - RNSG2230 - Professional Nursing Review and Licensure Preparation (2)

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### **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

### **Auto Collision & Management Technology**

#### **Description**

According to autonews.com, auto collision repair is a \$35 billion-a-year business in the United States. That is why the auto body industry is a great career choice for those seeking a relatively stable job with above-average wages. At TSTC, you will get the crucial hands-on experience that can make you irresistible to employers. The Auto Collision and Management Technology program offers a specialization in auto body refinishing, collision repair, and sheet metal fabrication. For quicker entry into the industry, certificate programs are available. Advanced certificate programs are also available.

### **Auto Collision & Management Technology - Auto Collision & Management Technology - Refinishing Specialization AAS**

#### **Locations**

Waco  
Harlingen

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

13 Total Credits

- Complete the following:
  - ABDR1203 - Vehicle Design and Structural Analysis (2)
  - ABDR1215 - Vehicle Trim and Hardware (2)
  - ABDR1349 - Automotive Plastic and Sheet Molded Compound Repair (3)
  - ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices (3)
  - ENGL1301 - Composition I (3)

### Semester 2

18 Total Credits

- Complete the following:
  - ABDR1419 - Basic Metal Repair (4)
  - ABDR1431 - Basic Refinishing (4)
  - ABDR1458 - Intermediate Refinishing (4)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 3

17 Total Credits

- Complete the following:
  - ABDR2255 - Collision Repair Estimating (2)
  - ABDR2371 - Refinishing Process I (3)
  - ABDR2449 - Advanced Refinishing (4)
  - ABDR2551 - Specialized Refinishing Techniques (5)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

12 Total Credits

- Complete all of the following
  - Complete at least 2 credits from the following:
    - ABDR2270 - Advanced Application Processes of Refinishing (2)
    - ABDR2281 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (2)
  - Complete the following:
    - ABDR2357 - Collision Repair Shop Management (3)
    - ABDR2453 - Color Analysis and Paint Matching (4)
    - ACGM3GED - Gen Ed Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete at least 2 credits from the following:
  - ABDR2270 - Advanced Application Processes of Refinishing (2)
  - ABDR2281 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (2)
- Complete the following:
  - ABDR2453 - Color Analysis and Paint Matching (4)

## **Pre/Corequisites**

- ABDR 1431, ABDR 1458 Prerequisite(s): ABDR 1371
- ABDR 2371, ABDR2449, ABDR 2551 Prerequisite(s): ABDR 1458, ABDR 1431
- ABDR 2270, ABDR 2281, ABDR 2453 Prerequisite(s): ABDR 2449, ABDR 2551
- ABDR 2357 Prerequisite(s): ABDR 2255

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### **Elective Options**

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework(1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

### **Auto Collision & Management Technology - Auto Collision & Management Technology - Repair Specialization AAS**

#### **Locations**

Waco  
Harlingen

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## **Program Requirements**

### Semester 1

13 Total Credits

- Complete the following:
  - ABDR1203 - Vehicle Design and Structural Analysis (2)
  - ABDR1215 - Vehicle Trim and Hardware (2)
  - ABDR1349 - Automotive Plastic and Sheet Molded Compound Repair (3)
  - ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices (3)
  - ENGL1301 - Composition I (3)

### Semester 2

15 Total Credits

- Complete the following:
  - ABDR1307 - Collision Repair Welding (3)
  - ABDR2255 - Collision Repair Estimating (2)
  - ABDR2435 - Structural Analysis and Damage Repair IV (4)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 3

17 Total Credits

- Complete the following:
  - ABDR1323 - Front and Rear Wheel Alignment (3)
  - ABDR1419 - Basic Metal Repair (4)
  - ABDR2447 - Advanced Collision Repair Welding (4)
  - ACGM3GED - Gen Ed Elective (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

15 Total Credits

- Complete all of the following
  - Complete at least 4 credits from the following:
    - ABDR1442 - Structural Analysis and Damage Repair II (4)
    - ABDR1481 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (4)
  - Complete the following:
    - ABDR2357 - Collision Repair Shop Management (3)
    - ABDR2359 - Structural Sectioning (3)
    - ABDR2502 - Auto Body Mechanical and Electrical Service (5)

Degree Plan Credits **60**

## **Capstone**

- Complete 1 of the following
  - Complete the following:
    - ABDR1442 - Structural Analysis and Damage Repair II (4)
  - Complete the following:
    - ABDR1481 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (4)
- Complete the following:
  - ABDR2359 - Structural Sectioning (3)
  - ABDR2502 - Auto Body Mechanical and Electrical Service (5)

## **Pre/Corequisites**

- ABDR 1307, ABDR 2435 Prerequisite(s): ABDR 1215
- ABDR 1323 Prerequisite(s): ABDR 2435
- ABDR 2447 Prerequisite(s): ABDR 1307
- ABDR 1442 Prerequisite(s): ABDR 1323, ABDR 1419, ABDR 2435
- ABDR 2357 Prerequisite(s): ABDR 2255
- ABDR 2359, ABDR 2502 Prerequisite(s): ABDR 1307, ABDR 1419, ABDR 2435

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### Elective Options

- Complete at least courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework(1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete 1 General Education Elective as recommended by program
- Complete at least courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

### **Auto Collision & Management Technology - Auto Collision & Management Technology - Repair Specialization CO-OP AAS**

#### Locations

Waco

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## **Program Requirements**

Semester 1 First Session  
11 Total Credits

- Complete the following:
  - ABDR1215 - Vehicle Trim and Hardware (2)
  - ABDR1349 - Automotive Plastic and Sheet Molded Compound Repair (3)
  - ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices (3)
  - ENGL1301 - Composition I (3)

Semester 1 Second Session  
2 Total Credits

- Complete the following:
  - ABDR1280 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (2)

Semester 2 First Session  
12 Total Credits

- Complete the following:
  - ABDR1307 - Collision Repair Welding (3)
  - ABDR2255 - Collision Repair Estimating (2)
  - ABDR2435 - Structural Analysis and Damage Repair IV (4)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

Semester 2 Second Session  
3 Total Credits

- Complete the following:
  - ABDR2380 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (3)

Semester 3 First Session  
14 Total Credits

- Complete the following:
  - ABDR1419 - Basic Metal Repair (4)
  - ABDR2447 - Advanced Collision Repair Welding (4)
  - ACGM3GED - Gen Ed Elective (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Semester 3 Second Session  
3 Total Credits

- Complete the following:
  - ABDR2381 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (3)

Semester 4 First Session  
4 Total Credits

- Complete the following:
  - ABDR1481 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (4)

Semester 4 Second Session  
11 Total Credits

- Complete the following:
  - ABDR2359 - Structural Sectioning (3)
  - ABDR2502 - Auto Body Mechanical and Electrical Service (5)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - ABDR1481 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (4)
  - ABDR2359 - Structural Sectioning (3)
  - ABDR2502 - Auto Body Mechanical and Electrical Service (5)

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## Pre/Corequisites

- ABDR 1307, ABDR 2435 Prerequisite(s): ABDR 1215
- ABDR 2447 Prerequisite(s): ABDR 1307
- ABDR 2359, ABDR 2502 Prerequisite(s): ABDR 1307, ABDR 1419, ABDR 2435

## Elective Options

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete 1 General Education Elective as recommended by program
- Complete at least courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)



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## **Auto Collision & Management Technology - Auto Collision Refinishing CER1**

### **Locations**

Waco  
Harlingen

### **Program Requirements**

Semester 1

13 Total Credits

- Complete the following:
  - ABDR1203 - Vehicle Design and Structural Analysis (2)
  - ABDR1215 - Vehicle Trim and Hardware (2)
  - ABDR1349 - Automotive Plastic and Sheet Molded Compound Repair (3)
  - ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices (3)
  - TECM1303 - Technical Calculations (3)

Semester 2

17 Total Credits

- Complete the following:
  - ABDR1419 - Basic Metal Repair (4)
  - ABDR1431 - Basic Refinishing (4)
  - ABDR1458 - Intermediate Refinishing (4)
  - POFT1301 - Business English (3)
  - ABDR2255 - Collision Repair Estimating (2)

Degree Plan Credits **30**

### **Capstone**

- Complete the following:
  - ABDR1458 - Intermediate Refinishing (4)

### **Pre/Corequisites**

- ABDR 1431, ABDR 1458 Prerequisite(s): ABDR 1371

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## **Auto Collision & Management Technology - Auto Collision Refinishing CER2**

### **Locations**

Waco  
Harlingen

### **Program Requirements**

Semester 1

13 Total Credits

- Complete the following:
  - ABDR1203 - Vehicle Design and Structural Analysis (2)
  - ABDR1215 - Vehicle Trim and Hardware (2)
  - ABDR1349 - Automotive Plastic and Sheet Molded Compound Repair (3)
  - ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices (3)
  - TECM1303 - Technical Calculations (3)

Semester 2

15 Total Credits

- Complete the following:
  - ABDR1419 - Basic Metal Repair (4)
  - ABDR1431 - Basic Refinishing (4)
  - ABDR1458 - Intermediate Refinishing (4)
  - POFT1301 - Business English (3)

Semester 3

14 Total Credits

- Complete the following:
  - ABDR2255 - Collision Repair Estimating (2)
  - ABDR2371 - Refinishing Process I (3)
  - ABDR2449 - Advanced Refinishing (4)
  - ABDR2551 - Specialized Refinishing Techniques (5)

Degree Plan Credits **42**

### **Capstone**

- Complete the following:
  - ABDR2449 - Advanced Refinishing (4)

### **Pre/Corequisites**

- ABDR 1431, ABDR 1458 Prerequisite(s): ABDR 1371
- ABDR 2371, ABDR 2449, ABDR 2551 Prerequisite(s): ABDR 1458, ABDR 1431

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## **Auto Collision & Management Technology - Auto Collision Repair CER1**

### **Locations**

Waco  
Harlingen

### **Program Requirements**

Semester 1

13 Total Credits

- Complete the following:
  - ABDR1203 - Vehicle Design and Structural Analysis (2)
  - ABDR1215 - Vehicle Trim and Hardware (2)
  - ABDR1349 - Automotive Plastic and Sheet Molded Compound Repair (3)
  - ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices (3)
  - TECM1303 - Technical Calculations (3)

Semester 2

12 Total Credits

- Complete the following:
  - ABDR1307 - Collision Repair Welding (3)
  - ABDR1359 - Sheet Metal Fabrication I (3)
  - ABDR2255 - Collision Repair Estimating (2)
  - ABDR2435 - Structural Analysis and Damage Repair IV (4)

Semester 3

10 Total Credits

- Complete the following:
  - ABDR1323 - Front and Rear Wheel Alignment (3)
  - ABDR1419 - Basic Metal Repair (4)
  - POFT1301 - Business English (3)

Degree Plan Credits **35**

### **Capstone**

- Complete the following:
  - ABDR1419 - Basic Metal Repair (4)
  - ABDR2435 - Structural Analysis and Damage Repair IV (4)

### **Pre/Corequisites**

- ABDR 1307, ABDR 2435 Prerequisite(s): ABDR 1215
- ABDR 1323 Prerequisite(s): ABDR 2435

## **Auto Collision & Management Technology - Auto Collision Repair CER2**

### **Locations**

Waco  
Harlingen

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## **Program Requirements**

### Semester 1

13 Total Credits

- Complete the following:
  - ABDR1203 - Vehicle Design and Structural Analysis (2)
  - ABDR1215 - Vehicle Trim and Hardware (2)
  - ABDR1349 - Automotive Plastic and Sheet Molded Compound Repair (3)
  - ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices (3)
  - TECM1303 - Technical Calculations (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ABDR1307 - Collision Repair Welding (3)
  - ABDR1359 - Sheet Metal Fabrication I (3)
  - ABDR2255 - Collision Repair Estimating (2)
  - ABDR2435 - Structural Analysis and Damage Repair IV (4)

### Semester 3

10 Total Credits

- Complete the following:
  - ABDR1323 - Front and Rear Wheel Alignment (3)
  - ABDR1419 - Basic Metal Repair (4)
  - POFT1301 - Business English (3)

### Semester 4

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ABDR2359 - Structural Sectioning (3)
    - ABDR2502 - Auto Body Mechanical and Electrical Service (5)
  - Complete at least 4 credits from the following:
    - ABDR1442 - Structural Analysis and Damage Repair II (4)
    - ABDR1481 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (4)

Degree Plan Credits **47**

## **Capstone**

- Complete 1 of the following
  - Complete the following:
    - ABDR1442 - Structural Analysis and Damage Repair II (4)
  - Complete the following:
    - ABDR1481 - Cooperative Education - Autobody/Collision and Repair Technology/Technician (4)
- Complete the following:
  - ABDR2359 - Structural Sectioning (3)

## **Pre/Corequisites**

- ABDR 1307, ABDR 2435 Prerequisite(s): ABDR 1215
- ABDR 1323 Prerequisite(s): ABDR 2435
- ABDR 1442 Prerequisite(s): ABDR 1323, ABDR 1419, ABDR 2435
- ABDR 2359, ABDR 2502 Prerequisite(s): ABDR 1307, ABDR 1419, ABDR 2435

## **Auto Collision & Management Technology - Tesla Collision Repair ATC**

### **Locations**

Waco

### **Program Requirements**

- Complete the following:
  - AUMT1471 - Introduction and Theory of Tesla Vehicles (4)
  - ABDR1472 - Cosmetic Repair and Conditioning (4)
  - ABDR1473 - Tesla Specialized Welding (4)
  - ABDR1474 - Tesla Structural Repair (4)

Degree Plan Credits **16**

## **Automation & Controls Technology**

### **Description**

Automation and Controls Technology students learn how to automate the industrial world. Be on the cutting edge of the automation technologies that companies are using to upgrade their systems. Students will learn how to troubleshoot, calibrate, implement, service, repair, and replace analog and electromechanical instruments, putting the automation basics to work. Add in computerized control, robotic control, robotic assembly devices, and computer-controlled manufacturing systems like programmable logic controllers and human machine interface, and students will know how to automate and control most industrial processes. Students will receive in-depth classroom instruction followed by real-world, hands-on training in labs to gain the solid foundation necessary in this high-tech field. Training begins with basic electrical concepts and motors and motor control application. Students then advance to solid state electronic principles, electrical codes, measurements, calibration, and automation control schemes. Enhance your automation skills and knowledge with extensive, industry-driven, hands-on exercises in PLC concepts, design, maintenance and troubleshooting on state-of-the-art lab equipment that includes robotics interfacing. Be a part of our automation nation.

## **Automotive Technology**

### **Description**

The Automotive Technology program at TSTC features approximately \$3 million worth of the latest equipment and laboratories. The program is accredited by Automotive Service Excellence Program Accreditation (ASE), and instructors are certified by ASE and bring years of industry experience to the classroom. Students receive intensive, hands-on training, spending more than 60% of their time in labs, learning by doing. The curriculum is guided by an advisory board of industry leaders, helping to ensure that the training that students receive is on target with what the industry needs.

Automotive Technology offers specializations in Chrysler and Tesla START. For quicker entry into the field, certificates and an occupational skills award are available.

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## Automotive Technology - Automotive Maintenance & Light Repair CER1

### Locations

Harlingen  
Sweetwater

### Program Requirements

Semester 1

10 Total Credits

- Complete the following:
  - AUMT1305 - Introduction to Automotive Technology (3)
  - AUMT1307 - Automotive Electrical Systems (3)
  - AUMT1416 - Automotive Suspension and Steering Systems (4)

Semester 2

14 Total Credits

- Complete the following:
  - AUMT1310 - Automotive Brake Systems (3)
  - AUMT1345 - Automotive Climate Control Systems (3)
  - AUMT1419 - Automotive Engine Repair (4)
  - AUMT2413 - Automotive Drive Train and Axles (4)

Semester 3

10 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AUMT1312 - Basic Automotive Service (3)
    - AUMT1380 - Cooperative Education - Automobile/Automotive Mechanics Technology/Technician (3)
  - Complete the following:
    - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)
    - AUMT2417 - Automotive Engine Performance Analysis I (4)

Degree Plan Credits **34**

### Capstone

- Complete 1 of the following
  - Complete the following:
    - AUMT1312 - Basic Automotive Service (3)
  - Complete the following:
    - AUMT1380 - Cooperative Education - Automobile/Automotive Mechanics Technology/Technician (3)

### Pre/Corequisites

- AUMT 1345 Prerequisite(s): AUMT 1201 or AUMT 1305, AUMT 1307 (Prerequisite or Corequisite)
- AUMT 1419 Prerequisite(s): AUMT 1305
- AUMT 1380 Prerequisite(s): AUMT 1310 (Prerequisite or Corequisite)
- AUMT 2417 Prerequisite(s): AUMT 1201 or AUMT 1305, AUMT 1307, AUMT 1419 (Prerequisite or Corequisite)

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## Automotive Technology - Automotive Technician CER2

### Locations

Waco  
Harlingen  
Sweetwater

### Program Requirements

#### Semester 1

10 Total Credits

- Complete the following:
  - AUMT1305 - Introduction to Automotive Technology (3)
  - AUMT1307 - Automotive Electrical Systems (3)
  - AUMT1416 - Automotive Suspension and Steering Systems (4)

#### Semester 2

10 Total Credits

- Complete the following:
  - AUMT1310 - Automotive Brake Systems (3)
  - AUMT1345 - Automotive Climate Control Systems (3)
  - AUMT1419 - Automotive Engine Repair (4)

#### Semester 3

11 Total Credits

- Complete the following:
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)
  - AUMT2413 - Automotive Drive Train and Axles (4)
  - AUMT2417 - Automotive Engine Performance Analysis I (4)

#### Semester 4

14 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AUMT2302 - Automotive Compression Ignition Engines & Fuel Systems (3)
    - AUMT2328 - Automotive Service (3)
    - AUMT2357 - Automotive Alternative Fuels (3)
    - AUMT2380 - Cooperative Education - Automobile/Automotive Mechanics Technology/Technician (3)
  - Complete the following:
    - AUMT2337 - Automotive Electronics (3)
    - AUMT2425 - Automotive Automatic Transmission and Transaxle (4)
    - AUMT2434 - Automotive Engine Performance Analysis II (4)

Degree Plan Credits **45**

### Capstone

- Complete the following:
  - AUMT2337 - Automotive Electronics (3)
  - AUMT2425 - Automotive Automatic Transmission and Transaxle (4)
  - AUMT2434 - Automotive Engine Performance Analysis II (4)

### Pre/Corequisites

- AUMT 1345 Prerequisite(s): AUMT 1201 or AUMT 1305, AUMT 1307 (Prerequisite or Corequisite)
- AUMT 2417 Prerequisite(s): AUMT 1201 or AUMT 1305, AUMT 1307, AUMT 1419 (Prerequisite or Corequisite)
- AUMT 2302 Prerequisite(s): AUMT 2417
- AUMT 2328, AUMT 2380 Prerequisite(s): AUMT 2413, AUMT 2417, AUMT 2321
- AUMT 2337 Prerequisite(s): AUMT 2321 (Prerequisite or Corequisite)
- AUMT 2425, AUMT 2434 Prerequisite(s): AUMT 2417 (Prerequisite or Corequisite), AUMT 2321

### **Locations**

Waco  
Harlingen  
Sweetwater

### **Program Requirements**

#### Semester 1

13 Total Credits

- Complete all of the following
  - Complete the following:
    - AUMT1305 - Introduction to Automotive Technology (3)
    - AUMT1307 - Automotive Electrical Systems (3)
    - AUMT1416 - Automotive Suspension and Steering Systems (4)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

#### Semester 2

16 Total Credits

- Complete the following:
  - AUMT1310 - Automotive Brake Systems (3)
  - AUMT1345 - Automotive Climate Control Systems (3)
  - AUMT1419 - Automotive Engine Repair (4)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

#### Semester 3

17 Total Credits

- Complete the following:
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)
  - AUMT2413 - Automotive Drive Train and Axles (4)
  - AUMT2417 - Automotive Engine Performance Analysis I (4)
  - ACGM3GED - Gen Ed Elective (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

#### Semester 4

14 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AUMT2302 - Automotive Compression Ignition Engines & Fuel Systems (3)
    - AUMT2328 - Automotive Service (3)
    - AUMT2357 - Automotive Alternative Fuels (3)
    - AUMT2380 - Cooperative Education - Automobile/Automotive Mechanics Technology/Technician (3)
  - Complete the following:
    - AUMT2337 - Automotive Electronics (3)
    - AUMT2425 - Automotive Automatic Transmission and Transaxle (4)
    - AUMT2434 - Automotive Engine Performance Analysis II (4)

Degree Plan Credits **60**

### **Capstone**

- Complete the following:
  - AUMT2337 - Automotive Electronics (3)
  - AUMT2425 - Automotive Automatic Transmission and Transaxle (4)
  - AUMT2434 - Automotive Engine Performance Analysis II (4)



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### Pre/Corequisites

- AUMT 1345 Prerequisite(s): AUMT 1201 or AUMT 1305, AUMT 1307 (Prerequisite or Corequisite)
- AUMT 1419 Prerequisite(s): AUMT 1305
- AUMT 2417 Prerequisite(s): AUMT 1201 or AUMT 1305, AUMT 1307, AUMT 1419 (Prerequisite or Corequisite)
- AUMT 2302 Prerequisite(s): AUMT 2417
- AUMT 2328, AUMT 2380 Prerequisite(s): AUMT 2413, AUMT 2417, AUMT 2321
- AUMT 2337 Prerequisite(s): AUMT 2321 (Prerequisite or Corequisite)
- AUMT 2425, AUMT 2434 Prerequisite(s): AUMT 2417 (Prerequisite or Corequisite), AUMT 2321

### Elective Options

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete 1 General Education Elective as recommended by program
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

**Locations**

Waco

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## **Program Requirements**

Semester 1 First Session  
9 Total Credits

- Complete the following:
  - AUMT1305 - Introduction to Automotive Technology (3)
  - AUMT1307 - Automotive Electrical Systems (3)
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)

Semester 1 Second Session  
1 Total Credits

- Complete the following:
  - AUMT1166 - Practicum (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician (1)

Semester 2 First Session  
10 Total Credits

- Complete the following:
  - AUMT1310 - Automotive Brake Systems (3)
  - AUMT1416 - Automotive Suspension and Steering Systems (4)
  - AUMT2337 - Automotive Electronics (3)

Semester 2 Second Session  
1 Total Credits

- Complete the following:
  - AUMT1167 - Practicum (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician (1)

Semester 3 First Session  
1 Total Credits

- Complete the following:
  - AUMT2188 - Internship (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician (1)

Semester 3 Second Session  
7 Total Credits

- Complete the following:
  - AUMT1345 - Automotive Climate Control Systems (3)
  - AUMT1419 - Automotive Engine Repair (4)

Semester 4 First Session  
1 Total Credits

- Complete the following:
  - AUMT2189 - Internship (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician (1)

Semester 4 Second Session  
8 Total Credits

- Complete the following:
  - AUMT2417 - Automotive Engine Performance Analysis I (4)
  - AUMT2434 - Automotive Engine Performance Analysis II (4)

Semester 5 First Session  
3 Total Credits

- Complete the following:
  - AUMT1380 - Cooperative Education - Automobile/Automotive Mechanics Technology/Technician (3)

Semester 5 Second Session  
8 Total Credits

- Complete the following:
  - AUMT2413 - Automotive Drive Train and Axles (4)
  - AUMT2425 - Automotive Automatic Transmission and Transaxle (4)

Degree Plan Credits **49**

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## **Capstone**

- Complete the following:
  - AUMT2337 - Automotive Electronics (3)
  - AUMT2434 - Automotive Engine Performance Analysis II (4)
  - AUMT2425 - Automotive Automatic Transmission and Transaxle (4)

## **Pre/Corequisites**

- AUMT 2337 Prerequisite(s): AUMT 2321 (Prerequisite or Corequisite)
- AUMT 1345 Prerequisite(s): AUMT 1201 or AUMT 1305, AUMT 1307 (Prerequisite or Corequisite)
- AUMT 1419 Prerequisite(s): AUMT 1305
- AUMT 2189, AUMT 2434, AUMT 2425 Prerequisite(s): AUMT 2417 (Prerequisite or Corequisite), AUMT 2321
- AUMT 2417 Prerequisite(s): AUMT 1201 or AUMT 1305, AUMT 1307, AUMT 1419 (Prerequisite or Corequisite)
- AUMT 1380 Prerequisite(s): AUMT 1310 (Prerequisite or Corequisite)

## **Automotive Technology - Automotive Tesla START Technician Certificate ATC**

### **Locations**

Waco

### **Program Requirements**

Semester 1

16 Total Credits

- Complete the following:
  - AUMT1471 - Introduction and Theory of Tesla Vehicles (4)
  - AUMT1472 - Automotive Electrical, Chassis, Driver Assist Systems Theory (4)
  - AUMT1473 - Automotive Electronics Theory (4)
  - AUMT1474 - Infotainment Systems and Service Center Skills (4)

Degree Plan Credits **16**

### **Capstone**

- Complete the following:
  - AUMT1473 - Automotive Electronics Theory (4)

## **Avionics Technology**

### **Description**

Avionics is one of the most exciting and challenging careers in the aviation industry. Avionics technicians are responsible for installing, maintaining and repairing navigational and communication radios, transponders, digital audio systems, flight management computers and aircraft autopilot systems on all sizes of aircraft. TSTC's Avionics program helps prepare students for the Federal Communication Commission's General Radio-Telephone Operator's License (FCC GROL) and the Aircraft Electronic Technician certification from the National Center for Aerospace and Transportation Technologies (NCATT AET). The curriculum includes college-transferable courses in science, mathematics and English required for the Associate of Applied Science degree, which prepares you to meet the expanding responsibilities of today's avionics technician.

## **Avionics Technology - Avionics Installation Technician CER1**

### **Locations**

Waco

### **Program Requirements**

Semester 1

9 Total Credits

- Complete the following:
  - AVNC1303 - Introduction to Aviation Electronic Systems (3)
  - AVNC1343 - Aviation Electrical and Electronic Systems Installation (3)
  - CETT1302 - Electricity Principles (3)

Semester 2

9 Total Credits

- Complete the following:
  - AVNC1353 - Operational Testing of Aviation Electronic Systems (3)
  - AVNC2308 - Aviation Electrical and Electronics Systems Installation II (3)
  - CETT1325 - Digital Fundamentals (3)

Semester 3

12 Total Credits

- Complete the following:
  - AVNC1306 - FAA Regulations for Avionics Certified Repair Station (3)
  - AVNC1391 - Installation & Operational Testing of Avionics & Pitot-Static Systems (3)
  - CSIR2301 - Communication Electronics Components (3)
  - CSIR1355 - Industry Certifications (3)

Degree Plan Credits **30**

### **Capstone**

- Complete the following:
  - AVNC1391 - Installation & Operational Testing of Avionics & Pitot-Static Systems (3)

### **Pre/Corequisites**

- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305
- CSIR 2301, CSIR 1355 Prerequisite(s): IEIR 1371 or CETT 1302

## **Avionics Technology - Avionics Technology AAS**

### **Locations**

Waco

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete all of the following
  - Complete the following:
    - AVNC1303 - Introduction to Aviation Electronic Systems (3)
    - AVNC1343 - Aviation Electrical and Electronic Systems Installation (3)
    - CETT1302 - Electricity Principles (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 2

12 Total Credits

- Complete all of the following
  - Complete the following:
    - AVNC1353 - Operational Testing of Aviation Electronic Systems (3)
    - AVNC2308 - Aviation Electrical and Electronics Systems Installation II (3)
    - CETT1325 - Digital Fundamentals (3)
  - Complete at least 3 credits from the following:
    - MATH1332 - Contemporary Mathematics (Quantitative Reasoning) (3)
    - MATH1314 - College Algebra (3 SCH version) (3)
    - MATH1316 - Plane Trigonometry (3)

### Semester 3

12 Total Credits

- Complete the following:
  - AVNC1306 - FAA Regulations for Avionics Certified Repair Station (3)
  - AVNC1391 - Installation & Operational Testing of Avionics & Pitot-Static Systems (3)
  - CSIR2301 - Communication Electronics Components (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - AVNC2304 - Foundations in Avionics Equipment Component Level Repairs (3)
  - AVNC2357 - Aviation Communication Component Level Repair (3)
  - CSIR1355 - Industry Certifications (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 5

12 Total Credits

- Complete the following:
  - AVNC2345 - Aviation Navigational Equipment Component Level Repair (3)
  - AVNC2350 - Aviation Pulsed RF Equipment Component Level Repair (3)
  - AVNC2355 - Advanced Aviation Electronics Troubleshooting (3)
  - ACGM3GED - Gen Ed Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - AVNC2355 - Advanced Aviation Electronics Troubleshooting (3)

## **Pre/Corequisites**

- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305
- CSIR 2301, CSIR 1355 Prerequisite(s): IEIR 1371 or CETT 1302

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## **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete 1 General Education Elective as recommended by program

## **Biology**

### **Description**

The Associate of Science degree in Biology provides the opportunity to complete the core curriculum of general education courses along with additional courses in the field of biology. With this degree, you can work in various fields of biology and health care, or transfer your credits to a four-year institution in order to further your education beyond an Associate of Science degree. The biology courses offered can also provide prerequisite coursework for various allied health programs including the nursing programs.

## **Biology - Biology AS**

### **Locations**

Harlingen

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## **Program Requirements**

### Semester 1

13 Total Credits

- Complete the following:
  - ENGL1301 - Composition I (3)
  - HIST1301 - United States History I (3)
  - BIOL1306 - Biology for Science Majors I (lecture) (3)
  - BIOL1106 - Biology for Science Majors Laboratory I (lab) (1)
  - MATH1314 - College Algebra (3 SCH version) (3)

### Semester 2

10 Total Credits

- Complete the following:
  - ENGL1302 - Composition II (3)
  - HIST1302 - United States History II (3)
  - Course Not Found
  - BIOL1307 - Biology for Science Majors II (3)
  - BIOL1107 - Biology for Science Majors II Lab (1)

### Semester 3

10 Total Credits

- Complete the following:
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
  - ACGM3CAR - Creative Arts Elective (3)
  - CHEM1311 - General Chemistry I (lecture) (3)
  - CHEM1111 - General Chemistry I (lab) (1)
  - Course Not Found

### Semester 4

6 Total Credits

- Complete the following:
  - GOVT2305 - Federal Government (Federal constitution & topics) (3)
  - ACGM3LPC - Language, Philosophy and Culture Elective (3)
  - Course Not Found
  - Course Not Found

### Semester 5

7 Total Credits

- Complete the following:
  - GOVT2306 - Texas Government (Texas constitution & topics) (3)
  - BIOL2321 - Microbiology for Science Majors (3)
  - BIOL2121 - Microbiology for Science Majors Lab (1)

Degree Plan Credits **46**

## **Capstone**

- Complete the following:
  - BIOL2321 - Microbiology for Science Majors (3)
  - BIOL2121 - Microbiology for Science Majors Lab (1)



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### Pre/Corequisites

- BIOL 1306 Prerequisite(s): MATH 1314 College Algebra (3 SCH version) recommended, or concurrent enrollment in higher-level mathematics recommended
- BIOL 1106 Prerequisite(s): BIOL 1306 (Prerequisite or Corequisite)
- ENGL 1302 Prerequisite(s): ENGL 1301
- BIOL1307 Prerequisite(s): MATH 1314 College Algebra (3 SCH version) Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.
- BIOL1107 Prerequisite(s): BIOL 1307 (Prerequisite or Corequisite)
- CHEM1311 Prerequisite(s): MATH 1314 College Algebra (3 SCH version) or equivalent academic preparation. CHEM 1111 General Chemistry I (Corequisite) High school chemistry is strongly recommended
- CHEM1111 Prerequisite(s): CHEM 1311 General Chemistry I (Corequisite)
- CHEM1111 Prerequisite(s): CHEM 1311 General Chemistry I (Corequisite)
- BIOL2121 Prerequisite(s): BIOL 2121 - BIOL 2321 (Prerequisite or Corequisite)

### Elective Options

- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Creative Arts Elective
  - ARTS1301 - Art Appreciation (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 8 credits from the following course set:  
Biology 4 Credit Approved Elective List 1
  - BIOL1111 - General Botany Lab(1)
  - BIOL1311 - General Botany(3)
  - BIOL1113 - General Zoology (lab)(1)
  - BIOL1313 - General Zoology (lecture)(3)
  - BIOL2101 - Anatomy & Physiology I (lab)(1)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2102 - Anatomy & Physiology II (lab)(1)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - BIOL2306 - Environmental Biology (lecture)(3)
  - BIOL2106 - Environmental Biology (lab)(1)
  - BIOL2116 - Genetics (lab)(1)
  - BIOL2316 - Genetics (lecture)(3)
  - CHEM1112 - General Chemistry II (lab)(1)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - PHYS1101 - College Physics Laboratory I(1)
  - PHYS1301 - College Physics I (lecture)(3)
  - PHYS1102 - College Physics Lab II(1)
  - PHYS1302 - College Physics II (lecture)(3)
- Complete at least 1 courses from the following:  
Language, Philosophy & Culture Elective

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- ENGL2321 - British Literature (3)
- ENGL2326 - American Literature (single-Semester Course) (3)
- ENGL2331 - World Literature (3)
- PHIL1304 - Introduction to World Religions (3)
- Complete at least 3 credits from the following course set:  
Biology 3 Credit Approved Elective List 2
  - ANTH2346 - General Anthropology (3)
  - BIOL1322 - Nutrition & Diet Therapy (3)
  - GEOG1303 - World Regional Geography (3)
  - HIST2321 - World Civilizations I (3)
  - MATH1316 - Plane Trigonometry (3)
  - MATH1342 - Elementary Statistical Methods (3)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development (3)
  - SOCI1301 - Introduction to Sociology (3)
  - MATH2312 - Pre-Calculus Math (3 SCH version) (3)

### **Biomedical Equipment Technology**

#### **Description**

First-rate equipment, experienced staff and an advisory board that comprises top industry names are just a few of the benefits available at TSTC. Biomedical equipment technicians work on equipment such as defibrillators, heart monitors, medical imaging equipment (X-rays, CAT scanners and ultrasound equipment), voice-controlled operating tables and electric wheelchairs, so the industry needs sharp, professional technicians that can inspect, calibrate, maintain, troubleshoot and repair this critical medical equipment. Students in the program gain hands-on experience working with everything from the simplest suction pump to the most sophisticated laboratory equipment, cardiac monitors, and X-ray and ultrasound equipment.

### **Biomedical Equipment Technology - Biomedical Equipment Technology AAS**

#### **Locations**

Waco  
Harlingen

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - BIOM1101 - Biomedical Equipment Technology (1)
  - BIOM1270 - Shop Skills for Biomedical Equipment Technicians (2)
  - BIOM1373 - Medical Software and Hardware (3)
  - CETT1303 - DC Circuits (3)
  - ACGM3MTH - Gen Ed Mathematics Elective (3)

### Semester 2

15 Total Credits

- Complete all of the following
  - Complete the following:
    - BIOM1309 - Applied Biomedical Equipment Technology (3)
  - Complete at least 3 credits from the following:
    - BIOM1315 - Medical Equipment Networks (3)
    - ITNW1325 - Fundamentals of Networking Technologies (3)
  - Complete the following:
    - CETT1305 - AC Circuits (3)
    - ENGL1301 - Composition I (3)
    - ACGM3NSC - Gen Ed Natural Science Elective (3)

### Semester 3

15 Total Credits

- Complete the following:
  - BIOM1341 - Medical Circuits/Troubleshooting (3)
  - BIOM2301 - Safety in Health Care Facilities (3)
  - BIOM2311 - General Medical Equipment I (3)
  - BIOM2319 - Fundamentals of X-Ray and Medical Imaging Systems (3)
  - CETT1325 - Digital Fundamentals (3)

### Semester 4

12 Total Credits

- Complete all of the following
  - Complete the following:
    - BIOM2215 - Physiological Instruments I (2)
    - BIOM2231 - Biomedical Clinical Instrumentation (2)
  - Complete at least 2 credits from the following:
    - BIOM2239 - Physiological Instruments II (2)
    - BIOM1291 - Special Topics in Biomedical Engineering-Related Technology/Technician (2)
    - BIOM1250 - Diagnostic Ultrasound Imaging System (2)
  - Complete at least 3 credits from the following:
    - BIOM2343 - General Medical Equipment II (3)
    - BIOM1355 - Medical Electronic Applications (3)
  - Complete the following:
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 5

6 Total Credits

- Complete the following:
  - BIOM2388 - Internship - Biomedical Technology/Technician (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - BIOM2388 - Internship - Biomedical Technology/Technician (3)

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## Pre/Corequisites

- BIOM 1315 Prerequisite(s): BIOM 1373
- CETT 1305 Prerequisite(s): CETT 1303
- BIOM 1341, BIOM 2301, BIOM 2311, BIOM 2319 Prerequisite(s): CETT 1303, CETT 1305
- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305 (Prerequisite or Corequisite)
- BIOM 2215 Prerequisite(s): BIOM 2301
- BIOM 2239 Prerequisite(s): BIOM 2301, BIOM 2215 (Corequisite)
- BIOM 2343, BIOM 1355 Prerequisite(s): BIOM 2301

## Elective Options

- Complete at least 1 courses from the following:  
Mathematics Elective
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1325 - Calculus for Business & Social Sciences(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - MATH1350 - Math - Teachers I Fundamentals of Math I(3)
  - MATH1351 - Fundamentals of Mathematics II(3)
  - MATH2312 - Pre-Calculus Math (3 SCH version)(3)
  - MATH2313 - Calculus I(3)
  - MATH2318 - Linear Algebra (3)
  - MATH2320 - Differential Equations (3 SCH version)(3)
  - MATH2342 - Elementary Statistical Methods(3)
  - MATH2313 - Calculus I(3)
  - MATH2414 - Calculus II (4 SCH version)(4)
  - MATH2415 - Calculus III (4 SCH version)(4)
- Complete at least 1 courses from the following:  
Natural Science Elective
  - BIOL1106 - Biology for Science Majors Laboratory I (lab)(1)
  - BIOL1107 - Biology for Science Majors II Lab(1)
  - BIOL1108 - Biology Non-Science Majors Laboratory I(1)
  - BIOL1109 - Biology for Non-Science Majors II Lab(1)
  - BIOL1113 - General Zoology (lab)(1)
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL1313 - General Zoology (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL2101 - Anatomy & Physiology I (lab)(1)
  - BIOL2102 - Anatomy & Physiology II (lab)(1)
  - BIOL2116 - Genetics (lab)(1)
  - BIOL2120 - Microbiology for Non-Science Majors Laboratory (lab)(1)
  - BIOL2121 - Microbiology for Science Majors Lab(1)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - BIOL2316 - Genetics (lecture)(3)
  - BIOL2320 - Microbiology for Non-Science Majors (lecture)(3)
  - BIOL2321 - Microbiology for Science Majors(3)
  - BIOL2401 - Anatomy & Physiology I (lecture + lab)(4)
  - BIOL2402 - Anatomy & Physiology II (lecture + lab)(4)
  - BIOL2404 - Anatomy & Physiology (specialized, Single-Semester Course, Lec + Lab)(4)
  - BIOL2416 - Genetics (4)
  - BIOL2420 - Microbiology for Non-Science Majors (lecture + lab)(4)
  - CHEM1105 - Introductory Chemistry Laboratory I (lab)(1)
  - CHEM1107 - Introductory Chemistry Laboratory II(1)
  - CHEM1111 - General Chemistry I (lab)(1)
  - CHEM1112 - General Chemistry II (lab)(1)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1307 - Introductory Chemistry II(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - CHEM1405 - Introductory Chemistry I(4)
  - CHEM1406 - Introductory Chemistry I(4)
  - CHEM1411 - General Chemistry I(4)

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- CHEM1412 - General Chemistry II(4)
- CHEM1414 - General Chemistry II(4)
- CHEM2123 - Organic Chemistry I Lab(1)
- CHEM2125 - Organic Chemistry II Lab(1)
- CHEM2323 - Organic Chemistry I(3)
- CHEM2325 - Organic Chemistry II(3)
- GEOL1403 - Physical Geology (4)
- HORT1401 - Horticulture (lecture + Lab)(4)
- PHYS1101 - College Physics Laboratory I(1)
- PHYS1102 - College Physics Lab II(1)
- PHYS1110 - Elementary Physics (1)
- PHYS1115 - Physical Science Lab I(1)
- PHYS1117 - Physical Science Lab II(1)
- PHYS1301 - College Physics I (lecture)(3)
- PHYS1302 - College Physics II (lecture)(3)
- PHYS1310 - Elementary Physics (3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1401 - College Physics I(4)
- PHYS1402 - College Physics II(4)
- PHYS1410 - Elementary Physics (4)
- PHYS1415 - Physical Science I(4)
- PHYS2125 - University Physics Laboratory I (lab)(1)
- PHYS2126 - University Physics Laboratory II (lab)(1)
- PHYS2325 - University Physics I (lecture)(3)
- PHYS2326 - University Physics II (lecture)(3)
- PHYS2126 - University Physics Laboratory II (lab)(1)
- PHYS2426 - University Physics II(4)
- Complete at least 1 courses from the following:
  - Social/Behavioral Science Elective
    - GOVT2305 - Federal Government (Federal constitution & topics)(3)
    - GOVT2306 - Texas Government (Texas constitution & topics)(3)
    - ANTH2346 - General Anthropology (3)
    - ECON1301 - Introduction to Economics(3)
    - ECON2301 - Principles of Macroeconomics (3)
    - ECON2302 - Principles of Microeconomics (3)
    - GEOG1302 - Human Geography (3)
    - GEOG1303 - World Regional Geography(3)
    - PSYC1100 - Learning Framework (1)
    - PSYC2301 - General Psychology (3)
    - PSYC2314 - Lifespan Growth & Development(3)
    - HIST1301 - United States History I(3)
    - HIST1302 - United States History II(3)
    - HIST2312 - Western Civilization II(3)
    - HIST2321 - World Civilizations I(3)
    - SOCI1301 - Introduction to Sociology (3)
    - SOCI1306 - Social Problems (3)
    - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:
  - Humanities/Fine Arts Elective
    - HUMA1301 - Introduction to Humanities I(3)
    - HUMA2319 - American Minority Studies (3)
    - HUMA2323 - World Cultures(3)
    - PHIL1301 - Introduction to Philosophy(3)
    - PHIL1304 - Introduction to World Religions(3)
    - PHIL2303 - Introduction to Formal Logic(3)
    - PHIL2306 - Introduction to Ethics(3)
    - ARTS1301 - Art Appreciation (3)
    - ARTS2326 - Sculpture I (3)
    - ARTS2326 - Sculpture I (3)
    - MUSI1306 - Music Appreciation (3)

### Biomedical Equipment Technology - Medical Imaging Systems Technology AAS

#### Locations

Waco

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - BIOM1101 - Biomedical Equipment Technology (1)
  - BIOM1270 - Shop Skills for Biomedical Equipment Technicians (2)
  - BIOM1373 - Medical Software and Hardware (3)
  - CETT1303 - DC Circuits (3)
  - ACGM3MTH - Gen Ed Mathematics Elective (3)

### Semester 2

15 Total Credits

- Complete all of the following
  - Complete the following:
    - BIOM1309 - Applied Biomedical Equipment Technology (3)
  - Complete at least 3 credits from the following:
    - BIOM1315 - Medical Equipment Networks (3)
    - ITNW1325 - Fundamentals of Networking Technologies (3)
  - Complete the following:
    - CETT1305 - AC Circuits (3)
    - ENGL1301 - Composition I (3)
    - ACGM3NSC - Gen Ed Natural Science Elective (3)

### Semester 3

15 Total Credits

- Complete the following:
  - BIOM1341 - Medical Circuits/Troubleshooting (3)
  - BIOM2301 - Safety in Health Care Facilities (3)
  - BIOM2319 - Fundamentals of X-Ray and Medical Imaging Systems (3)
  - CETT1325 - Digital Fundamentals (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - BIOM1350 - Diagnostic Ultrasound Imaging System (3)
  - BIOM2333 - Digital Radiography (3)
  - BIOM2345 - Advanced Imaging Systems (3)
  - BIOM2347 - RF/X-Ray System (3)

### Semester 5

6 Total Credits

- Complete the following:
  - BIOM2389 - Internship-Biomedical Engineering Technician (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - BIOM2389 - Internship-Biomedical Engineering Technician (3)

## **Pre/Corequisites**

- BIOM 1315 Prerequisite(s): BIOM 1373
- CETT 1305 Prerequisite(s): CETT 1303
- BIOM 1341, BIOM 2301, BIOM 1350, BIOM 2319 Prerequisite(s): CETT 1303, CETT 1305
- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305 (Prerequisite or Corequisite)
- BIOM 2333, BIOM 2345, BIOM 2347 Prerequisite(s): BIOM 2319

## **Elective Options**

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- Complete at least 1 courses from the following:

### Mathematics Elective

- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1325 - Calculus for Business & Social Sciences(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- MATH1350 - Math - Teachers I Fundamentals of Math I(3)
- MATH1351 - Fundamentals of Mathematics II(3)
- MATH2312 - Pre-Calculus Math (3 SCH version)(3)
- MATH2313 - Calculus I(3)
- MATH2318 - Linear Algebra (3)
- MATH2320 - Differential Equations (3 SCH version)(3)
- MATH2342 - Elementary Statistical Methods(3)
- MATH2313 - Calculus I(3)
- MATH2414 - Calculus II (4 SCH version)(4)
- MATH2415 - Calculus III (4 SCH version)(4)

- Complete at least 1 courses from the following:

### Natural Science Elective

- BIOL1106 - Biology for Science Majors Laboratory I (lab)(1)
- BIOL1107 - Biology for Science Majors II Lab(1)
- BIOL1108 - Biology Non-Science Majors Laboratory I(1)
- BIOL1109 - Biology for Non-Science Majors II Lab(1)
- BIOL1113 - General Zoology (lab)(1)
- BIOL1306 - Biology for Science Majors I (lecture)(3)
- BIOL1307 - Biology for Science Majors II(3)
- BIOL1308 - Biology for Non-Science Majors I(3)
- BIOL1309 - Biology for Non-Science Majors II(3)
- BIOL1313 - General Zoology (lecture)(3)
- BIOL1307 - Biology for Science Majors II(3)
- BIOL2101 - Anatomy & Physiology I (lab)(1)
- BIOL2102 - Anatomy & Physiology II (lab)(1)
- BIOL2116 - Genetics (lab)(1)
- BIOL2120 - Microbiology for Non-Science Majors Laboratory (lab)(1)
- BIOL2121 - Microbiology for Science Majors Lab(1)
- BIOL2301 - Anatomy & Physiology I (lecture)(3)
- BIOL2302 - Anatomy & Physiology II (lecture)(3)
- BIOL2316 - Genetics (lecture) (3)
- BIOL2320 - Microbiology for Non-Science Majors (lecture)(3)
- BIOL2321 - Microbiology for Science Majors(3)
- BIOL2401 - Anatomy & Physiology I (lecture + lab)(4)
- BIOL2402 - Anatomy & Physiology II (lecture + lab)(4)
- BIOL2404 - Anatomy & Physiology (specialized, Single-Semester Course, Lec + Lab)(4)
- BIOL2416 - Genetics (4)
- BIOL2420 - Microbiology for Non-Science Majors (lecture + lab)(4)
- CHEM1105 - Introductory Chemistry Laboratory I (lab)(1)
- CHEM1107 - Introductory Chemistry Laboratory II(1)
- CHEM1111 - General Chemistry I (lab)(1)
- CHEM1112 - General Chemistry II (lab)(1)
- CHEM1305 - Introductory Chemistry I (lecture)(3)
- CHEM1307 - Introductory Chemistry II(3)
- CHEM1311 - General Chemistry I (lecture)(3)
- CHEM1312 - General Chemistry II (lecture)(3)
- CHEM1405 - Introductory Chemistry I(4)
- CHEM1406 - Introductory Chemistry I(4)
- CHEM1411 - General Chemistry I(4)
- CHEM1412 - General Chemistry II(4)
- CHEM1414 - General Chemistry II(4)
- CHEM2123 - Organic Chemistry I Lab(1)
- CHEM2125 - Organic Chemistry II Lab(1)
- CHEM2323 - Organic Chemistry I(3)
- CHEM2325 - Organic Chemistry II(3)
- GEOL1403 - Physical Geology (4)
- HORT1401 - Horticulture (lecture + Lab)(4)
- PHYS1101 - College Physics Laboratory I(1)
- PHYS1102 - College Physics Lab II(1)
- PHYS1110 - Elementary Physics(1)
- PHYS1115 - Physical Science Lab I(1)

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- PHYS1117 - Physical Science Lab II(1)
- PHYS1301 - College Physics I (lecture)(3)
- PHYS1302 - College Physics II (lecture)(3)
- PHYS1310 - Elementary Physics (3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1401 - College Physics I(4)
- PHYS1402 - College Physics II(4)
- PHYS1410 - Elementary Physics (4)
- PHYS1415 - Physical Science I(4)
- PHYS2125 - University Physics Laboratory I (lab)(1)
- PHYS2126 - University Physics Laboratory II (lab)(1)
- PHYS2325 - University Physics I (lecture)(3)
- PHYS2326 - University Physics II (lecture)(3)
- PHYS2126 - University Physics Laboratory II (lab)(1)
- PHYS2426 - University Physics II(4)
- Complete at least 1 courses from the following:
  - Social/Behavioral Science Elective
    - GOVT2305 - Federal Government (Federal constitution & topics)(3)
    - GOVT2306 - Texas Government (Texas constitution & topics)(3)
    - ANTH2346 - General Anthropology (3)
    - ECON1301 - Introduction to Economics(3)
    - ECON2301 - Principles of Macroeconomics (3)
    - ECON2302 - Principles of Microeconomics (3)
    - GEOG1302 - Human Geography (3)
    - GEOG1303 - World Regional Geography(3)
    - PSYC1100 - Learning Framework (1)
    - PSYC2301 - General Psychology (3)
    - PSYC2314 - Lifespan Growth & Development(3)
    - HIST1301 - United States History I(3)
    - HIST1302 - United States History II(3)
    - HIST2312 - Western Civilization II(3)
    - HIST2321 - World Civilizations I(3)
    - SOCI1301 - Introduction to Sociology (3)
    - SOCI1306 - Social Problems (3)
    - SOCI2319 - Minority Studies I(3)
  - Complete at least 1 courses from the following:
    - Humanities/Fine Arts Elective
      - HUMA1301 - Introduction to Humanities I(3)
      - HUMA2319 - American Minority Studies (3)
      - HUMA2323 - World Cultures (3)
      - PHIL1301 - Introduction to Philosophy(3)
      - PHIL1304 - Introduction to World Religions(3)
      - PHIL2303 - Introduction to Formal Logic(3)
      - PHIL2306 - Introduction to Ethics(3)
      - ARTS1301 - Art Appreciation (3)
      - ARTS2326 - Sculpture I (3)
      - ARTS2326 - Sculpture I (3)
      - MUSI1306 - Music Appreciation (3)

### Building Construction Technology

#### Description

TSTC's Building Construction program offers several options that can help you specialize, brush up your skills or move you on a faster track to build a career in this field. Students in this technology get crucial, hands-on experience using the tools that they will encounter when entering the world of construction, backed by a knowledgeable staff and advisors in key positions within the industry.



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## **Building Construction Technology - Building Construction Craftsman CER1**

### **Locations**

Waco  
Harlingen

### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - CNBT1300 - Residential and Light Commercial Blueprint Reading (3)
  - CNBT1316 - Construction Technology I (3)
  - OSH1307 - Construction Site Safety and Health (3)
  - CNBT1346 - Construction Estimating I (3)

Semester 2

14 Total Credits

- Complete the following:
  - CNBT1313 - Concrete I (3)
  - CNBT1315 - Field Engineering I (3)
  - CNBT1450 - Construction Technology II (4)
  - CNBT1453 - Construction Technology III (4)

Semester 3

6 Total Credits

- Complete at least 6 credits from the following:
  - CNBT1680 - Cooperative Education - Construction Engineering Technology/Technician (6)
  - CNBT1302 - Mechanical, Electrical & Plumbing Systems in Construction I (3)
  - CNBT2439 - Construction Technology IV (4)

Degree Plan Credits **32**

### **Capstone**

- Complete all of the following
  - Complete 1 of the following
    - Complete the following:
      - CNBT1680 - Cooperative Education - Construction Engineering Technology/Technician (6)
    - Complete the following:
      - CNBT1302 - Mechanical, Electrical & Plumbing Systems in Construction I (3)
  - Complete the following:
    - CNBT2439 - Construction Technology IV (4)

### **Pre/Corequisites**

- CNBT 1450, CNBT 1453, CNBT 2439 Prerequisite(s): CNBT 1316

## **Building Construction Technology - Building Construction Technology AAS**

### **Locations**

Waco  
Harlingen

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - CNBT1300 - Residential and Light Commercial Blueprint Reading (3)
  - CNBT1316 - Construction Technology I (3)
  - OSH1307 - Construction Site Safety and Health (3)
  - CNBT1346 - Construction Estimating I (3)

### Semester 2

13 Total Credits

- Complete the following:
  - CNBT1313 - Concrete I (3)
  - CNBT1315 - Field Engineering I (3)
  - CNBT1342 - Building Codes and Inspections (3)
  - CNBT1450 - Construction Technology II (4)

### Semester 3

13 Total Credits

- Complete the following:
  - CNBT1302 - Mechanical, Electrical & Plumbing Systems in Construction I (3)
  - CNBT1453 - Construction Technology III (4)
  - CNBT2342 - Construction Management I (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 4

13 Total Credits

- Complete all of the following
  - Complete the following:
    - CNBT1359 - Project Scheduling (3)
    - CNBT2439 - Construction Technology IV (4)
    - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 5

9 Total Credits

- Complete the following:
  - CNBT2344 - Construction Management II (3)
  - ACGM3GED - Gen Ed Elective (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - CNBT2344 - Construction Management II (3)

## **Pre/Corequisites**

- CNBT 1450, CNBT 1453, CNBT 2439 Prerequisite(s): CNBT 1316

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## **Elective Options**

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics(3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete 1 General Education Elective as recommended by program
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

## **Business Management Technology**

### **Description**

Every business needs professionals to manage an office, administer payroll, balance books, and hire employees to run a business. Our students receive the training needed to succeed in a career in office management and accounting. You can gain skills that include office software use, management techniques, business principles, accounting procedures, leadership methods, and communication tools. This will prepare you to be a professional in any organization and give you the skills to be a successful business owner.

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### **Business Management Technology - Bookkeeping Accounting Assistant CER1**

#### **Locations**

Online - TSTC Connect

#### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - POFI2301 - Word Processing (3)
  - BMGT1327 - Principles of Management (3)
  - BUSG1304 - Financial Literacy (3)
  - POFI1349 - Spreadsheets (3)

Semester 2

9 Total Credits

- Complete the following:
  - ACNT1325 - Principles of Accounting I (3)
  - ACNT1329 - Payroll & Business Tax Accounting (3)
  - ACNT1311 - Introduction to Computerized Accounting (3)

Degree Plan Credits **21**

#### **Capstone**

- Complete the following:
  - ACNT1311 - Introduction to Computerized Accounting (3)

### **Business Management Technology - Business Management Technology AAS**

#### **Locations**

Online - TSTC Connect

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

12 Total Credits

- Complete all of the following
  - Complete the following:
    - POFI2301 - Word Processing (3)
    - BMGT1327 - Principles of Management (3)
    - BUSG1304 - Financial Literacy (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ACNT1325 - Principles of Accounting I (3)
  - MRKG1301 - Customer Relationship Management (3)
  - ITSW1310 - Introduction to Presentation Graphics Software (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

### Semester 3

12 Total Credits

- Complete the following:
  - ACNT1329 - Payroll & Business Tax Accounting (3)
  - BUSG1302 - E-Business Management (3)
  - POFI1349 - Spreadsheets (3)
  - ACGM3SPH - Gen Ed Speech Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - ACNT1311 - Introduction to Computerized Accounting (3)
  - BMGT1309 - Information and Project Management (3)
  - ITSW1307 - Introduction to Database (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete the following:
    - POFT2312 - Business Correspondence & Communication (3)
  - Complete at least 3 credits from the following:
    - BUSG1315 - Small Business Operations (3)
    - POFT2380 - Cooperative Education - Administrative Assistant and Secretarial Science, General (3)
  - Complete the following:
    - HRPO2301 - Human Resources Management (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - BUSG1315 - Small Business Operations (3)

## 2023-2024 Catalog & Student Handbook

### Elective Options

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

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## **Business Management Technology - Business Management Technology CER2**

### **Locations**

Online - TSTC Connect

### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - POFI2301 - Word Processing (3)
  - BMGT1327 - Principles of Management (3)
  - BUSG1304 - Financial Literacy (3)
  - POFI1349 - Spreadsheets (3)

Semester 2

12 Total Credits

- Complete the following:
  - ACNT1325 - Principles of Accounting I (3)
  - MRKG1301 - Customer Relationship Management (3)
  - ITSW1310 - Introduction to Presentation Graphics Software (3)
  - BUSG1302 - E-Business Management (3)

Semester 3

12 Total Credits

- Complete the following:
  - ACNT1329 - Payroll & Business Tax Accounting (3)
  - BMGT1309 - Information and Project Management (3)
  - ITSW1307 - Introduction to Database (3)
  - HRPO2301 - Human Resources Management (3)

Semester 4

9 Total Credits

- Complete the following:
  - ACNT1311 - Introduction to Computerized Accounting (3)
  - POFT2312 - Business Correspondence & Communication (3)
  - BUSG1315 - Small Business Operations (3)

Degree Plan Credits **45**

### **Capstone**

- Complete the following:
  - BUSG1315 - Small Business Operations (3)

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## **Business Management Technology - Office Assistant CER1**

### **Locations**

Online - TSTC Connect

### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - POFI2301 - Word Processing (3)
  - BMGT1327 - Principles of Management (3)
  - BUSG1304 - Financial Literacy (3)
  - POFI1349 - Spreadsheets (3)

Semester 2

9 Total Credits

- Complete the following:
  - ACNT1325 - Principles of Accounting I (3)
  - ITSW1310 - Introduction to Presentation Graphics Software (3)
  - ITSW1307 - Introduction to Database (3)

Semester 3

9 Total Credits

- Complete the following:
  - ACNT1311 - Introduction to Computerized Accounting (3)
  - POFT2312 - Business Correspondence & Communication (3)
  - ACNT1329 - Payroll & Business Tax Accounting (3)

Degree Plan Credits **30**

### **Capstone**

- Complete the following:
  - POFT2312 - Business Correspondence & Communication (3)

## **Chemical Dependency Counseling**

### **Description**

The Chemical Dependency Counseling program at TSTC facilitates the development of the skills necessary for success in the chemical dependency counseling services industry. The program focuses on clinical evaluations, treatment planning, referrals, service coordination, individual and group counseling, documentation, professional and ethical responsibilities, and client, family and community education. With this knowledge base, students will be prepared to work as counselor interns as they strive toward licensure requirements. Graduates of the program find work opportunities through the criminal justice system, substance abuse treatment centers, or hospitals.

## **Chemical Dependency Counseling - Chemical Dependency Counseling AAS**

### **Locations**

Online - TSTC Connect



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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - DAAC1319 - Substance-Related and Addictive Disorders (3)
  - PSYC2301 - General Psychology (3)
  - PSYT1313 - Psychology of Personal Adjustment (3)
  - DAAC1305 - Co-Occurring Disorders (3)

### Semester 2

15 Total Credits

- Complete all of the following
  - Complete the following:
    - DAAC1309 - Assessment of Substance-Related and Addictive Disorders (3)
    - DAAC1304 - Pharmacology of Addiction (3)
    - DAAC1317 - Basic Counseling Skills (3)
    - DAAC2301 - Therapeutic Communities in a Criminal Justice Setting (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 3

15 Total Credits

- Complete the following:
  - DAAC1311 - Counseling Theories (3)
  - DAAC2343 - Current Issues (3)
  - DAAC2341 - Counseling Alcohol and Other Drug Addictions (3)
  - DAAC2354 - Dynamics of Group Counseling (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - CJS1325 - Criminology (3)
  - ACGM3GED - Gen Ed Elective (3)
  - DAAC2306 - Substance Abuse Prevention I (3)
  - DAAC2307 - Addicted Family Intervention (3)

### Semester 5

6 Total Credits

- Complete the following:
  - DAAC2366 - Practicum (or Field Experience) - Substance Abuse/Addiction Counseling (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - DAAC2366 - Practicum (or Field Experience) - Substance Abuse/Addiction Counseling (3)

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### **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete 1 General Education Elective as recommended by program
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning) (3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)

### **Chemical Dependency Counseling - Chemical Dependency Counseling CER1**

#### **Locations**

Online - TSTC Connect

#### **Program Requirements**

Semester 1

9 Total Credits

- Complete the following:
  - DAAC1319 - Substance-Related and Addictive Disorders (3)
  - PSYT1313 - Psychology of Personal Adjustment (3)
  - DAAC1305 - Co-Occurring Disorders (3)

Semester 2

12 Total Credits

- Complete the following:
  - DAAC2301 - Therapeutic Communities in a Criminal Justice Setting (3)
  - DAAC1317 - Basic Counseling Skills (3)
  - DAAC1309 - Assessment of Substance-Related and Addictive Disorders (3)
  - DAAC1304 - Pharmacology of Addiction (3)

Degree Plan Credits **21**

#### **Capstone**

- Complete the following:
  - DAAC2301 - Therapeutic Communities in a Criminal Justice Setting (3)

## **Chemical Dependency Counseling - Chemical Dependency Counseling CER2**

### **Locations**

Online - TSTC Connect

### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - DAAC1319 - Substance-Related and Addictive Disorders (3)
  - PSYT1313 - Psychology of Personal Adjustment (3)
  - DAAC1305 - Co-Occurring Disorders (3)
  - PSYC2301 - General Psychology (3)

Semester 2

12 Total Credits

- Complete the following:
  - DAAC1304 - Pharmacology of Addiction (3)
  - DAAC1309 - Assessment of Substance-Related and Addictive Disorders (3)
  - DAAC1317 - Basic Counseling Skills (3)
  - DAAC2301 - Therapeutic Communities in a Criminal Justice Setting (3)

Semester 3

12 Total Credits

- Complete the following:
  - DAAC2343 - Current Issues (3)
  - DAAC2341 - Counseling Alcohol and Other Drug Addictions (3)
  - DAAC2354 - Dynamics of Group Counseling (3)
  - DAAC1311 - Counseling Theories (3)

Semester 4

6 Total Credits

- Complete all of the following
  - Complete the following:
    - DAAC2366 - Practicum (or Field Experience) - Substance Abuse/Addiction Counseling (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

Degree Plan Credits **42**

### **Capstone**

- Complete the following:
  - DAAC2366 - Practicum (or Field Experience) - Substance Abuse/Addiction Counseling (3)

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## Computer Networking & Systems Administration

### Description

The Computer Networking & Systems Administration program produces dynamic, highly skilled IT professionals that today's industry demands. They have the expertise to build, secure and manage IT systems in the cloud and on-premise. They are in charge of keeping the infrastructure and services operational to ensure that everyone and everything stays connected.

In this program, you will engage with real equipment through hands-on labs and other interactive assessments designed to build knowledge and skills that are critical for success in high-demand fields. You will have the opportunity to learn how to configure and troubleshoot technology that is essential to any business, such as computers, switches, routers, servers and firewalls. All this will be through multiple pathway options and with many courses focused on industry certifications from Cisco, Amazon and CompTIA. The program is an official Cisco Network Academy and Amazon Web Services (AWS) Academy.

The advanced technical certificate is focused on cloud computing and offers specialized training in topics such as DevOps, infrastructure development/automation, programming, database management, security, configuration management and more. Students will leave with extensive knowledge of cloud computing.

## Computer Networking & Systems Administration - Cloud Computing ATC

### Locations

Online - TSTC Connect  
Abilene  
Brownwood  
Marshall  
North Texas  
Waco

### Program Requirements

Semester 1  
8 Total Credits

- Complete the following:
  - ITNW1436 - Cloud Deployment & Infrastructure Management (4)
  - ITSC2425 - Advanced Linux (4)

Semester 2  
8 Total Credits

- Complete the following:
  - ITNW2427 - Advanced Cloud Concepts (4)
  - ITNW2429 - Application Development for The Cloud (4)

Degree Plan Credits **16**

### Capstone

- No capstone required

### Pre/Corequisites

- ITSC 2425 Prerequisite(s): ITSC 1316
- ITNW 2427, ITNW 2429 Prerequisite(s): ITNW 1436

## Computer Networking & Systems Administration - Computer Networking & Systems Administration AAS

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## Locations

Online - TSTC Connect  
Abilene  
Brownwood  
Marshall  
North Texas  
Waco

## Program Requirements

Semester 1

12 Total Credits

- Complete the following:
  - ITNW1308 - Implementing and Supporting Client Operating Systems (3)
  - ITNW1358 - Network+ (3)
  - ITSC1325 - Personal Computer Hardware (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

Semester 2

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ITCC1314 - CCNA 1: Introduction to Networks (3)
    - ITNW1345 - Implementing Network Directory Services (3)
    - ITSC1316 - Linux Installation and Configuration (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

Semester 3

12 Total Credits

- Complete the following:
  - ITCC1344 - CCNA 2: Switching, Routing, and Wireless Essentials (3)
  - ITNW1313 - Computer Virtualization (3)
  - ITSY1342 - Information Technology Security (3)
  - ITNW2354 - Internet/Intranet Server (3)

Semester 4

12 Total Credits

- Complete the following:
  - ITCC2320 - CCNA 3: Enterprise Networking, Security , and Automation (3)
  - ITSE1329 - Programming Logic and Design (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - ACGM3GED - Gen Ed Elective (3)

Semester 5

12 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - ITNW1309 - Fundamentals of Cloud Computing (3)
    - ITCC2343 - Network Security (3)
  - Complete the following:
    - ITNW2352 - Administering SQL Server (3)
  - Complete at least 3 credits from the following:
    - ITSC2370 - Final Project-Systems Administration (3)
    - ITSC2386 - Internship - Computer and Information Sciences, General (3)
  - Complete the following:
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **60**

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## **Capstone**

- Complete at least 1 of the following:
  - ITSC2370 - Final Project-Systems Administration (3)
  - ITSC2386 - Internship - Computer and Information Sciences, General (3)

## **Pre/Corequisites**

- ITSC 1316 Prerequisite(s): ITNW 1358 or ITCC 1314
- ITCC 1344 Prerequisite(s): ITCC 1314
- ITSY 1342 Prerequisite(s): ITNW 1345 or ITNW 1354
- ITCC 2320 Prerequisite(s): ITCC 1344
- ITNW 2354 Prerequisite(s): ITNW 1345, ITSC 1316

## **Elective Options**

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
General Education Electives
  - ENGL1301 - Composition I (3)
  - ENGL1302 - Composition II(3)
  - ENGL2311 - Technical & Business Writing(3)
  - HIST2321 - World Civilizations I(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
  - ARTS1301 - Art Appreciation(3)
  - ENGL2321 - British Literature(3)
  - ENGL2326 - American Literature (single-Semester Course)(3)
  - ENGL2341 - Forms of Literature(3)
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2323 - World Cultures(3)
  - MUSI1306 - Music Appreciation (3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - SOCI1301 - Introduction to Sociology (3)
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1412 - General Chemistry II(4)

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- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1315 - Physical Science I (lecture)(3)
- Complete at least 1 courses from the following:
  - Humanities/Fine Arts Elective
    - HUMA1301 - Introduction to Humanities I(3)
    - HUMA2319 - American Minority Studies (3)
    - HUMA2323 - World Cultures (3)
    - PHIL1301 - Introduction to Philosophy(3)
    - PHIL1304 - Introduction to World Religions(3)
    - PHIL2303 - Introduction to Formal Logic(3)
    - PHIL2306 - Introduction to Ethics(3)
    - ARTS1301 - Art Appreciation (3)
    - ARTS2326 - Sculpture I (3)
    - ARTS2326 - Sculpture I (3)
    - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:
  - Social/Behavioral Science Elective
    - GOVT2305 - Federal Government (Federal constitution & topics)(3)
    - GOVT2306 - Texas Government (Texas constitution & topics)(3)
    - ANTH2346 - General Anthropology (3)
    - ECON1301 - Introduction to Economics(3)
    - ECON2301 - Principles of Macroeconomics (3)
    - ECON2302 - Principles of Microeconomics (3)
    - GEOG1302 - Human Geography (3)
    - GEOG1303 - World Regional Geography(3)
    - PSYC1100 - Learning Framework (1)
    - PSYC2301 - General Psychology (3)
    - PSYC2314 - Lifespan Growth & Development(3)
    - HIST1301 - United States History I(3)
    - HIST1302 - United States History II(3)
    - HIST2312 - Western Civilization II(3)
    - HIST2321 - World Civilizations I(3)
    - SOCI1301 - Introduction to Sociology (3)
    - SOCI1306 - Social Problems (3)
    - SOCI2319 - Minority Studies I(3)

## **Computer Networking & Systems Administration - IT Support Tier I CER1**

### **Locations**

Online - TSTC Connect  
Abilene  
Brownwood  
Marshall  
North Texas  
Waco

### **Program Requirements**

Semester 1  
9 Total Credits

- Complete the following:
  - ITNW1308 - Implementing and Supporting Client Operating Systems (3)
  - ITNW1358 - Network+ (3)
  - ITSC1325 - Personal Computer Hardware (3)

Semester 2  
9 Total Credits

- Complete the following:
  - ITCC1314 - CCNA 1: Introduction to Networks (3)
  - ITNW1345 - Implementing Network Directory Services (3)
  - ITSC1316 - Linux Installation and Configuration (3)

Degree Plan Credits **18**

### **Capstone**

- Complete the following:
  - ITCC1314 - CCNA 1: Introduction to Networks (3)
  - ITNW1345 - Implementing Network Directory Services (3)

### **Pre/Corequisites**

- ITSC 1316 Prerequisite(s): ITNW 1358 or ITCC 1314



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## Computer Networking & Systems Administration - IT Support Tier II CER2

### Locations

Online - TSTC Connect  
Abilene  
Brownwood  
Marshall  
North Texas  
Waco

### Program Requirements

Semester 1  
9 Total Credits

- Complete the following:
  - ITNW1308 - Implementing and Supporting Client Operating Systems (3)
  - ITNW1358 - Network+ (3)
  - ITSC1325 - Personal Computer Hardware (3)

Semester 2  
9 Total Credits

- Complete the following:
  - ITCC1314 - CCNA 1: Introduction to Networks (3)
  - ITNW1345 - Implementing Network Directory Services (3)
  - ITSC1316 - Linux Installation and Configuration (3)

Semester 3  
12 Total Credits

- Complete the following:
  - ITCC1344 - CCNA 2: Switching, Routing, and Wireless Essentials (3)
  - ITNW1313 - Computer Virtualization (3)
  - ITSY1342 - Information Technology Security (3)
  - ITNW2354 - Internet/Intranet Server (3)

Degree Plan Credits **30**

### Capstone

- Complete the following:
  - ITCC1344 - CCNA 2: Switching, Routing, and Wireless Essentials (3)
  - ITNW2354 - Internet/Intranet Server (3)

### Pre/Corequisites

- ITSC 1316 Prerequisite(s): ITNW 1358 or ITCC 1314
- ITCC 1344 Prerequisite(s): ITCC 1314
- ITSY 1342 Prerequisite(s): ITNW 1345 or ITNW 1354
- ITNW 2354 Prerequisite(s): ITNW 1345, ITSC 1316

## Computer Programming Technology

### Description

Some of the hottest careers in the job market these days are within the Information Technology sector. That's why Computer Programming Technology at TSTC makes sense for a great career choice. Students in this program get a practical, hands-on education that teaches them the technical skills required in the IT field. In addition to technical skills, the student's training centers on the development of logic, problem-solving and soft skills. CPT provides specialized training in business application, mobile development, and database functionality that focuses on career expectations leading to a variety of positions, from database developer, mobile app developer, to software development.

## **Computer Programming Technology - Computer Programming Technology - Java Developer CER1**

### **Locations**

Online - TSTC Connect

### **Program Requirements**

Semester 1

9 Total Credits

- Complete the following:
  - ITSE1302 - Computer Programming (3)
  - ITSE1311 - Beginning Web Programming (3)
  - ITSE2309 - Database Programming (3)

Semester 2

9 Total Credits

- Complete the following:
  - ITSE2302 - Intermediate Web Programming (3)
  - ITSE2317 - Java Programming (3)
  - INEW2338 - Advanced Java Programming (3)

Degree Plan Credits **18**

### **Capstone**

- Complete the following:
  - INEW2338 - Advanced Java Programming (3)

### **Pre/Corequisites**

- ITSE 2302 Prerequisite(s): ITSE 1311
- ITSE 2317 Prerequisite(s): ITSE 1302
- INEW 2338 Prerequisite(s): ITSE 2317

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### **Computer Programming Technology - Computer Programming Technology - Mobile App Developer CER1**

#### **Locations**

Online - TSTC Connect

#### **Program Requirements**

Semester 1

9 Total Credits

- Complete the following:
  - ITSE1302 - Computer Programming (3)
  - ITSE1311 - Beginning Web Programming (3)
  - ITSE2309 - Database Programming (3)

Semester 2

9 Total Credits

- Complete the following:
  - ITSE2302 - Intermediate Web Programming (3)
  - ITSE2317 - Java Programming (3)
  - INEW2338 - Advanced Java Programming (3)

Semester 3

9 Total Credits

- Complete the following:
  - IMED1371 - Ui/Ux Design (3)
  - ITSE1333 - Mobile Applications Development (3)
  - ITSE2343 - Advanced Mobile Programming (3)

Degree Plan Credits **27**

#### **Capstone**

- Complete the following:
  - ITSE2343 - Advanced Mobile Programming (3)

#### **Pre/Corequisites**

- ITSE 2302 Prerequisite(s): ITSE 1311
- ITSE 2317 Prerequisite(s): ITSE 1302
- INEW 2338, ITSE 1333 Prerequisite(s): ITSE 2317
- ITSE 2343 Prerequisite(s): ITSE 1333

### **Computer Programming Technology - Computer Programming Technology - Software Developer CER2**

#### **Locations**

Online - TSTC Connect

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## **Program Requirements**

### Semester 1

9 Total Credits

- Complete the following:
  - ITSE1302 - Computer Programming (3)
  - ITSE1311 - Beginning Web Programming (3)
  - ITSE2309 - Database Programming (3)

### Semester 2

9 Total Credits

- Complete the following:
  - ITSE2302 - Intermediate Web Programming (3)
  - ITSE2317 - Java Programming (3)
  - INEW2338 - Advanced Java Programming (3)

### Semester 3

9 Total Credits

- Complete the following:
  - IMED1371 - Ui/Ux Design (3)
  - ITSE1333 - Mobile Applications Development (3)
  - ITSE2343 - Advanced Mobile Programming (3)

### Semester 4

9 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - ITSE1330 - Introduction to C# Programming (3)
    - ITSE1373 - Intro to Python (3)
  - Complete the following:
    - ITSE2333 - Implementing a Database on Microsoft SQL Server (3)
  - Complete at least 3 credits from the following:
    - ITSE2353 - Advanced C# Programming (3)
    - ITSE2373 - Advanced Python (3)

Degree Plan Credits **36**

## **Capstone**

- Complete 1 of the following
  - Complete the following:
    - ITSE2353 - Advanced C# Programming (3)
  - Complete the following:
    - ITSE2373 - Advanced Python (3)

## **Pre/Corequisites**

- ITSE 2302 Prerequisite(s): ITSE 1311
- ITSE 2317 Prerequisite(s): ITSE 1302
- INEW 2338, ITSE 1333 Prerequisite(s): ITSE 2317
- ITSE 2343 Prerequisite(s): ITSE 1333
- ITSE 1330, ITSE 1373 Prerequisite(s): INEW 2338
- ITSE 2333 Prerequisite(s): ITSE 2309
- ITSE 2353 Prerequisite(s): ITSE 1330
- ITSE 2373 Prerequisite(s): ITSE 1373

## **Computer Programming Technology - Computer Programming Technology AAS**

### **Locations**

Online - TSTC Connect

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ITSE1302 - Computer Programming (3)
    - ITSE1311 - Beginning Web Programming (3)
    - ITSE2309 - Database Programming (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ITSE2302 - Intermediate Web Programming (3)
  - ITSE2317 - Java Programming (3)
  - IMED1371 - Ui/Ux Design (3)
  - ACGM3MTH - Gen Ed Mathematics Elective (3)

### Semester 3

12 Total Credits

- Complete all of the following
  - Complete the following:
    - INEW2338 - Advanced Java Programming (3)
    - ITSE1333 - Mobile Applications Development (3)
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
  - Complete at least 3 credits from the following:
    - ITSE1330 - Introduction to C# Programming (3)
    - ITSE1373 - Intro to Python (3)

### Semester 4

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ITSE2343 - Advanced Mobile Programming (3)
    - ITSE2333 - Implementing a Database on Microsoft SQL Server (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - Complete at least 3 credits from the following:
    - ITSE2353 - Advanced C# Programming (3)
    - ITSE2373 - Advanced Python (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ITSE2359 - Advanced Computer Programming (3)
    - INEW2330 - Comprehensive Software Project: Planning and Design (3)
    - ACGM3GED - Gen Ed Elective (3)
  - Complete at least 3 credits from the following:
    - INEW2332 - Comprehensive Software Project: Coding, Testing, and Implementation (3)
    - ITSE2380 - Cooperative Education - Computer Programming/Programmer, General (3)
    - ITSE2386 - Internship - Computer Programming/Programmer, General (3)

Degree Plan Credits **60**

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## **Capstone**

- Complete 1 of the following
  - Complete the following:
    - INEW2332 - Comprehensive Software Project: Coding, Testing, and Implementation (3)
  - Complete the following:
    - ITSE2380 - Cooperative Education - Computer Programming/Programmer, General (3)
  - Complete the following:
    - ITSE2386 - Internship - Computer Programming/Programmer, General (3)

## **Pre/Corequisites**

- ITSE 2302 Prerequisite(s): ITSE 1311
- ITSE 2317 Prerequisite(s): ITSE 1302
- INEW 2338, ITSE 1333 Prerequisite(s): ITSE 2317
- ITSE 2343 Prerequisite(s): ITSE 1333
- ITSE 1373 Prerequisite(s): INEW 2338
- ITSE 2333 Prerequisite(s): ITSE 2309
- ITSE 2353 Prerequisite(s): ITSE 1330
- ITSE 2373 Prerequisite(s): ITSE 1373
- INEW 2332, ITSE 2380, ITSE 2386, ITSE 2359, INEW 2330 Prerequisite(s): (ITSE 2353 or ITSE 2373) and ITSE 2333

## **Elective Options**

- Complete at least 1 courses from the following:  
Mathematics Elective
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1325 - Calculus for Business & Social Sciences(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - MATH1350 - Math - Teachers I Fundamentals of Math I(3)
  - MATH1351 - Fundamentals of Mathematics II(3)
  - MATH2312 - Pre-Calculus Math (3 SCH version)(3)
  - MATH2313 - Calculus I(3)
  - MATH2318 - Linear Algebra (3)
  - MATH2320 - Differential Equations (3 SCH version)(3)
  - MATH2342 - Elementary Statistical Methods(3)
  - MATH2313 - Calculus I(3)
  - MATH2414 - Calculus II (4 SCH version)(4)
  - MATH2415 - Calculus III (4 SCH version)(4)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework(1)
  - PSYC2301 - General Psychology(3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology(3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures(3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)

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- PHIL2303 - Introduction to Formal Logic(3)
- PHIL2306 - Introduction to Ethics(3)
- ARTS1301 - Art Appreciation(3)
- ARTS2326 - Sculpture I(3)
- ARTS2326 - Sculpture I(3)
- MUSI1306 - Music Appreciation(3)
- Complete at least 1 courses from the following:
  - General Education Electives
    - ENGL1301 - Composition I(3)
    - ENGL1302 - Composition II(3)
    - ENGL2311 - Technical & Business Writing(3)
    - HIST2321 - World Civilizations I(3)
    - SPCH1315 - Public Speaking(3)
    - SPCH1318 - Interpersonal Communication(3)
    - SPCH1321 - Business & Professional Communication(3)
    - ARTS1301 - Art Appreciation(3)
    - ENGL2321 - British Literature(3)
    - ENGL2326 - American Literature (single-Semester Course)(3)
    - ENGL2341 - Forms of Literature(3)
    - HUMA1301 - Introduction to Humanities I(3)
    - HUMA2323 - World Cultures(3)
    - MUSI1306 - Music Appreciation(3)
    - PHIL1304 - Introduction to World Religions(3)
    - PHIL2306 - Introduction to Ethics(3)
    - ECON2301 - Principles of Macroeconomics(3)
    - ECON2302 - Principles of Microeconomics(3)
    - GOVT2305 - Federal Government (Federal constitution & topics)(3)
    - GOVT2306 - Texas Government (Texas constitution & topics)(3)
    - HIST1301 - United States History I(3)
    - HIST1302 - United States History II(3)
    - PSYC2301 - General Psychology(3)
    - PSYC2314 - Lifespan Growth & Development(3)
    - SOCI1301 - Introduction to Sociology(3)
    - BIOL1306 - Biology for Science Majors I (lecture)(3)
    - BIOL1307 - Biology for Science Majors II(3)
    - BIOL1308 - Biology for Non-Science Majors I(3)
    - BIOL1309 - Biology for Non-Science Majors II(3)
    - BIOL2301 - Anatomy & Physiology I (lecture)(3)
    - BIOL2302 - Anatomy & Physiology II (lecture)(3)
    - CHEM1305 - Introductory Chemistry I (lecture)(3)
    - CHEM1311 - General Chemistry I (lecture)(3)
    - CHEM1412 - General Chemistry II(4)
    - MATH1314 - College Algebra (3 SCH version)(3)
    - MATH1316 - Plane Trigonometry(3)
    - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
    - MATH1342 - Elementary Statistical Methods(3)
    - PHYS1315 - Physical Science I (lecture)(3)
    - PHYS1315 - Physical Science I (lecture)(3)

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## Computer Science

### Description

The computer science degree is planned for students who plan to transfer to a four-year degree program in computer science, or for students in mathematics, science, or technical areas who wish to obtain skills in computer software development for scientific and technical applications. The courses in the program provide the academic core of the theoretical concepts of computer science combined with the fundamentals of structured design and development techniques for computer programming.

As an Academic program, students are expected to demonstrate college-level skills in mathematics, English and fundamental programming. Upon completion of this program a student will be able to:

- Demonstrate proficiency in a high level programming language.
- Apply logical skills and mathematical concepts to analyze, design and implement computer algorithms and programs.
- Demonstrate proficiency in current design techniques, i.e. Object Oriented Design.

## Computer Science - Computer Science AS

### Locations

Harlingen



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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete all of the following
  - Complete the following:
    - COSC1336 - Programming Fundamentals I (3)
    - ENGL1301 - Composition I (3)
  - Complete at least 3 credits from the following:
    - MATH2312 - Pre-Calculus Math (3 SCH version) (3)
    - MATH1316 - Plane Trigonometry (3)
  - Complete the following:
    - ACGM3CAR - Creative Arts Elective (3)

### Semester 2

13 Total Credits

- Complete the following:
  - COSC1337 - Programming Fundamentals II (3)
  - ENGL1302 - Composition II (3)
  - GOVT2305 - Federal Government (Federal constitution & topics) (3)
  - MATH2413 - Calculus I (4 SCH version) (4)

### Semester 3

12 Total Credits

- Complete the following:
  - COSC2325 - Computer Organization (3)
  - GOVT2306 - Texas Government (Texas constitution & topics) (3)
  - ACGM3CAOB - Component Area Option (3)
  - ACGM3LPC - Language, Philosophy and Culture Elective (3)

### Semester 4

10 Total Credits

- Complete the following:
  - COSC2336 - Programming Fundamentals III (3)
  - HIST1301 - United States History I (3)
  - PHYS1301 - College Physics I (lecture) (3)
  - PHYS1101 - College Physics Laboratory I (1)

### Semester 5

10 Total Credits

- Complete the following:
  - HIST1302 - United States History II (3)
  - PHYS1302 - College Physics II (lecture) (3)
  - PHYS1102 - College Physics Lab II (1)
  - Course Not Found
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **57**

## **Capstone**

- Complete the following:
  - COSC2336 - Programming Fundamentals III (3)

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### Pre/Corequisites

- MATH 2312 Prerequisite(s): MATH 1314
- COSC 1337, COSC 2325 Prerequisite(s): COSC 1336
- ENGL 1302 Prerequisite(s): ENGL 1301
- MATH 2413 Prerequisite(s): MATH 1316 or MATH 2312 or MATH 2412
- COSC 2336 Prerequisite(s): COSC 1337
- PHYS 1301 Prerequisite(s): MATH 1314, MATH 1316 or MATH 2312 or MATH 2412 (Prerequisite), PHYS 1101 (Corequisite)
- PHYS 1101 Prerequisite(s): PHYS 1301 (Corequisite)
- PHYS 1302 Prerequisite(s): PHYS 1301, PHYS 1101 or PHYS 1401 (Prerequisite), PHYS 1102 (Corequisite)
- PHYS 1102 Prerequisite(s): PHYS 1302 (Corequisite)

### Elective Options

- Complete at least 1 courses from the following:  
Creative Arts Elective
  - ARTS1301 - Art Appreciation (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Component Area Option A (for Computer Science AS)
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2331 - World Literature (3)
  - PSYC2314 - Lifespan Growth & Development(3)
- Complete at least 1 courses from the following:  
Language, Philosophy & Culture Elective
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2331 - World Literature (3)
  - PHIL1304 - Introduction to World Religions(3)
- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)

## **Culinary Arts**

### **Description**

As a Culinary Arts student at TSTC, you will be trained in a multitude of hands-on skill sets and talents. The chef-instructors of TSTC Culinary are all highly trained professional chefs with years of industry experience and knowledge that will guide you in your professional journey while in school and out in your career. The TSTC Culinary Arts program is based in classical cooking techniques, food preparation, meat and seafood fabrication, baking, pastry, American regional and international cuisines, dining room services, purchasing and cost analysis. It culminates with the associate degree capstone course that allow you to run the kitchen with your cuisine. The Culinary Arts department at TSTC also teaches food-related topics, including nutrition, sanitation and safety, food service equipment, supervision and culinary math. For quicker entry into the industry, Culinary Assistant, Culinary Specialist and Culinarian certificates are available.

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## Culinary Arts - Culinarian CER2

### Locations

Waco  
East Williamson County

### Program Requirements

Semester 1

10 Total Credits

- Complete the following:
  - CHEF1205 - Sanitation and Safety (2)
  - IFWA1205 - Food Service Equipment and Planning (2)
  - IFWA1401 - Food Preparation I (4)
  - IFWA1218 - Nutrition for the Food Service Professional (2)

Semester 2

10 Total Credits

- Complete all of the following
  - Complete the following:
    - IFWA1427 - Food Preparation II (4)
    - PSTR1301 - Fundamentals of Baking (3)
  - Complete at least 3 credits from the following:
    - RSTO1304 - Dining Room Service (3)
    - RSTO1380 - Cooperative Education - Restaurant, Culinary, and Catering Management/Manager (3)

Semester 3

9 Total Credits

- Complete the following:
  - CHEF1340 - Meat Preparation and Cooking (3)
  - IFWA1217 - Food Production and Planning (2)
  - PSTR2431 - Advanced Pastry Shop (4)

Semester 4

11 Total Credits

- Complete the following:
  - CHEF1441 - American Regional Cuisine (4)
  - CHEF1445 - International Cuisine (4)
  - RSTO1313 - Hospitality Supervision (3)

Degree Plan Credits **40**

### Capstone

- Complete the following:
  - CHEF1441 - American Regional Cuisine (4)
  - CHEF1445 - International Cuisine (4)

### Pre/Corequisites

- IFWA 1427, PSTR 1301, RSTO 1304 prerequisite: CHEF 1205, IFWA 1205, IFWA 1401
- CHEF 1340 prerequisite: IFWA 1427
- PSTR 2431 prerequisite: PSTR 1301
- CHEF 1441, CHEF 1445 prerequisite: CHEF 1340, PSTR 2431

## Culinary Arts - Culinary Arts AAS

### Locations

Waco  
East Williamson County

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## **Program Requirements**

### Semester 1

13 Total Credits

- Complete the following:
  - CHEF1205 - Sanitation and Safety (2)
  - IFWA1205 - Food Service Equipment and Planning (2)
  - IFWA1401 - Food Preparation I (4)
  - IFWA1218 - Nutrition for the Food Service Professional (2)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 2

13 Total Credits

- Complete all of the following
  - Complete the following:
    - IFWA1427 - Food Preparation II (4)
    - PSTR1301 - Fundamentals of Baking (3)
  - Complete at least 3 credits from the following:
    - RSTO1304 - Dining Room Service (3)
    - RSTO1380 - Cooperative Education - Restaurant, Culinary, and Catering Management/Manager (3)
  - Complete the following:
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 3

12 Total Credits

- Complete the following:
  - CHEF1340 - Meat Preparation and Cooking (3)
  - IFWA1217 - Food Production and Planning (2)
  - PSTR2431 - Advanced Pastry Shop (4)
  - ENGL2311 - Technical & Business Writing (3)

### Semester 4

14 Total Credits

- Complete the following:
  - CHEF1441 - American Regional Cuisine (4)
  - CHEF1445 - International Cuisine (4)
  - RSTO1313 - Hospitality Supervision (3)
  - ACGM3GED - Gen Ed Elective (3)

### Semester 5

8 Total Credits

- Complete all of the following
  - Complete at least 5 credits from the following:
    - RSTO2505 - Management of Food Production and Service (5)
    - RSTO1680 - Cooperative Education - Restaurant, Culinary, and Catering Management/Manager (6)
  - Complete the following:
    - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete 1 of the following
  - Complete the following:
    - RSTO2505 - Management of Food Production and Service (5)
  - Complete the following:
    - RSTO1680 - Cooperative Education - Restaurant, Culinary, and Catering Management/Manager (6)

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## **Pre/Corequisites**

- PSTR 1301, RSTO 1304 prerequisite: CHEF 1205, IFWA 1205, IFWA 1401
- CHEF 1340 prerequisite: IFWA 1427
- PSTR 2431 prerequisite: PSTR 1301
- CHEF 1441, CHEF 1445 prerequisite: IFWA 1427, PSTR 2431
- RSTO 2505 prerequisite: CHEF 1441, CHEF 1445, PSTR 2431, RSTO 1313 (Prerequisite or Corequisite)

## **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete 1 General Education Elective as recommended by program
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)

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## **Culinary Arts - Culinary Assistant CER1**

### **Locations**

Waco  
East Williamson County

### **Program Requirements**

Semester 1  
10 Total Credits

- Complete the following:
  - CHEF1205 - Sanitation and Safety (2)
  - IFWA1205 - Food Service Equipment and Planning (2)
  - IFWA1401 - Food Preparation I (4)
  - IFWA1218 - Nutrition for the Food Service Professional (2)

Semester 2  
10 Total Credits

- Complete all of the following
  - Complete the following:
    - IFWA1427 - Food Preparation II (4)
    - PSTR1301 - Fundamentals of Baking (3)
  - Complete at least 3 credits from the following:
    - RSTO1304 - Dining Room Service (3)
    - RSTO1380 - Cooperative Education - Restaurant, Culinary, and Catering Management/Manager (3)

Degree Plan Credits **20**

### **Capstone**

- Complete the following:
  - IFWA1401 - Food Preparation I (4)
  - PSTR1301 - Fundamentals of Baking (3)

### **Pre/Corequisites**

- IFWA 1427, PSTR 1301, RSTO 1304 prerequisite: CHEF 1205, IFWA 1205, IFWA 1401

## **Culinary Arts - Culinary Specialist CER1**

### **Locations**

Waco  
East Williamson County

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### **Program Requirements**

#### Semester 1

10 Total Credits

- Complete the following:
  - CHEF1205 - Sanitation and Safety (2)
  - IFWA1205 - Food Service Equipment and Planning (2)
  - IFWA1401 - Food Preparation I (4)
  - IFWA1218 - Nutrition for the Food Service Professional (2)

#### Semester 2

13 Total Credits

- Complete all of the following
  - Complete the following:
    - IFWA1427 - Food Preparation II (4)
    - PSTR1301 - Fundamentals of Baking (3)
  - Complete all of the following
    - Complete the following:
      - RSTO1304 - Dining Room Service (3)
    - Complete the following:
      - RSTO1380 - Cooperative Education - Restaurant, Culinary, and Catering Management/Manager (3)

#### Semester 3

9 Total Credits

- Complete the following:
  - CHEF1340 - Meat Preparation and Cooking (3)
  - IFWA1217 - Food Production and Planning (2)
  - PSTR2431 - Advanced Pastry Shop (4)

Degree Plan Credits **32**

### **Capstone**

- Complete the following:
  - IFWA1427 - Food Preparation II (4)
  - PSTR2431 - Advanced Pastry Shop (4)

### **Pre/Corequisites**

- IFWA 1427, PSTR 1301, RSTO 1304 Prerequisite(s): CHEF 1205, IFWA 1205, IFWA 1401
- CHEF 1340 Prerequisite(s): IFWA 1427
- PSTR 2431 Prerequisite(s): PSTR 1301



## Cybersecurity

### Description

There's a strong demand for those who understand the importance of protecting a company's data. It takes specialized skills and in-depth knowledge of computer networking, operating systems and administration, encryption, firewalls and much more.

The Cybersecurity (CYS) program will provide students with the knowledge/skills required to:

- Implement, maintain, and securely administer infrastructure hardware and software.
- Implement security controls to aid in preventing, defending, detecting, and responding to cyberattacks and threats.
- Use cyber defense tools/techniques for continual monitoring and analysis of system activity to identify abnormal/malicious activity.
- Perform security reviews and identify security gaps in security implementations, resulting in recommendations for inclusion in a risk mitigation strategy.
- Identify, collect, examine, and preserve evidence using controlled and documented analytical and investigative techniques.

In addition, those who pursue the associate degree have the opportunity to further their skills in digital forensics with the Digital Forensics Advanced Technical Certificate. This certificate is for students who have previously completed an associate degree in security and provides advanced, specialized instruction in Digital Forensics.

## Cybersecurity - Cybersecurity AAS

### Locations

Online - TSTC Connect  
East Williamson County  
Harlingen  
Fort Bend County  
Marshall  
North Texas  
Waco

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - ITNW1325 - Fundamentals of Networking Technologies (3)
  - ITNW1354 - Implementing and Supporting Servers (3)
  - ITSC1325 - Personal Computer Hardware (3)
  - ENGL1301 - Composition I (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ITDF1300 - Introduction to Digital Forensics (3)
  - ITNW2321 - Networking with TCP/IP (3)
  - ITSY1374 - Secure Linux Administration (3)
  - ACGM3MTH - Gen Ed Mathematics Elective (3)

### Semester 3

12 Total Credits

- Complete the following:
  - ITNW2312 - Routers (3)
  - ITNW2355 - Server Virtualization (3)
  - ITSY2343 - Computer System Forensics (3)
  - ACGM3GED - Gen Ed Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - ITSY1342 - Information Technology Security (3)
  - ITSY2301 - Firewalls and Network Security (3)
  - ITSY2330 - Intrusion Detection (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - ITNW2350 - Enterprise Network (3)
    - ITNW2380 - Cooperative Education - Computer Systems Networking and Telecommunications (3)
  - Complete the following:
    - ITSY1375 - Security Scripting (3)
    - ITSY2359 - Security Assessment and Auditing (3)
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - ITNW2350 - Enterprise Network (3)
  - ITSY2359 - Security Assessment and Auditing (3)

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### **Pre/Corequisites**

- ITDF 1300 Prerequisite(s): ITSC 1325
- ITNW 2321 Prerequisite(s): ITNW 1325
- ITSY 1374 Prerequisite(s): ITNW 1354
- ITNW 2312 Prerequisite(s): ITNW 1325, ITNW 2321
- ITNW 2355 Prerequisite(s): ITNW 1345 or ITNW 1354, ITSC 1325
- ITSY 2343 Prerequisite(s): ITDF 1300
- ITSY 1342 Prerequisite(s): ITNW 1345 or ITNW 1354
- ITSY 2301 Prerequisite(s): ITNW 2312, ITNW 2321
- ITSY 2330 Prerequisite(s): ITNW 2321, ITSY 1342
- ITNW 2350 Prerequisite(s): ITSY 2301
- ITNW 2380 Prerequisite(s): 5th semester standing
- ITSY 1375 Prerequisite(s): ITSY 1374, ITSY 1342, ITSC 1325
- ITSY 2359 Prerequisite(s): ITSY 1342, ITSY 2301, ITSY 1374

### **Elective Options**

- Complete at least 1 courses from the following:  
Mathematics Elective
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1325 - Calculus for Business & Social Sciences(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - MATH1350 - Math - Teachers I Fundamentals of Math I(3)
  - MATH1351 - Fundamentals of Mathematics II(3)
  - MATH2312 - Pre-Calculus Math (3 SCH version)(3)
  - MATH2313 - Calculus I(3)
  - MATH2318 - Linear Algebra (3)
  - MATH2320 - Differential Equations (3 SCH version)(3)
  - MATH2342 - Elementary Statistical Methods(3)
  - MATH2313 - Calculus I(3)
  - MATH2414 - Calculus II (4 SCH version)(4)
  - MATH2415 - Calculus III (4 SCH version)(4)
- Complete at least 1 courses from the following:  
General Education Electives
  - ENGL1301 - Composition I (3)
  - ENGL1302 - Composition II (3)
  - ENGL2311 - Technical & Business Writing(3)
  - HIST2321 - World Civilizations I(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
  - ARTS1301 - Art Appreciation (3)
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2341 - Forms of Literature (3)
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2323 - World Cultures (3)
  - MUSI1306 - Music Appreciation (3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - SOCI1301 - Introduction to Sociology (3)
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)

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- CHEM1311 - General Chemistry I (lecture)(3)
- CHEM1412 - General Chemistry II(4)
- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1315 - Physical Science I (lecture)(3)
- Complete at least 1 courses from the following:
  - Humanities/Fine Arts Elective
    - HUMA1301 - Introduction to Humanities I(3)
    - HUMA2319 - American Minority Studies (3)
    - HUMA2323 - World Cultures (3)
    - PHIL1301 - Introduction to Philosophy(3)
    - PHIL1304 - Introduction to World Religions(3)
    - PHIL2303 - Introduction to Formal Logic(3)
    - PHIL2306 - Introduction to Ethics(3)
    - ARTS1301 - Art Appreciation (3)
    - ARTS2326 - Sculpture I (3)
    - ARTS2326 - Sculpture I (3)
    - MUSI1306 - Music Appreciation (3)
  - Complete at least 1 courses from the following:
    - Social/Behavioral Science Elective
      - GOVT2305 - Federal Government (Federal constitution & topics)(3)
      - GOVT2306 - Texas Government (Texas constitution & topics)(3)
      - ANTH2346 - General Anthropology (3)
      - ECON1301 - Introduction to Economics(3)
      - ECON2301 - Principles of Macroeconomics (3)
      - ECON2302 - Principles of Microeconomics (3)
      - GEOG1302 - Human Geography (3)
      - GEOG1303 - World Regional Geography (3)
      - PSYC1100 - Learning Framework (1)
      - PSYC2301 - General Psychology (3)
      - PSYC2314 - Lifespan Growth & Development(3)
      - HIST1301 - United States History I(3)
      - HIST1302 - United States History II(3)
      - HIST2312 - Western Civilization II(3)
      - HIST2321 - World Civilizations I(3)
      - SOCI1301 - Introduction to Sociology (3)
      - SOCI1306 - Social Problems (3)
      - SOCI2319 - Minority Studies I(3)

## Cybersecurity - Cybersecurity CER1

### Locations

Online - TSTC Connect  
East Williamson County  
Harlingen  
Fort Bend County  
Marshall  
North Texas  
Waco

### Program Requirements

Semester 1  
9 Total Credits

- Complete the following:
  - ITNW1325 - Fundamentals of Networking Technologies (3)
  - ITNW1354 - Implementing and Supporting Servers (3)
  - ITSC1325 - Personal Computer Hardware (3)

Semester 2  
6 Total Credits

- Complete the following:
  - ITNW2321 - Networking with TCP/IP (3)
  - ITSY1374 - Secure Linux Administration (3)

Degree Plan Credits **15**

### Capstone

- Complete the following:
  - ITNW2321 - Networking with TCP/IP (3)

### Pre/Corequisites

- ITSY 1374 Prerequisite(s): ITNW 1354

## Cybersecurity - Cybersecurity CER2

### Locations

Online - TSTC Connect  
East Williamson County  
Fort Bend County  
Harlingen  
Marshall  
North Texas  
Waco

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - ITNW1325 - Fundamentals of Networking Technologies (3)
  - ITNW1354 - Implementing and Supporting Servers (3)
  - ITSC1325 - Personal Computer Hardware (3)
  - ITNW2321 - Networking with TCP/IP (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ITSY1374 - Secure Linux Administration (3)
  - ITNW2312 - Routers (3)
  - ITNW2355 - Server Virtualization (3)
  - ITSY1342 - Information Technology Security (3)

### Semester 3

12 Total Credits

- Complete the following:
  - ITSY2301 - Firewalls and Network Security (3)
  - ITSY2330 - Intrusion Detection (3)
  - ITNW2350 - Enterprise Network (3)
  - ITSY1375 - Security Scripting (3)

Degree Plan Credits **36**

## **Capstone**

- Complete the following:
  - ITNW2350 - Enterprise Network (3)

## **Pre/Corequisites**

- ITSY 1374 Prerequisite(s): ITNW 1354
- ITNW 2312 Prerequisite(s): ITNW 1325
- ITNW 2355, ITSY 1342 Prerequisite(s): ITNW 1345 or ITNW 1354
- ITSY 2301 Prerequisite(s): ITNW 2312
- ITSY 2330 Prerequisite(s): ITNW 2321
- ITNW 2350 Prerequisite(s): ITSY 2301
- ITSY 1375 Prerequisite(s): ITSY 1374

## Cybersecurity - Digital Forensics Specialist ATC

### Locations

Online - TSTC Connect

### Program Requirements

Semester 1

8 Total Credits

- Complete the following:
  - ITDF2420 - Digital Forensics Collection (4)
  - ITDF2425 - Digital Forensics Tools (4)

Semester 2

8 Total Credits

- Complete the following:
  - ITDF2430 - Digital Forensics Analysis (4)
  - ITDF2435 - Comprehensive Digital Forensics Project (4)

Degree Plan Credits **16**

### Pre/Corequisites

- ITDF 2420 Prerequisite(s): AAS Degree - Security
- ITDF 2425 Prerequisite(s): ITDF 2420
- ITDF 2430 Prerequisite(s): ITDF 2425
- ITDF 2435 Prerequisite(s): ITDF 2430

## Dental Hygiene

### Description

The Dental Hygiene program at TSTC prepares students for the industry of preventative dentistry with a well-rounded curriculum that includes preventative dental hygiene, pharmacology, periodontology, pathology, dental nutrition and more. Dental Hygiene students at TSTC are able to fulfill their clinical experiences at a beautiful, state-of-the-art dental clinic on campus. The students utilize the 14-chair clinic to receive over 600 hours of instruction in a 1-faculty-to-5-student ratio. External clinical experiences also allow a wide variety of patient treatment. Graduates of the program are well prepared to successfully complete the National Dental Hygiene Board and the Western Regional Board Examination, as well as the Texas Jurisprudence Examination for licensure.

### Grading Scale

A = 100-93  
B = 92-86  
C = 85-78  
D = 77-70  
F = 69-0

NOTE: Students must maintain 78% (C) or better in all program classes in order to advance to the next semester. A grade of D will not be accepted in the Dental Hygiene program.

## Dental Hygiene - Dental Hygiene AAS

### Locations

Harlingen

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## **Program Requirements**

### Semester 1

11 Total Credits

- Complete the following:
  - BIOL2101 - Anatomy & Physiology I (lab) (1)
  - BIOL2301 - Anatomy & Physiology I (lecture) (3)
  - CHEM1105 - Introductory Chemistry Laboratory I (lab) (1)
  - CHEM1305 - Introductory Chemistry I (lecture) (3)
  - ENGL1301 - Composition I (3)
  - Course Not Found

### Semester 2

12 Total Credits

- Complete the following:
  - DHYG1227 - Preventive Dental Hygiene Care (2)
  - DHYG1301 - Orofacial Anatomy, Histology & Embryology (3)
  - DHYG1331 - Preclinical Dental Hygiene (3)
  - BIOL2102 - Anatomy & Physiology II (lab) (1)
  - BIOL2302 - Anatomy & Physiology II (lecture) (3)

### Semester 3

14 Total Credits

- Complete the following:
  - DHYG1211 - Periodontology (2)
  - DHYG1260 - Clinical - Dental Hygiene/Hygienist (2)
  - DHYG1304 - Dental Radiology (3)
  - BIOL2120 - Microbiology for Non-Science Majors Laboratory (lab) (1)
  - BIOL2320 - Microbiology for Non-Science Majors (lecture) (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

10 Total Credits

- Complete the following:
  - DHYG1235 - Pharmacology for the Dental Hygienist (2)
  - DHYG1261 - Clinical - Dental Hygiene/Hygienist (2)
  - DHYG1319 - Dental Materials (3)
  - SOCI1301 - Introduction to Sociology (3)

### Semester 5

12 Total Credits

- Complete the following:
  - DHYG1215 - Community Dentistry (2)
  - DHYG1239 - General and Oral Pathology (2)
  - DHYG2201 - Dental Hygiene Care I (2)
  - DHYG2360 - Clinical - Dental Hygiene/Hygienist (3)
  - PSYC2301 - General Psychology (3)

### Semester 6

6 Total Credits

- Complete the following:
  - DHYG1207 - General and Dental Nutrition (2)
  - DHYG2153 - Dental Hygiene Practice (1)
  - DHYG2361 - Clinical - Dental Hygiene/Hygienist (3)

Degree Plan Credits **65**

## **Capstone**

- Complete the following:
  - DHYG2361 - Clinical - Dental Hygiene/Hygienist (3)



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## **Pre/Corequisites**

- DHYG 1260 Prerequisite(s): DHYG 1331
- DHYG 1261 Prerequisite(s): DHYG 1260
- DHYG 2360 Prerequisite(s): DHYG 1261
- DHYG 2361 Prerequisite(s): DHYG 2360

## **Elective Options**

- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

## **Diesel Equipment Technology**

### **Description**

TSTC's Diesel Equipment Technology program offers several avenues of entry into the workforce: Off-Highway Equipment, Heavy Truck, and John Deere Construction & Forestry. TSTC's field-experienced faculty members work closely with related diesel industries to develop curriculum that meets workforce demands. Diesel Equipment Technology students will learn diesel engine testing and repair, brake systems, HVAC troubleshooting and repair, electrical systems, hydraulics, failure analysis and more. Because of the vast uses of highly advanced pneumatic, hydraulic and electronic systems technology, industry needs quality-trained technicians to repair and maintain the equipment, and TSTC students learn from skilled craftsmen who have actual field experience. For quicker entry into the industry, certificates are also available.

## **Diesel Equipment Technology - Diesel Equipment Technology**

### **Locations**

Fort Bend County  
Marshall  
North Texas  
Sweetwater  
Waco

### **Program Requirements**

Semester 1  
12 Total Credits

- Complete the following:
  - DEMR1301 - Shop Safety and Procedures (3)
  - DEMR1305 - Basic Electrical Systems (3)
  - DEMR1371 - Chassis I (3)
  - DEMR1329 - Preventative Maintenance (3)

Degree Plan Credits **12**

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## **Diesel Equipment Technology - Diesel Equipment Technology - Heavy Truck CER1**

### **Locations**

Waco  
Fort Bend County  
Sweetwater  
North Texas

### **Program Requirements**

Semester 1  
14 Total Credits

- Complete the following:
  - DEMR1301 - Shop Safety and Procedures (3)
  - DEMR1317 - Basic Brake Systems (3)
  - DEMR1410 - Diesel Engine Testing and Repair I (4)
  - DEMR2412 - Diesel Engine Testing and Repair II (4)

Semester 2  
12 Total Credits

- Complete the following:
  - DEMR1305 - Basic Electrical Systems (3)
  - DEMR1316 - Basic Hydraulics (3)
  - DEMR1321 - Power Train I (3)
  - DEMR1323 - Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair (3)

Semester 3  
10 Total Credits

- Complete all of the following
  - Complete the following:
    - DEMR1327 - Tractor Trailer Service and Repair (3)
  - Complete at least 3 credits from the following:
    - DEMR1330 - Steering and Suspension I (3)
    - DEMR1329 - Preventative Maintenance (3)
  - Complete the following:
    - DEMR1447 - Power Train II (4)

Degree Plan Credits **36**

### **Capstone**

- Complete the following:
  - DEMR1327 - Tractor Trailer Service and Repair (3)

### **Pre/Corequisites**

- DEMR 2412 Prerequisite(s): DEMR 1410
- DEMR 1327 Prerequisite(s): DEMR 1317
- DEMR 1447 Prerequisite(s): DEMR 1321 or DEMR 1421

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## **Diesel Equipment Technology - Diesel Equipment Technology - Heavy Truck CER2**

### **Locations**

Waco  
Fort Bend County  
Sweetwater  
North Texas

### **Program Requirements**

#### Semester 1

14 Total Credits

- Complete the following:
  - DEMR1301 - Shop Safety and Procedures (3)
  - DEMR1317 - Basic Brake Systems (3)
  - DEMR1410 - Diesel Engine Testing and Repair I (4)
  - DEMR2412 - Diesel Engine Testing and Repair II (4)

#### Semester 2

12 Total Credits

- Complete the following:
  - DEMR1305 - Basic Electrical Systems (3)
  - DEMR1316 - Basic Hydraulics (3)
  - DEMR1321 - Power Train I (3)
  - DEMR1323 - Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair (3)

#### Semester 3

10 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - DEMR1330 - Steering and Suspension I (3)
    - DEMR1329 - Preventative Maintenance (3)
  - Complete the following:
    - DEMR1327 - Tractor Trailer Service and Repair (3)
    - DEMR1447 - Power Train II (4)

#### Semester 4

9 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - DEMR1380 - Cooperative Education - Diesel Mechanics Technology/Technician (3)
    - DEMR2348 - Failure Analysis (3)
  - Complete the following:
    - DEMR2332 - Electronic Controls (3)
    - DEMR2334 - Advanced Diesel Tune-Up and Troubleshooting (3)

Degree Plan Credits **45**

### **Capstone**

- Complete the following:
  - DEMR2334 - Advanced Diesel Tune-Up and Troubleshooting (3)

### **Pre/Corequisites**

- DEMR 2412 Prerequisite(s): DEMR 1410
- DEMR 1327 Prerequisite(s): DEMR 1317
- DEMR 1447 Prerequisite(s): DEMR 1321 or DEMR 1421
- DEMR 2332 Prerequisite(s): DEMR 1305, DEMR 2412
- DEMR 2334 Prerequisite(s): DEMR 2412, DEMR 2312 or AUMT 2417

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## **Diesel Equipment Technology - Diesel Equipment Technology - Heavy Truck Specialization AAS**

### **Locations**

Waco  
Fort Bend County  
Sweetwater  
North Texas

### **Program Requirements**

Semester 1  
15 Total Credits

- Complete the following:
  - DEMR1301 - Shop Safety and Procedures (3)
  - DEMR1305 - Basic Electrical Systems (3)
  - DEMR1371 - Chassis I (3)
  - DEMR1329 - Preventative Maintenance (3)
  - ENGL1301 - Composition I (3)

Semester 2  
17 Total Credits

- Complete the following:
  - DEMR1410 - Diesel Engine Testing and Repair I (4)
  - DEMR1321 - Power Train I (3)
  - DEMR1323 - Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair (3)
  - DEMR2412 - Diesel Engine Testing and Repair II (4)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

Semester 3  
15 Total Credits

- Complete the following:
  - DEMR2332 - Electronic Controls (3)
  - DEMR1372 - Chassis II (3)
  - DEMR1316 - Basic Hydraulics (3)
  - DEMR2339 - Advanced Electrical Systems (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Semester 4  
13 Total Credits

- Complete the following:
  - DEMR1447 - Power Train II (4)
  - DEMR2334 - Advanced Diesel Tune-Up and Troubleshooting (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - ACGM3GED - Gen Ed Elective (3)

Degree Plan Credits **60**

### **Capstone**

- Complete the following:
  - DEMR2334 - Advanced Diesel Tune-Up and Troubleshooting (3)

### **Pre/Corequisites**

- DEMR 2412 Prerequisite(s): DEMR 1410 (Prerequisite or Corequisite)
- DEMR 2332 Prerequisite(s): DEMR 1305, DEM 2412
- DEMR 1372 Prerequisite(s): DEMR 1371
- DEMR 1447 Prerequisite(s): DEMR 1321
- DEMR 2334 Prerequisite(s): DEMR 2412 or AUMT2417

### **Elective Options**

- Complete at least 1 courses from the following:  
Math/Natural Science Elective

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- BIOL1306 - Biology for Science Majors I (lecture)(3)
- BIOL1307 - Biology for Science Majors II(3)
- BIOL1308 - Biology for Non-Science Majors I(3)
- BIOL1309 - Biology for Non-Science Majors II(3)
- BIOL2301 - Anatomy & Physiology I (lecture)(3)
- BIOL2302 - Anatomy & Physiology II (lecture)(3)
- CHEM1305 - Introductory Chemistry I (lecture)(3)
- CHEM1311 - General Chemistry I (lecture)(3)
- CHEM1312 - General Chemistry II (lecture)(3)
- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least courses from the following:  
General Education Electives
  - ENGL1301 - Composition I (3)
  - ENGL1302 - Composition II (3)
  - ENGL2311 - Technical & Business Writing(3)
  - HIST2321 - World Civilizations I(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
  - ARTS1301 - Art Appreciation (3)
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2341 - Forms of Literature (3)
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2323 - World Cultures (3)
  - MUSI1306 - Music Appreciation (3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)

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- GOVT2305 - Federal Government (Federal constitution & topics)(3)
- GOVT2306 - Texas Government (Texas constitution & topics)(3)
- HIST1301 - United States History I(3)
- HIST1302 - United States History II(3)
- PSYC2301 - General Psychology (3)
- PSYC2314 - Lifespan Growth & Development(3)
- SOCI1301 - Introduction to Sociology (3)
- BIOL1306 - Biology for Science Majors I (lecture)(3)
- BIOL1307 - Biology for Science Majors II(3)
- BIOL1308 - Biology for Non-Science Majors I(3)
- BIOL1309 - Biology for Non-Science Majors II(3)
- BIOL2301 - Anatomy & Physiology I (lecture)(3)
- BIOL2302 - Anatomy & Physiology II (lecture)(3)
- CHEM1305 - Introductory Chemistry I (lecture)(3)
- CHEM1311 - General Chemistry I (lecture)(3)
- CHEM1412 - General Chemistry II(4)
- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1315 - Physical Science I (lecture)(3)

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### **Diesel Equipment Technology - Diesel Equipment Technology - Off Highway Equipment CER1**

#### **Locations**

Waco  
Marshall

#### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - DEMR1301 - Shop Safety and Procedures (3)
  - DEMR1305 - Basic Electrical Systems (3)
  - DEMR1371 - Chassis I (3)
  - DEMR1329 - Preventative Maintenance (3)

Semester 2

14 Total Credits

- Complete all of the following
  - Complete the following:
    - DEMR1410 - Diesel Engine Testing and Repair I (4)
    - DEMR1316 - Basic Hydraulics (3)
    - DEMR2412 - Diesel Engine Testing and Repair II (4)
  - Complete at least 3 credits from the following:
    - DEMR1321 - Power Train I (3)
    - HEMR1304 - Natural Gas Compression (3)

Semester 3

13 Total Credits

- Complete all of the following
  - Complete the following:
    - HEMR1401 - Tracks and Undercarriages (4)
    - DEMR2344 - Automatic Power Shift and Hydrostatic Transmissions II (3)
    - DEMR1323 - Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair (3)
  - Complete at least 3 credits from the following:
    - AGME1353 - Harvesting Equipment (3)
    - DEMR2334 - Advanced Diesel Tune-Up and Troubleshooting (3)

Degree Plan Credits **39**

#### **Capstone**

- Complete the following:
  - HEMR1401 - Tracks and Undercarriages (4)

#### **Pre/Corequisites**

- DEMR 2412 Prerequisite(s): DEMR 1410
- DEMR 2344 Prerequisite(s): DEMR 1321 or DEMR 2412
- DEMR 2334 Prerequisite(s): DEMR 2412 or DEMR 2417

### **Diesel Equipment Technology - Diesel Equipment Technology - Off Highway Specialization AAS**

#### **Locations**

Waco  
Marshall

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## **Program Requirements**

### Semester 1

15 Total Credits

- Complete the following:
  - DEMR1301 - Shop Safety and Procedures (3)
  - DEMR1305 - Basic Electrical Systems (3)
  - DEMR1371 - Chassis I (3)
  - DEMR1329 - Preventative Maintenance (3)
  - ENGL1301 - Composition I (3)

### Semester 2

17 Total Credits

- Complete all of the following
  - Complete the following:
    - DEMR1410 - Diesel Engine Testing and Repair I (4)
    - DEMR1316 - Basic Hydraulics (3)
    - DEMR2412 - Diesel Engine Testing and Repair II (4)
    - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)
  - Complete at least 3 credits from the following:
    - DEMR1321 - Power Train I (3)
    - HEMR1304 - Natural Gas Compression (3)

### Semester 3

16 Total Credits

- Complete all of the following
  - Complete the following:
    - HEMR1401 - Tracks and Undercarriages (4)
    - DEMR2344 - Automatic Power Shift and Hydrostatic Transmissions II (3)
    - DEMR1323 - Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair (3)
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
  - Complete at least 3 credits from the following:
    - AGME1353 - Harvesting Equipment (3)
    - DEMR2334 - Advanced Diesel Tune-Up and Troubleshooting (3)

### Semester 4

12 Total Credits

- Complete the following:
  - DEMR2335 - Advanced Hydraulics (3)
  - DEMR2332 - Electronic Controls (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - ACGM3GED - Gen Ed Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - DEMR2332 - Electronic Controls (3)

## **Pre/Corequisites**

- DEMR 2412 Prerequisite(s): DEMR 1410
- DEMR 2344 Prerequisite(s): DEMR 1321 or DEMR 2312 or DEMR 2412
- DEMR 2334 Prerequisite(s): DEMR 2412, DEMR 2312 or AUMT 2417
- DEMR 2335 Prerequisite(s): DEMR 1316 or DEMR 1416
- DEMR 2332 Prerequisite(s): DEMR 1305, DEMR 2412

## **Elective Options**

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)



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- BIOL1309 - Biology for Non-Science Majors II(3)
- BIOL2301 - Anatomy & Physiology I (lecture)(3)
- BIOL2302 - Anatomy & Physiology II (lecture)(3)
- CHEM1305 - Introductory Chemistry I (lecture)(3)
- CHEM1311 - General Chemistry I (lecture)(3)
- CHEM1312 - General Chemistry II (lecture)(3)
- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:
  - Social/Behavioral Science Elective
    - GOVT2305 - Federal Government (Federal constitution & topics)(3)
    - GOVT2306 - Texas Government (Texas constitution & topics)(3)
    - ANTH2346 - General Anthropology (3)
    - ECON1301 - Introduction to Economics(3)
    - ECON2301 - Principles of Macroeconomics(3)
    - ECON2302 - Principles of Microeconomics(3)
    - GEOG1302 - Human Geography (3)
    - GEOG1303 - World Regional Geography(3)
    - PSYC1100 - Learning Framework(1)
    - PSYC2301 - General Psychology(3)
    - PSYC2314 - Lifespan Growth & Development(3)
    - HIST1301 - United States History I(3)
    - HIST1302 - United States History II(3)
    - HIST2312 - Western Civilization II(3)
    - HIST2321 - World Civilizations I(3)
    - SOCI1301 - Introduction to Sociology(3)
    - SOCI1306 - Social Problems(3)
    - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:
  - Humanities/Fine Arts Elective
    - HUMA1301 - Introduction to Humanities I(3)
    - HUMA2319 - American Minority Studies(3)
    - HUMA2323 - World Cultures(3)
    - PHIL1301 - Introduction to Philosophy(3)
    - PHIL1304 - Introduction to World Religions(3)
    - PHIL2303 - Introduction to Formal Logic(3)
    - PHIL2306 - Introduction to Ethics(3)
    - ARTS1301 - Art Appreciation(3)
    - ARTS2326 - Sculpture I(3)
    - ARTS2326 - Sculpture I(3)
    - MUSI1306 - Music Appreciation(3)
- Complete at least 1 courses from the following:
  - General Education Electives
    - ENGL1301 - Composition I(3)
    - ENGL1302 - Composition II(3)
    - ENGL2311 - Technical & Business Writing(3)
    - HIST2321 - World Civilizations I(3)
    - SPCH1315 - Public Speaking(3)
    - SPCH1318 - Interpersonal Communication(3)
    - SPCH1321 - Business & Professional Communication(3)
    - ARTS1301 - Art Appreciation(3)
    - ENGL2321 - British Literature(3)
    - ENGL2326 - American Literature (single-Semester Course)(3)
    - ENGL2341 - Forms of Literature(3)
    - HUMA1301 - Introduction to Humanities I(3)
    - HUMA2323 - World Cultures(3)
    - MUSI1306 - Music Appreciation(3)
    - PHIL1304 - Introduction to World Religions(3)
    - PHIL2306 - Introduction to Ethics(3)
    - ECON2301 - Principles of Macroeconomics(3)
    - ECON2302 - Principles of Microeconomics(3)
    - GOVT2305 - Federal Government (Federal constitution & topics)(3)
    - GOVT2306 - Texas Government (Texas constitution & topics)(3)
    - HIST1301 - United States History I(3)

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- HIST1302 - United States History II(3)
- PSYC2301 - General Psychology (3)
- PSYC2314 - Lifespan Growth & Development(3)
- SOCI1301 - Introduction to Sociology (3)
- BIOL1306 - Biology for Science Majors I (lecture)(3)
- BIOL1307 - Biology for Science Majors II(3)
- BIOL1308 - Biology for Non-Science Majors I(3)
- BIOL1309 - Biology for Non-Science Majors II(3)
- BIOL2301 - Anatomy & Physiology I (lecture)(3)
- BIOL2302 - Anatomy & Physiology II (lecture)(3)
- CHEM1305 - Introductory Chemistry I (lecture)(3)
- CHEM1311 - General Chemistry I (lecture)(3)
- CHEM1412 - General Chemistry II(4)
- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning) (3)
- MATH1342 - Elementary Statistical Methods(3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1315 - Physical Science I (lecture)(3)

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## **Diesel Equipment Technology - Diesel Equipment Technology - Off Highway Specialization CER2**

### **Locations**

Waco  
Marshall

### **Program Requirements**

Semester 1

14 Total Credits

- Complete the following:
  - DEMR1301 - Shop Safety and Procedures (3)
  - DEMR1317 - Basic Brake Systems (3)
  - DEMR1410 - Diesel Engine Testing and Repair I (4)
  - DEMR2412 - Diesel Engine Testing and Repair II (4)

Semester 2

12 Total Credits

- Complete the following:
  - DEMR1305 - Basic Electrical Systems (3)
  - DEMR1316 - Basic Hydraulics (3)
  - DEMR1321 - Power Train I (3)
  - DEMR1323 - Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair (3)

Semester 3

13 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AGME1353 - Harvesting Equipment (3)
    - HEMR1304 - Natural Gas Compression (3)
  - Complete the following:
    - DEMR2335 - Advanced Hydraulics (3)
    - DEMR2344 - Automatic Power Shift and Hydrostatic Transmissions II (3)
    - HEMR1401 - Tracks and Undercarriages (4)

Semester 4

6 Total Credits

- Complete the following:
  - DEMR2332 - Electronic Controls (3)
  - DEMR2334 - Advanced Diesel Tune-Up and Troubleshooting (3)

Degree Plan Credits **45**

### **Capstone**

- Complete the following:
  - DEMR2334 - Advanced Diesel Tune-Up and Troubleshooting (3)

### **Pre/Corequisites**

- DEMR 2412 Prerequisite(s): DEMR 1410
- DEMR 2335 Prerequisite(s): DEMR 1316 or DEMR 1416
- DEMR 2344 Prerequisite(s): DEMR 1321 or DEMR 2312 or DEMR 2412
- DEMR 2332 Prerequisite(s): DEMR 1305, DEMR 2412
- DEMR 2334 Prerequisite(s): DEMR 2412, DEMR 2312 or AUMT 2417

# 2023-2024 Catalog & Student Handbook

## **Digital Media Design**

### **Description**

While you watch commercials, do you think to yourself, "I could do that better"? When you pass by a billboard, do you say to yourself, "I can't even read that"? In the Digital Media Design program, our goal is to inspire and teach a new generation of media artists how to be employable in the print, photography, videography and web design industries. We'll show you the techniques necessary to produce quality media design, and equip you with tools to grow as creative thinkers and innovators. Students in this program will manipulate sound, still images, 3-D images, animations, UXUI and digital video on computers. This program will provide training in desktop publishing, painting, drawing, color correction, solids modeling, animation, sound editing, nonlinear video editing web, page creating, photography, 3-D printing, marking and design.

## **Digital Media Design - Digital Media Design AAS**

### **Locations**

Online - TSTC Connect

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ARTC1302 - Digital Imaging I (3)
    - GRPH1359 - Vector Graphics for Production (3)
    - ARTC1313 - Digital Publishing I (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ARTC1317 - Design Communication I (3)
  - ARTC1327 - Typography (3)
  - ARTC2305 - Digital Imaging II (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

### Semester 3

12 Total Credits

- Complete the following:
  - ARTC2347 - Design Communication II (3)
  - PHTC1311 - Fundamentals of Photography (3)
  - ARTV1351 - Digital Video (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ARTV2341 - Advanced Digital Video (3)
    - IMED1341 - Interface Design (3)
  - Complete at least 3 credits from the following:
    - MRKG2349 - Advertising and Sales Promotion (3)
    - ARTV1345 - 3-D Modeling and Rendering I (3)
  - Complete the following:
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 5

12 Total Credits

- Complete the following:
  - ARTC2335 - Portfolio Development for Graphic Design (3)
  - IMED2359 - Interactive Web Elements (3)
  - IMED1345 - Interactive Digital Media I (3)
  - ACGM3GED - Gen Ed Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - ARTC2335 - Portfolio Development for Graphic Design (3)

## **Pre/Corequisites**

- ARTC 2305 Prerequisite(s): ARTC 1302
- ARTC 2347 Prerequisite(s): ARTC 1317
- PHTC 1311, MRKG 2349, ARTV 1345, Prerequisite(s): ARTC 1302
- ARTV 2341 Prerequisite(s): ARTV 1351
- IMED 2359, IMED 1345 Prerequisite(s): IMED 1341

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### Elective Options

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I (3)
- Complete at least 1 courses from the following:  
General Education Electives
  - ENGL1301 - Composition I (3)
  - ENGL1302 - Composition II (3)
  - ENGL2311 - Technical & Business Writing(3)
  - HIST2321 - World Civilizations I(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
  - ARTS1301 - Art Appreciation (3)
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2341 - Forms of Literature(3)
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2323 - World Cultures (3)
  - MUSI1306 - Music Appreciation (3)

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- PHIL1304 - Introduction to World Religions(3)
- PHIL2306 - Introduction to Ethics(3)
- ECON2301 - Principles of Macroeconomics(3)
- ECON2302 - Principles of Microeconomics(3)
- GOVT2305 - Federal Government (Federal constitution & topics)(3)
- GOVT2306 - Texas Government (Texas constitution & topics)(3)
- HIST1301 - United States History I(3)
- HIST1302 - United States History II(3)
- PSYC2301 - General Psychology(3)
- PSYC2314 - Lifespan Growth & Development(3)
- SOCI1301 - Introduction to Sociology(3)
- BIOL1306 - Biology for Science Majors I (lecture)(3)
- BIOL1307 - Biology for Science Majors II(3)
- BIOL1308 - Biology for Non-Science Majors I(3)
- BIOL1309 - Biology for Non-Science Majors II(3)
- BIOL2301 - Anatomy & Physiology I (lecture)(3)
- BIOL2302 - Anatomy & Physiology II (lecture)(3)
- CHEM1305 - Introductory Chemistry I (lecture)(3)
- CHEM1311 - General Chemistry I (lecture)(3)
- CHEM1412 - General Chemistry II(4)
- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1315 - Physical Science I (lecture)(3)

## Digital Media Design - Digital Media Design CER1

### Locations

Online - TSTC Connect

### Program Requirements

Semester 1

9 Total Credits

- Complete the following:
  - ARTC1302 - Digital Imaging I (3)
  - GRPH1359 - Vector Graphics for Production (3)
  - ARTC1313 - Digital Publishing I (3)

Semester 2

9 Total Credits

- Complete the following:
  - ARTC1317 - Design Communication I (3)
  - ARTC1327 - Typography (3)
  - ARTC2305 - Digital Imaging II (3)

Semester 3

9 Total Credits

- Complete the following:
  - ARTC2347 - Design Communication II (3)
  - PHTC1311 - Fundamentals of Photography (3)
  - ARTV1351 - Digital Video (3)

Degree Plan Credits **27**

### Capstone

- Complete the following:
  - ARTC2335 - Portfolio Development for Graphic Design (3)

### Pre/Corequisites

- ARTC 1313 Prerequisite(s): ARTC 1302 (Prerequisite or Corequisite)
- ARTC 2305, PHTC 1311 Prerequisite(s): ARTC 1302
- ARTC 2347 Prerequisite(s): ARTC 1317

## Digital Media Design - Digital Media Design CER2

### Locations

Online - TSTC Connect



# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - ARTC1302 - Digital Imaging I (3)
  - ARTC1353 - Computer Illustration (3)
  - ARTC1313 - Digital Publishing I (3)
  - ARTC1317 - Design Communication I (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ARTC1327 - Typography (3)
  - ARTC2305 - Digital Imaging II (3)
  - IMED1341 - Interface Design (3)
  - ARTC2340 - Computer Illustration II (3)

### Semester 3

12 Total Credits

- Complete the following:
  - ARTV1351 - Digital Video (3)
  - IMED2359 - Interactive Web Elements (3)
  - ARTC1359 - Visual Design for New Media (3)
  - ARTC2347 - Design Communication II (3)

### Semester 4

9 Total Credits

- Complete the following:
  - ARTV2341 - Advanced Digital Video (3)
  - ARTC1349 - Art Direction I (3)
  - ARTC2335 - Portfolio Development for Graphic Design (3)

Degree Plan Credits **45**

## **Capstone**

- Complete the following:
  - ARTC2335 - Portfolio Development for Graphic Design (3)

## **Pre/Corequisites**

- ARTC 1313, ARTC 1317 Prerequisite(s): ARTC 1302 (Prerequisite or Corequisite), ARTC 1353 (Prerequisite or Corequisite)
- ARTC 1327 Prerequisite(s): ARTC 1353 (Prerequisite or Corequisite)
- ARTC 2305 Prerequisite(s): ARTC 1302
- IMED 1341, ARTC 2340 Prerequisite(s): ARTC 1327, ARTC 1317
- IMED 2359 Prerequisite(s): IMED 1341
- ARTC 1359 Prerequisite(s): ARTV 1351 (Prerequisite or Corequisite), ARTC 2340
- ARTC 2347 Prerequisite(s): ARTC 1317, ARTC 2340 (Prerequisite or Corequisite), ARTC 2305 (Prerequisite or Corequisite)
- ARTV 2341 Prerequisite(s): ARTV 1351
- ARTC 1349 Prerequisite(s): ARTC 2305, ARTC 2340
- ARTC 2335 Prerequisite(s): ARTC 2347, IMED 1341, ARTV 2341 (Prerequisite or Corequisite)

## Digital Media Design - Digital Media Design Desktop Publisher

### Locations

Online - TSTC Connect

### Program Requirements

Semester 1

9 Total Credits

- Complete the following:
  - GRPH2309 - Digital Pre-Press (3)
  - ARTC2313 - Digital Publishing II (3)
  - ARTC2333 - Publication Design (3)

Semester 2

7 Total Credits

- Complete the following:
  - ARTC2449 - Art Direction II (4)
  - ARTC2348 - Digital Publishing III (3)

Degree Plan Credits **16**

### Pre/Corequisites

- ARTC 2348 Prerequisite(s): ARTC 2313

## Education & Training

### Description

The Education and Training program is designed to prepare students to meet the demands of an increasingly competitive and intellectually challenging future through educational and personal growth, practical skills development, academic courses and career preparation. The program is composed of educational classes with technical labs for hands-on learning and allows students to gain specialized training in one of the four developed educational areas of emphasis listed below: Bilingual Education, Early Childhood Education, Special Education, or General Education (emphasis in Reading and Writing). Students will require two courses from the correspondent Area of Emphasis as listed below. The students will create and develop instructional materials ready to be used in the school setting utilizing a variety of state-of-the-art media and technical resources. For quicker entry into the industry, a certificate is also available. It requires that the student take one course from their corresponding area of emphasis.

## Education & Training - Education & Training AAS

### Locations

Online - TSTC Connect

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - EDTC1301 - Educational Systems (3)
  - EDTC1341 - Instructional Technology and Computer Applications (3)
  - ENGL1301 - Composition I (3)
  - HIST1301 - United States History I (3)

### Semester 2

12 Total Credits

- Complete the following:
  - CDEC1359 - Children with Special Needs (3)
  - EDTC2311 - Instructional Practices and Effective Learning Environments (3)
  - HIST1302 - United States History II (3)
  - SPCH1315 - Public Speaking (3)

### Semester 3

12 Total Credits

- Complete the following:
  - EDTC1307 - Introduction to Teaching Reading (3)
  - TECA1354 - Child Growth & Development (3)
  - GOVT2305 - Federal Government (Federal constitution & topics) (3)
  - MATH1314 - College Algebra (3 SCH version) (3)
  - Course Not Found

### Semester 4

9 Total Credits

- Complete the following:
  - EDTC1374 - Teaching Math & Science in the Elementary School (3)
  - EDTC2317 - Guiding Student Behavior (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - Course Not Found

### Semester 5

9 Total Credits

- Complete the following:
  - EDTC1364 - Practicum (or Field Experience) - Teacher Assistant/Aide (3)
  - CDEC1318 - Wellness of the Young Child (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **54**

## **Capstone**

- Complete the following:
  - EDTC1364 - Practicum (or Field Experience) - Teacher Assistant/Aide (3)

# 2023-2024 Catalog & Student Handbook

## **Elective Options**

- Select 1 Area of Emphasis group. Complete 6 credits for that group.
- Area of Emphasis in Bilingual Education (2 courses required)
- Complete the following:
  - EDTC1321 - Bilingual Education (3)
  - EDTC1325 - Multicultural Education (3)
- Area of Emphasis in Early Childhood Education (2 courses required)
- Complete the following:
  - CDEC1321 - The Infant and Toddler (3)
  - CDEC1356 - Emergent Literacy for Early Childhood (3)
- Area of Emphasis in General Education (2 courses required)
- Complete the following:
  - EDTC1373 - Writing Problems (3)
  - EDTC2305 - Reading Problems (3)
- Area of Emphasis in Special Needs Education (2 courses required)
- Complete the following:
  - CDEC2340 - Instructional Techniques for Children with Special Needs (3)
  - EDTC1375 - Issues in Special Needs Education (3)
- 
- -----
- Complete a course from each of the following elective groups
- Complete at least 1 courses from the following:
  - Social/Behavioral Science Elective
    - GOVT2305 - Federal Government (Federal constitution & topics)(3)
    - GOVT2306 - Texas Government (Texas constitution & topics)(3)
    - ANTH2346 - General Anthropology (3)
    - ECON1301 - Introduction to Economics(3)
    - ECON2301 - Principles of Macroeconomics (3)
    - ECON2302 - Principles of Microeconomics (3)
    - GEOG1302 - Human Geography (3)
    - GEOG1303 - World Regional Geography (3)
    - PSYC1100 - Learning Framework (1)
    - PSYC2301 - General Psychology (3)
    - PSYC2314 - Lifespan Growth & Development(3)
    - HIST1301 - United States History I(3)
    - HIST1302 - United States History II(3)
    - HIST2312 - Western Civilization II(3)
    - HIST2321 - World Civilizations I(3)
    - SOCI1301 - Introduction to Sociology (3)
    - SOCI1306 - Social Problems (3)
    - SOCI2319 - Minority Studies I(3)
  - Complete at least 1 courses from the following:
    - Humanities/Fine Arts Elective
      - HUMA1301 - Introduction to Humanities I(3)
      - HUMA2319 - American Minority Studies (3)
      - HUMA2323 - World Cultures (3)
      - PHIL1301 - Introduction to Philosophy(3)
      - PHIL1304 - Introduction to World Religions(3)
      - PHIL2303 - Introduction to Formal Logic(3)
      - PHIL2306 - Introduction to Ethics(3)
      - ARTS1301 - Art Appreciation (3)
      - ARTS2326 - Sculpture I (3)
      - ARTS2326 - Sculpture I (3)
      - MUSI1306 - Music Appreciation (3)

## **Education & Training - Education & Training CER2**

### **Locations**

Online - TSTC Connect

## 2023-2024 Catalog & Student Handbook

### **Program Requirements**

#### Semester 1

12 Total Credits

- Complete the following:
  - EDTC1301 - Educational Systems (3)
  - EDTC1341 - Instructional Technology and Computer Applications (3)
  - HIST1301 - United States History I (3)
  - SPCH1315 - Public Speaking (3)

#### Semester 2

15 Total Credits

- Complete the following:
  - CDEC1318 - Wellness of the Young Child (3)
  - CDEC1359 - Children with Special Needs (3)
  - EDTC2311 - Instructional Practices and Effective Learning Environments (3)
  - ENGL1301 - Composition I (3)
  - HIST1302 - United States History II (3)

#### Semester 3

15 Total Credits

- Complete the following:
  - EDTC2317 - Guiding Student Behavior (3)
  - TECA1354 - Child Growth & Development (3)
  - GOVT2305 - Federal Government (Federal constitution & topics) (3)
  - MATH1314 - College Algebra (3 SCH version) (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

#### Semester 4

4 Total Credits

- Complete the following:
  - EDTC1164 - Practicum (or Field Experience) - Teacher Assistant/Aide (1)
  - Course Not Found
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **46**

### **Capstone**

- Complete the following:
  - EDTC1164 - Practicum (or Field Experience) - Teacher Assistant/Aide (1)

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### **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Area of Emphasis
  - EDTC1321 - Bilingual Education (3)
  - EDTC1325 - Multicultural Education (3)
  - CDEC1321 - The Infant and Toddler(3)
  - CDEC1356 - Emergent Literacy for Early Childhood(3)
  - EDTC1373 - Writing Problems (3)
  - EDTC2305 - Reading Problems (3)
  - CDEC2340 - Instructional Techniques for Children with Special Needs(3)
  - EDTC1375 - Issues in Special Needs Education(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)

### **Electrical Construction**

#### **Description**

The Electrical Construction certificate program offers specific coursework in residential and commercial wiring systems. The program also provides training opportunities to aid individuals interested in earning licenses specific to the electrical field. The program requires extensive hands-on work with electrical materials and equipment. Curriculum teaches students blueprint reading, technical calculations, electrical safety and theory, residential and commercial wiring, and more. Most graduates will begin their careers as assistants to experienced electricians, installing electrical wiring in new construction and servicing wiring in existing structures.

## Electrical Construction - Electrical Construction

### Locations

Waco

### Program Requirements

Semester 1

12 Total Credits

- Complete the following:
  - ELPT2337 - Electrical Planning and Estimating (3)
  - ELPT1329 - Residential Wiring (3)
  - ITSC1309 - Integrated Software Applications I (3)
  - TECM1303 - Technical Calculations (3)

Degree Plan Credits **12**

## Electrical Construction - Electrical Construction CER1

### Locations

Waco

### Program Requirements

Semester 1

15 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - CNBT1300 - Residential and Light Commercial Blueprint Reading (3)
    - DFTG1313 - Drafting for Specific Occupations (3)
  - Complete the following:
    - ELPT1329 - Residential Wiring (3)
    - ITSC1309 - Integrated Software Applications I (3)
    - TECM1303 - Technical Calculations (3)
    - SOLR1371 - Introduction to Solar and Alternative Energy Technologies (3)

Semester 2

15 Total Credits

- Complete the following:
  - ELPT1311 - Basic Electrical Theory (3)
  - ELPT1325 - National Electrical Code I (3)
  - ELPT1345 - Commercial Wiring (3)
  - OSH1305 - OSHA Regulations - Construction Industry (3)
  - ELPT1357 - Industrial Wiring (3)

Semester 3

6 Total Credits

- Complete the following:
  - ELPT1681 - Cooperative Education - Electrical and Power Transmission Installation/ Installer, General (6)

Degree Plan Credits **36**

### Capstone

- Complete the following:
  - ELPT1681 - Cooperative Education - Electrical and Power Transmission Installation/ Installer, General (6)

### Pre/Corequisites

- ELPT 1357 Prerequisite(s): ELPT 1329 or ELPT 1345

## **Electrical Lineworker & Management Technology**

### **Description**

Lineworker occupations are among the most physically demanding but highest paying careers in the nation, and Texas employs more than any other state. In TSTC's Electrical Lineworker program, you will perform practical exercises on the safe use and operation of lineworker climbing gear, equipment and tools in an authentic utility training environment. To earn high wages in this exciting career, you must be able to work at elevated heights for long hours in all weather conditions. This industry is for those who want to reap the rewarding benefits of a high-demand career. Please note: Candidates for this program will be required upon entry to provide a valid Class C driver's license.

## **Electrical Lineworker & Management Technology - Electrical Lineworker & Management Technology AAS**

### **Locations**

Waco  
Harlingen  
Fort Bend County  
Marshall



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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - CVOP1305 - Commercial Drivers License Written Skills (3)
  - LNWK1301 - Orientation and Line Skill Fundamentals (3)
  - LNWK1311 - Climbing Skills (3)
  - LNWK1370 - Rigging for Electrical Lineworker (3)

### Semester 2

12 Total Credits

- Complete the following:
  - LNWK2372 - Work Procedures and Safety in Electrical Lineworker (3)
  - LNWK1241 - Distribution Operations (2)
  - LNWK1470 - Electrical Safety, Tools and Calculations (4)
  - LNWK2321 - Live Line Safety (3)

### Semester 3

12 Total Credits

- Complete the following:
  - LNWK1331 - Transformer Connections (3)
  - LNWK1391 - Special Topics in Lineworker (3)
  - LNWK2322 - Distribution Line Construction (3)
  - OSH1305 - OSHA Regulations - Construction Industry (3)

### Semester 4

12 Total Credits

- Complete the following:
  - BMGT1309 - Information and Project Management (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete the following:
    - BMGT1327 - Principles of Management (3)
    - MRKG1301 - Customer Relationship Management (3)
    - ACGM3GED - Gen Ed Elective (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - LNWK2322 - Distribution Line Construction (3)
  - BMGT1309 - Information and Project Management (3)

## **Pre/Corequisites**

- LNWK 2372, LNWK 1241, LNWK 1470, LNWK 2321, LNWK 1331, LNWK 1391, LNWK 2322 Prerequisite(s): LNWK 1311

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### Elective Options

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics(3)
  - ECON2302 - Principles of Microeconomics(3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework(1)
  - PSYC2301 - General Psychology(3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology(3)
  - SOCI1306 - Social Problems(3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies(3)
  - HUMA2323 - World Cultures(3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation(3)
  - ARTS2326 - Sculpture I(3)
  - ARTS2326 - Sculpture I(3)
  - MUSI1306 - Music Appreciation(3)
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete 1 General Education Elective as recommended by program

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## Electrical Lineworker & Management Technology - Electrical Lineworker CER1

### Locations

Waco  
Harlingen  
Fort Bend County  
Marshall

### Program Requirements

Semester 1  
12 Total Credits

- Complete the following:
  - CVOP1305 - Commercial Drivers License Written Skills (3)
  - LNWK1301 - Orientation and Line Skill Fundamentals (3)
  - LNWK1311 - Climbing Skills (3)
  - LNWK1370 - Rigging for Electrical Lineworker (3)

Semester 2  
12 Total Credits

- Complete the following:
  - LNWK2372 - Work Procedures and Safety in Electrical Lineworker (3)
  - LNWK1241 - Distribution Operations (2)
  - LNWK1470 - Electrical Safety, Tools and Calculations (4)
  - LNWK2321 - Live Line Safety (3)

Semester 3  
12 Total Credits

- Complete the following:
  - LNWK1331 - Transformer Connections (3)
  - LNWK1391 - Special Topics in Lineworker (3)
  - LNWK2322 - Distribution Line Construction (3)
  - OSH1305 - OSHA Regulations - Construction Industry (3)

Degree Plan Credits **36**

### Capstone

- Complete the following:
  - LNWK2322 - Distribution Line Construction (3)

### Pre/Corequisites

- LNWK 2372, LNWK 1241, LNWK 1470, LNWK 2321, LNWK 1331, LNWK 1391, LNWK 2322 Prerequisite(s): LNWK 1311

## Electrical Power and Controls

### Description

The Electrical Power & Controls program offers instruction in engineering and design, installation and calibration, maintenance, testing and troubleshooting, and electric utility design. Through intensive classroom instruction and hands-on experience in high-tech labs, students gain a solid foundation in basic electrical concepts, motors and control applications, and then advance to electronics, measurement and calibration, electrical codes, and automated control systems. Knowledge is developed through extensive work with equipment, including DC and AC motors, programmable logic controllers (PLCs), speed-drive systems, and computer software packages for engineering, designing and drafting.

## Electrical Power and Controls - Electrical Power & Controls AAS

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## **Locations**

Waco  
Fort Bend County  
Abilene  
North Texas

## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - ELPT1321 - Introduction to Electrical Safety and Tools (3)
  - MATH1316 - Plane Trigonometry (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 2

12 Total Credits

- Complete all of the following
  - Complete the following:
    - CETT1305 - AC Circuits (3)
    - ELPT1341 - Motor Control (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)
  - Complete the following:
    - ACGM3GED - Gen Ed Elective (3)

### Semester 3

12 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - CETT1325 - Digital Fundamentals (3)
    - ELPT1380 - Cooperative Education - Electrical and Power Transmission Installation/Installer, General (3)
  - Complete the following:
    - DFTG1313 - Drafting for Specific Occupations (3)
    - ELPT2319 - Programmable Logic Controllers I (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - EEIR1309 - National Electrical Code (3)
  - ELPT1351 - Electrical Machines (3)
  - ELPT2335 - Electrical Theory and Devices (3)
  - ELPT2339 - Electrical Power Distribution (3)

### Semester 5

12 Total Credits

- Complete the following:
  - ELPT2323 - Transformers (3)
  - ELPT2331 - AC/DC Drives (3)
  - ELPT2343 - Electrical Systems Design (3)
  - ELPT2347 - Electrical Testing and Maintenance (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - ELPT2343 - Electrical Systems Design (3)

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### **Pre/Corequisites**

- CETT 1305 Prerequisite(s): CETT 1303 or IEIR 1302 (Prerequisite or Corequisite)
- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305 (Prerequisite or Corequisite)
- ELPT 2319 Prerequisite(s): ELPT 1341 (Prerequisite or Corequisite)
- EEIR 1309 Prerequisite(s): CETT 1305, ELPT 1341
- ELPT 1351 Prerequisite(s): ELPT 1341
- ELPT 2335 Prerequisite(s): CETT 1305 or MATH 1316
- ELPT 2323 Prerequisite(s): ELPT 2335
- ELPT 2343 Prerequisite(s): DFTG 1313, EEIR 1309 or ELPT 2339

### **Elective Options**

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development (3)
  - HIST1301 - United States History I (3)
  - HIST1302 - United States History II (3)
  - HIST2312 - Western Civilization II (3)
  - HIST2321 - World Civilizations I (3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I (3)
- Complete 1 General Education Elective as recommended by program
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I (3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy (3)
  - PHIL1304 - Introduction to World Religions (3)
  - PHIL2303 - Introduction to Formal Logic (3)
  - PHIL2306 - Introduction to Ethics (3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

## **Electromechanical Technology**

### **Description**

The Electromechanical Technology program is a merging of various systems and controls both mechanical and electrical. The program combines computers, control systems, electrical systems and mechanical systems, and gives students the opportunity to learn the principles and skills required to enter the industry. In the lab setting, students receive hands-on experience with top-notch equipment and systems. They learn to troubleshoot and repair industrial equipment and study the skills, tips and tricks to make them successful in this exciting field.

## **Electromechanical Technology - Electromechanical Technician**

### **Locations**

Sweetwater

### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - ELMT1374 - Introduction to Electromechanical System (3)
  - CETT1305 - AC Circuits (3)
  - CETT1325 - Digital Fundamentals (3)

Semester 2

12 Total Credits

- Complete the following:
  - ELMT1301 - Programmable Logic Controllers (3)
  - INMT1317 - Industrial Automation (3)
  - ELMT1305 - Basic Fluid Power (3)
  - ELMT1373 - Pumps and Compressors Control (3)

Degree Plan Credits **24**

### **Capstone**

- Complete the following:
  - ELMT1301 - Programmable Logic Controllers (3)

### **Pre/Corequisites**

- CETT 1305 Prerequisite(s): CETT 1303 or IEIR 1302 (Prerequisite or Corequisite)
- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305 (Prerequisite or Corequisite)
- ELMT 1301 Prerequisite(s): CETT 1325
- INMT 1317 Prerequisite(s): CETT 1303, CETT 1305

## **Electromechanical Technology - Electromechanical Technician CER2**

### **Locations**

Sweetwater

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## **Program Requirements**

### Semester 1

9 Total Credits

- Complete all of the following
  - Complete the following:
    - CETT1303 - DC Circuits (3)
    - ELMT1374 - Introduction to Electromechanical System (3)
  - Complete at least 3 credits from the following:
    - TECM1303 - Technical Calculations (3)
    - MATH1314 - College Algebra (3 SCH version) (3)

### Semester 2

12 Total Credits

- Complete the following:
  - CETT1305 - AC Circuits (3)
  - CETT1325 - Digital Fundamentals (3)
  - ELMT1305 - Basic Fluid Power (3)
  - ELMT1373 - Pumps and Compressors Control (3)

### Semester 3

12 Total Credits

- Complete the following:
  - ELMT1301 - Programmable Logic Controllers (3)
  - CETT1329 - Solid State Devices (3)
  - ELMT2373 - Communication Protocols (3)
  - INMT1317 - Industrial Automation (3)

### Semester 4

11 Total Credits

- Complete the following:
  - ELMT2372 - Process Control Systems (3)
  - ELMT2239 - Advanced Programmable Logic Controllers (2)
  - ELMT2341 - Electromechanical Systems (3)
  - ELMT2371 - Industrial Control Power Devic (3)

Degree Plan Credits **44**

## **Capstone**

- Complete the following:
  - ELMT2341 - Electromechanical Systems (3)

## **Pre/Corequisites**

- CETT 1305 Prerequisite(s): CETT 1303 or IEIR 1302 (Prerequisite or Corequisite)
- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305 (Prerequisite or Corequisite)
- ELMT 1301, ELMT 2373 Prerequisite(s): CETT 1325
- CETT 1329 Prerequisite(s): CETT 1305, IEIR 1371 or IEIR 1304
- INM 1317 Prerequisite(s): CETT 1303, CETT 1305
- ELMT 2372 Prerequisite(s): ELMT 1373
- ELMT 2239 Prerequisite(s): ELMT 1301
- ELMT 2371 Prerequisite(s): CETT 1305

## **Electromechanical Technology - Electromechanical Technology AAS**

### **Locations**

Sweetwater

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - ELMT1374 - Introduction to Electromechanical System (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

### Semester 2

15 Total Credits

- Complete the following:
  - CETT1305 - AC Circuits (3)
  - CETT1325 - Digital Fundamentals (3)
  - ELMT1305 - Basic Fluid Power (3)
  - ELMT1373 - Pumps and Compressors Control (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 3

15 Total Credits

- Complete all of the following
  - Complete the following:
    - CETT1329 - Solid State Devices (3)
    - ELMT1301 - Programmable Logic Controllers (3)
    - ELMT2373 - Communication Protocols (3)
    - INMT1317 - Industrial Automation (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 4

14 Total Credits

- Complete the following:
  - ELMT2239 - Advanced Programmable Logic Controllers (2)
  - ELMT2372 - Process Control Systems (3)
  - ELMT2341 - Electromechanical Systems (3)
  - ELMT2371 - Industrial Control Power Devic (3)
  - ACGM3GED - Gen Ed Elective (3)

### Semester 5

4 Total Credits

- Complete at least 4 credits from the following:
  - ELMT2480 - Cooperative Education - Electromechanical Technology/Electromechanical Engineering Technology (4)
  - ELMT1491 - Special Topics in Electromechanical Technology/Technician (4)

Degree Plan Credits **60**

## **Capstone**

- Complete at least 4 credits from the following:
  - ELMT2480 - Cooperative Education - Electromechanical Technology/Electromechanical Engineering Technology (4)
  - ELMT1491 - Special Topics in Electromechanical Technology/Technician (4)



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### Pre/Corequisites

- CETT 1305 Prerequisite(s): CETT 1303, IEIR 1302 (Prerequisite or Corequisite)
- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305 (Prerequisite or Corequisite)
- ELMT 1373 Prerequisite(s): CETT 1303
- CETT 1329 Prerequisite(s): CETT 1305, IEIR 1371 or IEIR 1304
- ELMT 1301, ELMT 2372 Prerequisite(s): CETT 1325
- INMT 1317 Prerequisite(s): CETT 1303, CETT 1305
- ELMT 2239 Prerequisite(s): ELMT 1301
- ELMT 2372 Prerequisite(s): ELMT 1373
- ELMT 2341 Prerequisite(s): ELMT 1374
- ELMT 2371 Prerequisite(s): CETT 1305

### Elective Options

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
General Education Electives
  - ENGL1301 - Composition I (3)

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- ENGL1302 - Composition II (3)
- ENGL2311 - Technical & Business Writing (3)
- HIST2321 - World Civilizations I (3)
- SPCH1315 - Public Speaking (3)
- SPCH1318 - Interpersonal Communication (3)
- SPCH1321 - Business & Professional Communication (3)
- ARTS1301 - Art Appreciation (3)
- ENGL2321 - British Literature (3)
- ENGL2326 - American Literature (single-Semester Course) (3)
- ENGL2341 - Forms of Literature (3)
- HUMA1301 - Introduction to Humanities I (3)
- HUMA2323 - World Cultures (3)
- MUSI1306 - Music Appreciation (3)
- PHIL1304 - Introduction to World Religions (3)
- PHIL2306 - Introduction to Ethics (3)
- ECON2301 - Principles of Macroeconomics (3)
- ECON2302 - Principles of Microeconomics (3)
- GOVT2305 - Federal Government (Federal constitution & topics) (3)
- GOVT2306 - Texas Government (Texas constitution & topics) (3)
- HIST1301 - United States History I (3)
- HIST1302 - United States History II (3)
- PSYC2301 - General Psychology (3)
- PSYC2314 - Lifespan Growth & Development (3)
- SOCI1301 - Introduction to Sociology (3)
- BIOL1306 - Biology for Science Majors I (lecture) (3)
- BIOL1307 - Biology for Science Majors II (3)
- BIOL1308 - Biology for Non-Science Majors I (3)
- BIOL1309 - Biology for Non-Science Majors II (3)
- BIOL2301 - Anatomy & Physiology I (lecture) (3)
- BIOL2302 - Anatomy & Physiology II (lecture) (3)
- CHEM1305 - Introductory Chemistry I (lecture) (3)
- CHEM1311 - General Chemistry I (lecture) (3)
- CHEM1412 - General Chemistry II (4)
- MATH1314 - College Algebra (3 SCH version) (3)
- MATH1316 - Plane Trigonometry (3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning) (3)
- MATH1342 - Elementary Statistical Methods (3)
- PHYS1315 - Physical Science I (lecture) (3)
- PHYS1315 - Physical Science I (lecture) (3)

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## Emergency Medical Services

### Description

In TSTC's Emergency Medical Services program, you will learn from experienced, certified instructors in an environment that combines hands-on labs with online lectures. You will gain skills in medical procedures required to assess and treat victims at the scene and en route to the hospital, and you will get to put your abilities to the test in a clinical learning environment to gain extensive, on-the-job experience. As a program, our goal is to prepare competent entry-level EMT's and paramedics in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains, with exit points at the Advanced Emergency Medical Technician, Emergency Medical Technician (Basic), and/or First Responder levels.

### **Grading Scale**

A = 100-90

B = 89-80

C = 79-70

D = 69-60

F = 59-0

NOTE: Students scoring less than 70% as a final course average in EMS will not progress to the next section.

EMT students who fail EMSP 1501 will also fail EMSP 2237 and EMSP 1261, and would be required to repeat those courses in FULL. Should a student fail an advanced level course, the student will be dismissed and may be given the opportunity to reapply and repeat the program in FULL. Paramedic students are required to pass A&P (BIOL 2404) or equivalent to obtain a course completion. The 70% passing rate in the TSTC EMS Program is based on the preparation of our students to pass the National Registry Exam. The National Registry Exam is required to certify as a Registered EMT or Paramedic.

Students participating in clinical and field internships are required to purchase accident, needlestick and malpractice insurance.

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### **Emergency Medical Services - Emergency Medical Services - Advanced EMT (AEMT) CER2**

#### **Locations**

Abilene  
Brownwood  
Harlingen

#### **Program Requirements**

Semester 1

9 Total Credits

- Complete the following:
  - EMSP1261 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic) (2)
  - EMSP1501 - Emergency Medical Technician (5)
  - EMSP2237 - Emergency Procedures (2)

Semester 2

17 Total Credits

- Complete the following:
  - EMSP1355 - Trauma Management (3)
  - EMSP1356 - Patient Assessment and Airway Management (3)
  - EMSP1438 - Introduction to Advanced Practice (4)
  - MDCA1313 - Medical Terminology (3)
  - BIOL2404 - Anatomy & Physiology (specialized, Single-Semester Course, Lec + Lab) (4)

Semester 3

13 Total Credits

- Complete the following:
  - EMSP2161 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic) (1)
  - EMSP2167 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)
  - EMSP2444 - Cardiology (4)
  - EMSP2330 - Special Populations (3)
  - EMSP2434 - Medical Emergencies (4)

Degree Plan Credits **39**

#### **Capstone**

- Complete the following:
  - EMSP2167 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)

**Emergency Medical Services - Emergency Medical Services - EMT CER1**

**Locations**

Abilene  
Brownwood  
Harlingen

**Program Requirements**

Semester 1

9 Total Credits

- Complete the following:
  - EMSP1261 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic) (2)
  - EMSP1501 - Emergency Medical Technician (5)
  - EMSP2237 - Emergency Procedures (2)

Semester 2

7 Total Credits

- Complete the following:
  - MDCA1313 - Medical Terminology (3)
  - SCIT1407 - Applied Human Anatomy and Physiology I (4)

Degree Plan Credits **16**

**Capstone**

- Complete the following:
  - EMSP1261 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic) (2)

**Emergency Medical Services - Emergency Medical Services - Paramedic CER2**

**Locations**

Abilene  
Brownwood  
Harlingen

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## **Program Requirements**

### Semester 1

9 Total Credits

- Complete the following:
  - EMSP1261 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic) (2)
  - EMSP1501 - Emergency Medical Technician (5)
  - EMSP2237 - Emergency Procedures (2)

### Semester 2

17 Total Credits

- Complete the following:
  - EMSP1355 - Trauma Management (3)
  - EMSP1356 - Patient Assessment and Airway Management (3)
  - EMSP1438 - Introduction to Advanced Practice (4)
  - MDCA1313 - Medical Terminology (3)
  - BIOL2404 - Anatomy & Physiology (specialized, Single-Semester Course, Lec + Lab) (4)

### Semester 3

13 Total Credits

- Complete the following:
  - EMSP2161 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic) (1)
  - EMSP2167 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)
  - EMSP2434 - Medical Emergencies (4)
  - EMSP2330 - Special Populations (3)
  - EMSP2444 - Cardiology (4)

### Semester 4

8 Total Credits

- Complete the following:
  - EMSP2143 - Assessment Based Management (1)
  - EMSP2168 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)
  - EMSP2205 - EMS Operations (2)
  - EMSP2262 - Clinical - Emergency Medical Technology/Technician (emt Paramedic) (2)
  - EMSP2206 - Emergency Pharmacology (2)

### Semester 5

1 Total Credits

- Complete the following:
  - EMSP2169 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)

Degree Plan Credits **48**

## **Capstone**

- Complete the following:
  - EMSP2143 - Assessment Based Management (1)
  - EMSP2169 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)

## **Emergency Medical Services - Paramedic AAS**

### **Locations**

Harlingen  
Abilene  
Brownwood

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

12 Total Credits

- Complete all of the following
  - Complete the following:
    - EMSP1261 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic) (2)
    - EMSP1501 - Emergency Medical Technician (5)
    - EMSP2237 - Emergency Procedures (2)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 2

17 Total Credits

- Complete the following:
  - EMSP1355 - Trauma Management (3)
  - EMSP1356 - Patient Assessment and Airway Management (3)
  - EMSP1438 - Introduction to Advanced Practice (4)
  - MDCA1313 - Medical Terminology (3)
  - BIOL2404 - Anatomy & Physiology (specialized, Single-Semester Course, Lec + Lab) (4)

### Semester 3

16 Total Credits

- Complete the following:
  - EMSP2161 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic) (1)
  - EMSP2167 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)
  - EMSP2434 - Medical Emergencies (4)
  - EMSP2330 - Special Populations (3)
  - EMSP2444 - Cardiology (4)
  - ACGM3GED - Gen Ed Elective (3)

### Semester 4

11 Total Credits

- Complete the following:
  - EMSP2143 - Assessment Based Management (1)
  - EMSP2168 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)
  - EMSP2205 - EMS Operations (2)
  - EMSP2262 - Clinical - Emergency Medical Technology/Technician (emt Paramedic) (2)
  - EMSP2206 - Emergency Pharmacology (2)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 5

4 Total Credits

- Complete the following:
  - EMSP2169 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - EMSP2143 - Assessment Based Management (1)
  - EMSP2169 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic) (1)

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## **Elective Options**

- Complete 1 General Education Elective as recommended by program
- Complete at least 1 courses from the following:
  - Humanities/Fine Arts Elective
    - HUMA1301 - Introduction to Humanities I(3)
    - HUMA2319 - American Minority Studies (3)
    - HUMA2323 - World Cultures (3)
    - PHIL1301 - Introduction to Philosophy(3)
    - PHIL1304 - Introduction to World Religions(3)
    - PHIL2303 - Introduction to Formal Logic(3)
    - PHIL2306 - Introduction to Ethics(3)
    - ARTS1301 - Art Appreciation (3)
    - ARTS2326 - Sculpture I (3)
    - ARTS2326 - Sculpture I (3)
    - MUSI1306 - Music Appreciation (3)
  - Complete at least 1 courses from the following:
    - Social/Behavioral Science Elective
      - GOVT2305 - Federal Government (Federal constitution & topics)(3)
      - GOVT2306 - Texas Government (Texas constitution & topics)(3)
      - ANTH2346 - General Anthropology (3)
      - ECON1301 - Introduction to Economics (3)
      - ECON2301 - Principles of Macroeconomics (3)
      - ECON2302 - Principles of Microeconomics (3)
      - GEOG1302 - Human Geography (3)
      - GEOG1303 - World Regional Geography (3)
      - PSYC1100 - Learning Framework (1)
      - PSYC2301 - General Psychology (3)
      - PSYC2314 - Lifespan Growth & Development(3)
      - HIST1301 - United States History I(3)
      - HIST1302 - United States History II(3)
      - HIST2312 - Western Civilization II(3)
      - HIST2321 - World Civilizations I(3)
      - SOCI1301 - Introduction to Sociology (3)
      - SOCI1306 - Social Problems (3)
      - SOCI2319 - Minority Studies I (3)

## **Engineering**

### **Description**

The Engineering program supports and enhances the College's technical education mission by providing Texas industry with employees who perform well at the entry level by virtue of their competence in math and problem-solving techniques using engineering principles. The Engineering program prepares graduates for advancement in the workplace through superior science and mathematics-based problem solving skills, and facilitates progress toward successful completion of further educational goals and/or lifelong learning experiences.

## **Engineering - Engineering AS**

### **Locations**

Harlingen



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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - ENGR1201 - Introduction to Engineering (2)
  - CHEM1111 - General Chemistry I (lab) (1)
  - CHEM1311 - General Chemistry I (lecture) (3)
  - ENGL1301 - Composition I (3)
  - MATH2312 - Pre-Calculus Math (3 SCH version) (3)

### Semester 2

13 Total Credits

- Complete the following:
  - ENGR1304 - Engineering Graphics I (3 Sch version) (3)
  - ENGL1302 - Composition II (3)
  - GOVT2306 - Texas Government (Texas constitution & topics) (3)
  - MATH2413 - Calculus I (4 SCH version) (4)

### Semester 3

11 Total Credits

- Complete the following:
  - ENGR2304 - Programming for Engineers (3)
  - MATH2414 - Calculus II (4 SCH version) (4)
  - PHYS2325 - University Physics I (lecture) (3)
  - PHYS2125 - University Physics Laboratory I (lab) (1)

### Semester 4

14 Total Credits

- Complete the following:
  - ENGR2301 - Engineering Mechanics - Statics (3 SCH version) (3)
  - HIST1301 - United States History I (3)
  - MATH2415 - Calculus III (4 SCH version) (4)
  - PHYS2326 - University Physics II (lecture) (3)
  - PHYS2126 - University Physics Laboratory II (lab) (1)

### Semester 5

10 Total Credits

- Complete the following:
  - ENGR2105 - Electrical Circuits I Laboratory (1)
  - ENGR2302 - Engineering Mechanics - Dynamics (3 SCH version) (3)
  - ENGR2305 - Electrical Circuits I (3)
  - MATH2320 - Differential Equations (3 SCH version) (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - ENGR2305 - Electrical Circuits I (3)
  - ENGR2105 - Electrical Circuits I Laboratory (1)

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### **Pre/Corequisites**

- ENGR 1201 Prerequisite(s): MATH 1314
- CHEM 1311 Prerequisite(s): MATH 1314, CHEM 1111 (Corequisite)
- CHEM 1111 Prerequisite(s): CHEM 1311 (Corequisite)
- MATH 2312 Prerequisite(s): MATH 1314 or MATH 1316
- ENGR 1304 Prerequisite(s): MATH 1314
- ENGL 1302 Prerequisite(s): ENGL 1301
- MATH 2413 Prerequisite(s): (MATH 1314 and MATH 1316) or MATH 2312 or MATH 2412
- MATH 2414 Prerequisite(s): MATH 2413
- PHYS 2325 Prerequisite(s): MATH 2413, PHYS 2125 (Corequisite)
- PHYS 2125 Prerequisite(s): PHYS 2325 (Co)
- ENGR 2301 Prerequisite(s): PHYS 2325
- MATH 2415 Prerequisite(s): MATH 2414
- PHYS 2326 Prerequisite(s): PHYS 2325, MATH 2414, PHYS 2126 (Corequisite)
- PHYS 2126 Prerequisite(s): PHYS 2326 (Corequisite)
- ENGR 2302 Prerequisite(s): ENGR 2301
- ENGR 2305 Prerequisite(s): PHYS 2325, MATH 2414
- MATH 2320 Prerequisite(s): MATH 2414

### **Engineering Graphics & Design Technology**

#### **Description**

Demand for drafters varies by specialization, and nothing in the industry is more exciting than mechanical/electronic drafting. No longer are the pen and pencil the standard for drafters. Today in this field, student drafters are taught Computer-Aided Drafting (CAD) and can produce industrial drawings utilized in industry to produce all types of products. All students receive instruction in both two- and three-dimensional CAD systems. Students focus on drafting applications in mechanical, electro-mechanical, process piping, printed circuit board design, and many other areas of manufacturing and electronic-related drafting. Students will be exposed to the ~~hottest~~ newest drawing software on the market including AutoCad, Solid Works and Inventor.

### **Engineering Graphics & Design Technology - Engineering Graphics & Design Technology AAS**

#### **Locations**

Online - TSTC Connect  
Harlingen  
Marshall  
Waco

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## **Program Requirements**

### Semester 1

9 Total Credits

- Complete all of the following
  - Complete the following:
    - Course Not Found
    - DFTG1325 - Blueprint Reading and Sketching (3)
  - Complete at least 3 credits from the following:
    - DFTG1345 - Parametric Modeling and Design (3)
    - ENGR1304 - Engineering Graphics I (3 Sch version) (3)
  - Complete the following:
    - MATH1314 - College Algebra (3 SCH version) (3)

### Semester 2

12 Total Credits

- Complete all of the following
  - Complete the following:
    - DFTG1329 - Electro-Mechanical Drafting (3)
    - DFTG1333 - Mechanical Drafting (3)
    - DFTG2323 - Pipe Drafting (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 3

12 Total Credits

- Complete the following:
  - DFTG1358 - Electrical/Electronics Drafting (3)
  - DFTG2302 - Machine Drafting (3)
  - DFTG2357 - Advanced Technologies in Pipe Design and Drafting (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - DFTG2335 - Advanced Technologies in Mechanical Design and Drafting (3)
  - DFTG2340 - Solid Modeling/Design (3)
  - DFTG2350 - Geometric Dimensioning and Tolerancing (3)
  - ACGM3SPH - Gen Ed Speech Elective (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete the following:
    - DFTG2306 - Machine Design (3)
  - Complete at least 3 credits from the following:
    - DFTG1395 - Special Topics in Mechanical Drafting and Mechanical Drafting Cad/Cadd (3)
    - DFTG2386 - Internship - Drafting and Design Technology/Technician, General (3)
  - Complete the following:
    - DFTG2332 - Advanced Computer-Aided Drafting (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **57**

## **Capstone**

- Complete the following:
  - DFTG2306 - Machine Design (3)

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## **Pre/Corequisites**

- ENGR 1304 Prerequisite(s): MATH 1314
- DFTG 1329, DFTG 1333, DFTG 2323, DFTG 2357, DFTG 2386 Prerequisite(s): DFTG 1309
- DFTG 1358 Prerequisite(s): DFTG 1329
- DFTG 2302 Prerequisite(s): DFTG 1333
- DFTG 2335, DFTG 2340, DFTG 2350 Prerequisite(s): DFTG 2302

## **Elective Options**

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

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### Engineering Graphics & Design Technology - Engineering Graphics & Design Technology CER1

#### Locations

Online - TSTC Connect  
Harlingen  
Marshall  
Waco

#### Program Requirements

Semester 1  
6 Total Credits

- Complete all of the following
  - Complete the following:
    - Course Not Found
    - DFTG1325 - Blueprint Reading and Sketching (3)
  - Complete at least 3 credits from the following:
    - DFTG1345 - Parametric Modeling and Design (3)
    - ENGR1304 - Engineering Graphics I (3 Sch version) (3)

Semester 2  
9 Total Credits

- Complete the following:
  - DFTG1329 - Electro-Mechanical Drafting (3)
  - DFTG1333 - Mechanical Drafting (3)
  - DFTG2323 - Pipe Drafting (3)

Degree Plan Credits **15**

#### Capstone

- Complete the following:
  - DFTG1333 - Mechanical Drafting (3)

#### Pre/Corequisites

- ENGR 1304 Prerequisite(s): MATH 1314
- DFTG 1329, DFTG 1333, DFTG 2323 Prerequisite(s): DFTG 1309

### Engineering Graphics & Design Technology - Engineering Graphics & Design Technology CER2

#### Locations

Online - TSTC Connect  
Waco  
Harlingen  
Marshall

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## **Program Requirements**

### Semester 1

6 Total Credits

- Complete all of the following
  - Complete the following:
    - Course Not Found
    - DFTG1325 - Blueprint Reading and Sketching (3)
  - Complete at least 3 credits from the following:
    - DFTG1345 - Parametric Modeling and Design (3)
    - ENGR1304 - Engineering Graphics I (3 Sch version) (3)

### Semester 2

9 Total Credits

- Complete the following:
  - DFTG1329 - Electro-Mechanical Drafting (3)
  - DFTG1333 - Mechanical Drafting (3)
  - DFTG2323 - Pipe Drafting (3)

### Semester 3

9 Total Credits

- Complete the following:
  - DFTG1358 - Electrical/Electronics Drafting (3)
  - DFTG2302 - Machine Drafting (3)
  - DFTG2357 - Advanced Technologies in Pipe Design and Drafting (3)

### Semester 4

9 Total Credits

- Complete the following:
  - DFTG2335 - Advanced Technologies in Mechanical Design and Drafting (3)
  - DFTG2340 - Solid Modeling/Design (3)
  - DFTG2350 - Geometric Dimensioning and Tolerancing (3)

Degree Plan Credits **33**

## **Capstone**

- Complete the following:
  - DFTG2335 - Advanced Technologies in Mechanical Design and Drafting (3)

## **Pre/Corequisites**

- ENGR 1304 Prerequisite(s): MATH 1314
- DFTG 1329, DFTG 1333, DFTG 2323, DFTG 1358 Prerequisite(s): DFTG 1309
- DFTG 2302 Prerequisite(s): DFTG 1333
- DFTG 2357 Prerequisite(s): DFTG 1333
- DFTG 2335, DFTG 2340, DFTG 2350 Prerequisite(s): DFTG 2302

## **Health Information Technology**

### **Description**

In the Health Information Technology program, students learn skills in collecting, analyzing and maintaining health data, as well as billing and coding. Physicians and other health care professionals need accurate records to treat their patients, and professionals in the health information technology industry make that possible. Health information technology careers are found in a variety of settings, including health care facilities, consulting firms, government agencies, insurance companies, health care IS/IT vendors and pharmaceutical companies, as well as many other environments. For quicker entry into the industry, a certificate program is available in Medical Office Specialist.

Students participating in practicum courses are required to purchase accident and malpractice insurance.

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## Health Information Technology - Health Information Technology AAS

### Locations

Online - TSTC Connect

### Program Requirements

Semester 1

11 Total Credits

- Complete the following:
  - HITT1204 - IT for Health Professions (2)
  - HITT1301 - Health Data Content and Structure (3)
  - HITT1305 - Medical Terminology I (3)
  - MDCA1302 - Human Disease/Pathophysiology (3)

Semester 2

12 Total Credits

- Complete all of the following
  - Complete the following:
    - HITT1253 - Legal and Ethical Aspects of Health Information (2)
    - HITT1341 - Coding and Classification Systems (3)
    - HITT1311 - Health Information Systems (3)
  - Complete at least 4 credits from the following:
    - BIOL2301 - Anatomy & Physiology I (lecture) (3)
    - BIOL2101 - Anatomy & Physiology I (lab) (1)
    - BIOL2401 - Anatomy & Physiology I (lecture + lab) (4)

Semester 3

13 Total Credits

- Complete all of the following
  - Complete the following:
    - HITT1342 - Ambulatory Coding (3)
    - HITT1345 - Health Care Delivery Systems (3)
    - HITT2335 - Coding and Reimbursement Methodologies (3)
  - Complete at least 4 credits from the following:
    - BIOL2302 - Anatomy & Physiology II (lecture) (3)
    - BIOL2102 - Anatomy & Physiology II (lab) (1)
    - BIOL2402 - Anatomy & Physiology II (lecture + lab) (4)

Semester 4

12 Total Credits

- Complete all of the following
  - Complete the following:
    - HITT2346 - Advanced Medical Coding (3)
    - HITT2339 - Health Information Organization and Supervision (3)
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

Semester 5

12 Total Credits

- Complete the following:
  - HITT2249 - RHIT Competency Review (2)
  - HITT2443 - Quality Assessment and Performance Improvement (4)
  - HITT2360 - Clinical - Health Information/Medical Records Technology/Technician (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **60**

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## **Capstone**

- Complete the following:
  - HITT2366 - Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician (3)

## **Pre/Corequisites**

- HITT 2335 Prerequisite(s): HITT 1341
- HITT 2346 Prerequisite(s): HITT 1341, HITT 1342

## **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)

## **Health Information Technology - Medical Coding & Billing Specialist CER2**

### **Locations**

Online - TSTC Connect



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## **Program Requirements**

### Semester 1

11 Total Credits

- Complete the following:
  - HITT1204 - IT for Health Professions (2)
  - HITT1301 - Health Data Content and Structure (3)
  - HITT1305 - Medical Terminology I (3)
  - MDCA1302 - Human Disease/Pathophysiology (3)

### Semester 2

12 Total Credits

- Complete all of the following
  - Complete the following:
    - HITT1253 - Legal and Ethical Aspects of Health Information (2)
    - HITT1341 - Coding and Classification Systems (3)
    - HITT1342 - Ambulatory Coding (3)
  - Complete at least 4 credits from the following:
    - BIOL2401 - Anatomy & Physiology I (lecture + lab) (4)
    - BIOL2301 - Anatomy & Physiology I (lecture) (3)
    - BIOL2101 - Anatomy & Physiology I (lab) (1)

### Semester 3

13 Total Credits

- Complete all of the following
  - Complete the following:
    - HITT1311 - Health Information Systems (3)
    - HITT2335 - Coding and Reimbursement Methodologies (3)
    - HITT2360 - Clinical - Health Information/Medical Records Technology/Technician (3)
  - Complete at least 4 credits from the following:
    - BIOL2402 - Anatomy & Physiology II (lecture + lab) (4)
    - BIOL2302 - Anatomy & Physiology II (lecture) (3)
    - BIOL2102 - Anatomy & Physiology II (lab) (1)

Degree Plan Credits **36**

## **Capstone**

- Complete the following:
  - HITT2366 - Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician (3)

## **Pre/Corequisites**

- HITT 2335 Prerequisite(s): HITT 1341

## **Health Information Technology - Medical Office Specialist CER1**

### **Locations**

Online - TSTC Connect

### **Program Requirements**

Semester 1

11 Total Credits

- Complete the following:
  - HITT1204 - IT for Health Professions (2)
  - HITT1301 - Health Data Content and Structure (3)
  - HITT1305 - Medical Terminology I (3)
  - MDCA1302 - Human Disease/Pathophysiology (3)

Semester 2

11 Total Credits

- Complete the following:
  - HITT1253 - Legal and Ethical Aspects of Health Information (2)
  - HITT1311 - Health Information Systems (3)
  - HITT1342 - Ambulatory Coding (3)
  - HITT1341 - Coding and Classification Systems (3)

Degree Plan Credits **22**

### **Capstone**

- Complete the following:
  - HITT1311 - Health Information Systems (3)

## **Heating, Ventilation, & Air Conditioning Technology**

### **Description**

TSTC offers hands-on training to teach students of Heating, Ventilation & Air Conditioning Technology the skills needed to enter the industry. The program is backed by experienced faculty, many of whom are active members of professional organizations such as North American Technician Excellence and Air Conditioning Contractors of America, and is guided by an advisory board of current industry members, ensuring that students get the latest training available. The laboratory facilities at TSTC include high efficiency commercial and residential heating and air conditioning equipment, energy efficient heat pumps, commercial refrigeration equipment, direct digital and pneumatic controls, and a 200-ton chilled water system.

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## Heating, Ventilation, & Air Conditioning Technology - HVAC Residential Service Technician CER1

### Locations

Waco  
East Williamson County  
Harlingen  
Fort Bend County  
North Texas

### Program Requirements

Semester 1  
15 Total Credits

- Complete the following:
  - HART1301 - Basic Electricity for HVAC (3)
  - HART1307 - Refrigeration Principles (3)
  - HART1310 - HVAC Shop Practices and Tools (3)
  - HART1345 - Gas and Electric Heating (3)
  - HART1303 - Air Conditioning Control Principles (3)

Semester 2  
12 Total Credits

- Complete the following:
  - HART1341 - Residential Air Conditioning (3)
  - HART2338 - Air Conditioning Installation and Startup (3)
  - HART2336 - Air Conditioning Troubleshooting (3)
  - HART2349 - Heat Pumps (3)

Degree Plan Credits **27**

### Capstone

- Complete the following:
  - HART2336 - Air Conditioning Troubleshooting (3)

### Pre/Corequisites

- HART 1345, HART 1303 Prerequisite(s): HART 1301 (Prerequisite or Corequisite)
- HART 1341 Prerequisite(s): HART 1301, HART 1307
- HART 2336 Prerequisite(s): HART 1303, HART 1345, HART 1341 (Prerequisite or Corequisite)
- HART 2349 Prerequisite(s): HART 1303, HART 1341 (Prerequisite or Corequisite)

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## Heating, Ventilation, & Air Conditioning Technology - HVAC Technician CER1

### Locations

Waco  
East Williamson County  
Harlingen  
Fort Bend County  
North Texas

### Program Requirements

Semester 1  
12 Total Credits

- Complete the following:
  - HART1301 - Basic Electricity for HVAC (3)
  - HART1307 - Refrigeration Principles (3)
  - HART1310 - HVAC Shop Practices and Tools (3)
  - HART1345 - Gas and Electric Heating (3)

Semester 2  
12 Total Credits

- Complete the following:
  - HART1303 - Air Conditioning Control Principles (3)
  - HART1341 - Residential Air Conditioning (3)
  - HART2338 - Air Conditioning Installation and Startup (3)
  - HART2342 - Commercial Refrigeration (3)

Semester 3  
12 Total Credits

- Complete the following:
  - HART2331 - Advanced Electricity for HVAC (3)
  - HART2336 - Air Conditioning Troubleshooting (3)
  - HART2341 - Commercial Air Conditioning (3)
  - HART2349 - Heat Pumps (3)

Degree Plan Credits **36**

### Capstone

- Complete the following:
  - HART2336 - Air Conditioning Troubleshooting (3)

### Pre/Corequisites

- HART 1345 Prerequisite(s): HART 1301 (Prerequisite or Corequisite)
- HART 1303 Prerequisite(s): HART 1301, HART 1307, HART 1345
- HART 1341, HART 2342 Prerequisite(s): HART 1301, HART 1307
- HART 2331 Prerequisite(s): HART 1303
- HART 2336 Prerequisite(s): HART 1303, HART 1345, HART 1341
- HART 2341, HART 2349 Prerequisite(s): HART 1303, HART 1341

## Heating, Ventilation, & Air Conditioning Technology - HVAC Technology AAS

### Locations

Waco  
East Williamson County  
Harlingen  
Fort Bend County  
North Texas

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - HART1301 - Basic Electricity for HVAC (3)
  - HART1307 - Refrigeration Principles (3)
  - HART1310 - HVAC Shop Practices and Tools (3)
  - HART1345 - Gas and Electric Heating (3)

### Semester 2

12 Total Credits

- Complete the following:
  - HART1303 - Air Conditioning Control Principles (3)
  - HART1341 - Residential Air Conditioning (3)
  - HART2342 - Commercial Refrigeration (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

### Semester 3

12 Total Credits

- Complete the following:
  - HART2331 - Advanced Electricity for HVAC (3)
  - HART2336 - Air Conditioning Troubleshooting (3)
  - HART2341 - Commercial Air Conditioning (3)
  - HART2349 - Heat Pumps (3)

### Semester 4

12 Total Credits

- Complete the following:
  - HART2343 - Industrial Air Conditioning (3)
  - HART2345 - Residential Air Conditioning Systems Design (3)
  - ENGL1301 - Composition I (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - HART2334 - Advanced Air Conditioning Controls (3)
    - HART2350 - HVAC Zone Controls (3)
  - Complete at least 3 credits from the following:
    - HART2358 - Testing, Adjusting, and Balancing HVAC Systems (3)
    - HART2357 - Specialized Commercial Refrigeration (3)
  - Complete the following:
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
    - ACGM3GED - Gen Ed Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - HART2345 - Residential Air Conditioning Systems Design (3)

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### **Pre/Corequisites**

- Complete all of the following
  - HART 1345 Prerequisite(s): HART 1301 (Pre or Co)
  - HART 1303 Prerequisite(s): HART 1301 (Pre or Co)
  - HART 1341 Prerequisite(s): HART 1301, HART 1307
  - HART 2342 Prerequisite(s): HART 1307
  - HART 2331 Prerequisite(s): HART 1303
  - HART 2336 Prerequisite(s): HART 1303, HART 1345, HART 1341 (Pre or Co)
  - HART 2341 Prerequisite(s): HART 1303, HART 1341
  - HART 2349 Prerequisite(s): HART 1303, HART 1341 (Pre or Co)
  - HART 2343 Prerequisite(s): HART 2336
  - HART 2345 Prerequisite(s): HART 2336
  - HART 2334 Prerequisite(s): HART 2336
  - HART 2350 Prerequisite(s): HART 2336
  - HART 2358 Prerequisite(s): HART 2331
  - HART 2357 Prerequisite(s): HART 2336

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### **Elective Options**

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework(1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete 1 Gen Ed Elective

### **Heating, Ventilation, & Air Conditioning Technology - HVAC Technology CER2**

#### **Locations**

Waco  
East Williamson County  
Harlingen  
Fort Bend County  
North Texas

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - HART1301 - Basic Electricity for HVAC (3)
  - HART1307 - Refrigeration Principles (3)
  - HART1310 - HVAC Shop Practices and Tools (3)
  - HART1345 - Gas and Electric Heating (3)

### Semester 2

12 Total Credits

- Complete the following:
  - HART1303 - Air Conditioning Control Principles (3)
  - HART1341 - Residential Air Conditioning (3)
  - HART2338 - Air Conditioning Installation and Startup (3)
  - HART2342 - Commercial Refrigeration (3)

### Semester 3

12 Total Credits

- Complete the following:
  - HART2331 - Advanced Electricity for HVAC (3)
  - HART2336 - Air Conditioning Troubleshooting (3)
  - HART2341 - Commercial Air Conditioning (3)
  - HART2349 - Heat Pumps (3)

### Semester 4

12 Total Credits

- Complete all of the following
  - Complete the following:
    - HART2343 - Industrial Air Conditioning (3)
    - HART2345 - Residential Air Conditioning Systems Design (3)
  - Complete at least 3 credits from the following:
    - HART2334 - Advanced Air Conditioning Controls (3)
    - HART2350 - HVAC Zone Controls (3)
  - Complete at least 3 credits from the following:
    - HART2358 - Testing, Adjusting, and Balancing HVAC Systems (3)
    - HART2357 - Specialized Commercial Refrigeration (3)

Degree Plan Credits **48**

## **Capstone**

- Complete the following:
  - HART2345 - Residential Air Conditioning Systems Design (3)

## **Pre/Corequisites**

- HART 1345, HART 1303 Prerequisite(s): HART 1301 (Prerequisite or Corequisite)
- HART 1341 Prerequisite(s): HART 1301, HART 1307
- HART 2342 Prerequisite(s): HART 1307
- HART 2331 Prerequisite(s): HART 1303
- HART 2336 Prerequisite(s): HART 1303, HART 1345, HART 1341 (Prerequisite or Corequisite)
- HART 2341 Prerequisite(s): HART 1303, HART 1341
- HART 2349 Prerequisite(s): HART 1303, HART 1341 (Prerequisite or Corequisite)
- HART 2343, HART 2345, HART 2334, HART 2350, HART 2358, HART 2357 Prerequisite(s): HART 2336



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## **Industrial Systems**

### **Description**

The Industrial Systems program is designed by industry experts and employers. The courses in this program are directed at cutting-edge mechanical and electrical operations, providing you with knowledge and skills in hydraulics, pneumatics, pumps and compressors, machinery installation and alignment, motor controls, machine shop, power transmissions and troubleshooting. The classroom learning is supplemented with hands-on training utilizing equipment to provide you with the skills and technical background needed to be successful in most industrial environments. Students can choose a general Industrial Systems track or specialize in Electrical Industrial Systems. For quicker entry into the industry, general and electrical industrial systems certificates are also available.

## **Industrial Systems - Industrial Systems - Advanced Manufacturing Technology AAS**

### **Locations**

New Braunfels

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete all of the following
  - Complete the following:
    - INMT1373 - Print Reading for Industrial Equipment Technician (3)
    - INMT1305 - Introduction to Industrial Maintenance (3)
    - ACGM3MTH - Gen Ed Mathematics Elective (3)
  - Complete at least 3 credits from the following:
    - ELPT1311 - Basic Electrical Theory (3)
    - INMT1372 - Introduction to Industrial Electricity (3)

### Semester 2

9 Total Credits

- Complete the following:
  - ELPT1341 - Motor Control (3)
  - HYDR1305 - Basic Hydraulics (3)
  - INMT2303 - Pumps, Compressors & Mechanical Drives (3)
  - Course Not Found

### Semester 3

12 Total Credits

- Complete all of the following
  - Complete the following:
    - WLDG1391 - Special Topics in Welder/Welding Technologist (3)
    - ELPT2305 - Motors and Transformers (3)
    - MCHN1338 - Basic Machine Shop I (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 4

12 Total Credits

- Complete the following:
  - RBTC1301 - Programmable Logic Controllers (3)
  - RBTC1309 - Pneumatics (3)
  - INMT2301 - Machinery Installation (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 5

12 Total Credits

- Complete the following:
  - RBTC1343 - Robotics (3)
  - ELPT2331 - AC/DC Drives (3)
  - INMT2345 - Industrial Troubleshooting (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **57**

## **Capstone**

- Complete the following:
  - INMT2345 - Industrial Troubleshooting (3)

## **Pre/Corequisites**

- Rule Not Selected

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## **Elective Options**

- Complete all of the following
  - ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
  - INMT 2303 Prerequisite(s): INMT 1305
  - ELPT 2305 Prerequisite(s): ELPT 1341 (Pre or Co)
  - MCHN 1338 Prerequisite(s): INMT 1373
  - RBTC 1301 Prerequisite(s): ELPT 1341
  - INMT 2301 Prerequisite(s): INMT 1305
  - INMT 2345 Prerequisite(s): ELPT 1341

## **Industrial Systems - Industrial Systems - Electrical Specialization AAS**

### **Locations**

Marshall  
North Texas

### **Program Requirements**

Semester 1

15 Total Credits

- Complete the following:
  - DFTG1325 - Blueprint Reading and Sketching (3)
  - ELPT1311 - Basic Electrical Theory (3)
  - INMT1305 - Introduction to Industrial Maintenance (3)
  - WLDG1391 - Special Topics in Welder/Welding Technologist (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Semester 2

15 Total Credits

- Complete the following:
  - ELPT1341 - Motor Control (3)
  - HART1356 - EPA Recovery Certification Preparation (3)
  - HYDR1305 - Basic Hydraulics (3)
  - INMT2303 - Pumps, Compressors & Mechanical Drives (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

Semester 3

15 Total Credits

- Complete all of the following
  - Complete the following:
    - ELPT1345 - Commercial Wiring (3)
  - Complete at least 3 credits from the following:
    - ELPT2319 - Programmable Logic Controllers I (3)
    - INMT1371 - Industrial Manufacturing PLC Installation (3)
  - Complete the following:
    - INMT2301 - Machinery Installation (3)
    - RBTC1309 - Pneumatics (3)
    - ENGL1301 - Composition I (3)

Semester 4

15 Total Credits

- Complete the following:
  - ELPT1351 - Electrical Machines (3)
  - ELPT2331 - AC/DC Drives (3)
  - INMT2345 - Industrial Troubleshooting (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - ACGM3GED - Gen Ed Elective (3)

Degree Plan Credits **60**

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## **Capstone**

- Complete the following:
  - INMT2345 - Industrial Troubleshooting (3)

## **Pre/Corequisites**

- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- INMT 2303, INMT 2301 Prerequisite(s): INMT 1305
- ELPT 2319, INMT 1371 Prerequisite(s): ELPT 1341 (Prerequisite or Corequisite)
- RBTC 1309 Prerequisite(s): HYDR 1305
- ELPT 1351, INMT 2345 Prerequisite(s): ELPT 1341

## **Elective Options**

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development (3)
  - HIST1301 - United States History I (3)
  - HIST1302 - United States History II (3)
  - HIST2312 - Western Civilization II (3)
  - HIST2321 - World Civilizations I (3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I (3)
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete 1 General Education Elective as recommended by program

**Locations**

Waco  
East Williamson County  
Fort Bend County  
Abilene

**Program Requirements**

Semester 1

15 Total Credits

- Complete the following:
  - DFTG1325 - Blueprint Reading and Sketching (3)
  - ELPT1311 - Basic Electrical Theory (3)
  - HYDR1301 - Rigging and Conveying Systems (3)
  - INMT1305 - Introduction to Industrial Maintenance (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Semester 2

15 Total Credits

- Complete the following:
  - PFPB2308 - Piping Standards and Materials (3)
  - ELPT1341 - Motor Control (3)
  - HYDR1305 - Basic Hydraulics (3)
  - INMT2303 - Pumps, Compressors & Mechanical Drives (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

Semester 3

15 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - ELPT2319 - Programmable Logic Controllers I (3)
    - INMT1371 - Industrial Manufacturing PLC Installation (3)
  - Complete the following:
    - INMT1355 - Industrial Power Plant Systems (3)
    - INMT2301 - Machinery Installation (3)
    - RBTC1309 - Pneumatics (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Semester 4

15 Total Credits

- Complete all of the following
  - Complete the following:
    - ENTC1349 - Reliability and Maintainability (3)
    - INMT2345 - Industrial Troubleshooting (3)
    - CBFM1303 - Boiler Maintenance (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)
  - Complete the following:
    - ACGM3GED - Gen Ed Elective (3)

Degree Plan Credits **60**

**Capstone**

- Complete the following:
  - INMT2345 - Industrial Troubleshooting (3)

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## **Pre/Corequisites**

- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- INMT 2303, INMT 1355, INMT 2301 Prerequisite(s): INMT 1305
- ELPT 2319, INMT 1371 Prerequisite(s): ELPT 1341 (Prerequisite or Corequisite)
- RBTC 1309 Prerequisite(s): HYDR 1305
- INMT 2345 Prerequisite(s): ELPT 1341

## **Elective Options**

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete 1 General Education Elective as recommended by program

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## Industrial Systems - Industrial Systems - Mechanical Specialization CER2

### Locations

Waco  
East Williamson County  
Fort Bend County  
Abilene

### Program Requirements

#### Semester 1

12 Total Credits

- Complete the following:
  - DFTG1325 - Blueprint Reading and Sketching (3)
  - ELPT1311 - Basic Electrical Theory (3)
  - HYDR1301 - Rigging and Conveying Systems (3)
  - INMT1305 - Introduction to Industrial Maintenance (3)

#### Semester 2

12 Total Credits

- Complete the following:
  - PFPB2308 - Piping Standards and Materials (3)
  - ELPT1341 - Motor Control (3)
  - HYDR1305 - Basic Hydraulics (3)
  - INMT2303 - Pumps, Compressors & Mechanical Drives (3)

#### Semester 3

12 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - ELPT2319 - Programmable Logic Controllers I (3)
    - INMT1371 - Industrial Manufacturing PLC Installation (3)
  - Complete the following:
    - INMT1355 - Industrial Power Plant Systems (3)
    - INMT2301 - Machinery Installation (3)
    - RBTC1309 - Pneumatics (3)

#### Semester 4

9 Total Credits

- Complete the following:
  - ENTC1349 - Reliability and Maintainability (3)
  - INMT2345 - Industrial Troubleshooting (3)
  - CBFM1303 - Boiler Maintenance (3)

Degree Plan Credits **45**

### Capstone

- Complete the following:
  - INMT2345 - Industrial Troubleshooting (3)

### Pre/Corequisites

- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- INMT 2303, INMT 1355, INMT 2301 Prerequisite(s): INMT 1305
- ELPT 2319, INMT 1371 Prerequisite(s): ELPT 1341 (Prerequisite or Corequisite)
- RBTC 1309 Prerequisite(s): HYDR 1305
- INMT 2345 Prerequisite(s): ELPT 1341

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## Industrial Systems - Industrial Systems Mechanic - Electrical CER1

### Locations

Marshall  
North Texas

### Program Requirements

Semester 1

9 Total Credits

- Complete the following:
  - DFTG1325 - Blueprint Reading and Sketching (3)
  - ELPT1311 - Basic Electrical Theory (3)
  - INMT1305 - Introduction to Industrial Maintenance (3)

Semester 2

9 Total Credits

- Complete the following:
  - ELPT1341 - Motor Control (3)
  - HYDR1305 - Basic Hydraulics (3)
  - INMT2303 - Pumps, Compressors & Mechanical Drives (3)

Semester 3

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ELPT1345 - Commercial Wiring (3)
  - Complete at least 3 credits from the following:
    - ELPT2319 - Programmable Logic Controllers I (3)
    - INMT1371 - Industrial Manufacturing PLC Installation (3)
  - Complete the following:
    - INMT2301 - Machinery Installation (3)
    - RBTC1309 - Pneumatics (3)

Degree Plan Credits **30**

### Capstone

- Complete the following:
  - INMT1371 - Industrial Manufacturing PLC Installation (3)

### Pre/Corequisites

- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- INMT 2303, INMT 2301 Prerequisite(s): INMT 1305
- ELPT 2319, INMT 1371 Prerequisite(s): ELPT 1341 (Prerequisite or Corequisite)
- RBTC 1309 Prerequisite(s): HYDR 1305

## Industrial Systems - Industrial Systems Mechanic - Electrical CER2

### Locations

Marshall  
North Texas



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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - DFTG1325 - Blueprint Reading and Sketching (3)
  - ELPT1311 - Basic Electrical Theory (3)
  - INMT1305 - Introduction to Industrial Maintenance (3)
  - WLDG1391 - Special Topics in Welder/Welding Technologist (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ELPT1341 - Motor Control (3)
  - HART1356 - EPA Recovery Certification Preparation (3)
  - HYDR1305 - Basic Hydraulics (3)
  - INMT2303 - Pumps, Compressors & Mechanical Drives (3)

### Semester 3

12 Total Credits

- Complete all of the following
  - Complete the following:
    - ELPT1345 - Commercial Wiring (3)
  - Complete at least 3 credits from the following:
    - ELPT2319 - Programmable Logic Controllers I (3)
    - INMT1371 - Industrial Manufacturing PLC Installation (3)
  - Complete the following:
    - INMT2301 - Machinery Installation (3)
    - RBTC1309 - Pneumatics (3)

### Semester 4

9 Total Credits

- Complete the following:
  - ELPT1351 - Electrical Machines (3)
  - ELPT2331 - AC/DC Drives (3)
  - INMT2345 - Industrial Troubleshooting (3)

Degree Plan Credits **45**

## **Capstone**

- Complete the following:
  - INMT2345 - Industrial Troubleshooting (3)

## **Pre/Corequisites**

- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- INMT 2303, INMT 2301 Prerequisite(s): INMT 1305
- ELPT 2319, INMT 1371 Prerequisite(s): ELPT 1341 (Prerequisite or Corequisite)
- RBTC 1309 Prerequisite(s): HYDR 1305
- ELPT 1351, INMT 2345 Prerequisite(s): ELPT 1341
- INMT 2345 Prerequisite(s): ELPT 1341

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### **Industrial Systems - Industrial Systems Mechanic - Entry Level Technician CER1**

#### **Locations**

Waco  
East Williamson County  
Fort Bend County  
Abilene

#### **Program Requirements**

Semester 1  
12 Total Credits

- Complete the following:
  - DFTG1325 - Blueprint Reading and Sketching (3)
  - ELPT1311 - Basic Electrical Theory (3)
  - HYDR1301 - Rigging and Conveying Systems (3)
  - INMT1305 - Introduction to Industrial Maintenance (3)

Semester 2  
9 Total Credits

- Complete the following:
  - ELPT1341 - Motor Control (3)
  - HYDR1305 - Basic Hydraulics (3)
  - INMT2303 - Pumps, Compressors & Mechanical Drives (3)

Degree Plan Credits **21**

#### **Capstone**

- Complete the following:
  - INMT2303 - Pumps, Compressors & Mechanical Drives (3)

#### **Pre/Corequisites**

- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- INMT 2303 Prerequisite(s): INMT 1305

### **Industrial Systems - Industrial Systems Mechanic CER1**

#### **Locations**

Waco  
East Williamson County  
Fort Bend County  
Abilene

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - DFTG1325 - Blueprint Reading and Sketching (3)
  - ELPT1311 - Basic Electrical Theory (3)
  - HYDR1301 - Rigging and Conveying Systems (3)
  - INMT1305 - Introduction to Industrial Maintenance (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ELPT1341 - Motor Control (3)
  - HYDR1305 - Basic Hydraulics (3)
  - INMT2303 - Pumps, Compressors & Mechanical Drives (3)
  - PFPB2308 - Piping Standards and Materials (3)

### Semester 3

12 Total Credits

- Complete all of the following
  - Complete the following:
    - INMT1355 - Industrial Power Plant Systems (3)
    - INMT2301 - Machinery Installation (3)
    - RBTC1309 - Pneumatics (3)
  - Complete at least 3 credits from the following:
    - ELPT2319 - Programmable Logic Controllers I (3)
    - INMT1371 - Industrial Manufacturing PLC Installation (3)

Degree Plan Credits **36**

## **Capstone**

- Complete the following:
  - INMT1355 - Industrial Power Plant Systems (3)

## **Pre/Corequisites**

- ELPT 2319, INMT 1371 Prerequisite(s): ELPT 1341 (Prerequisite or Corequisite)
- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- INMT 2303, INMT 1355, INMT 2301 Prerequisite(s): INMT 1305
- RBTC 1309 Prerequisite(s): HYDR 1305

## **Instrumentation Technology**

### **Description**

Instrumentation is the science of measurement and control, including the variables of process control such as pressure, level, temperature and flow rates. These variables are used in all automated processes in power generation, oil refineries, chemical plants, food processing, pharmaceuticals, cosmetics, building environmental control, and more. Instrumentation is a vital part of any production or manufacturing plant, and it is the job of an instrument technician to keep these systems running. TSTC's Instrumentation Technology graduates are field-ready and qualified to go to work with minimum on-the-job training.

## **Instrumentation Technology - Instrumentation Technology AAS**

### **Locations**

Waco

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - DFTG1313 - Drafting for Specific Occupations (3)
  - INTC1305 - Introduction to Instrumentation (3)
  - MATH1316 - Plane Trigonometry (3)

### Semester 2

12 Total Credits

- Complete all of the following
  - Complete the following:
    - CETT1305 - AC Circuits (3)
  - Complete at least 3 credits from the following:
    - ELPT1341 - Motor Control (3)
    - INTC1357 - AC/DC Motor Control (3)
  - Complete the following:
    - INTC1341 - Principles of Automatic Control (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 3

12 Total Credits

- Complete all of the following
  - Complete the following:
    - INTC1355 - Unit Operations (3)
    - INTC2336 - Distributed Control and Programmable Logic (3)
    - RBTC1301 - Programmable Logic Controllers (3)
  - Complete at least 3 credits from the following:
    - PHYS1310 - Elementary Physics (3)
    - PHYS1315 - Physical Science I (lecture) (3)

### Semester 4

12 Total Credits

- Complete the following:
  - INTC1350 - Digital Measurement and Controls (3)
  - INTC1356 - Instrumentation Calibration (3)
  - INTC2333 - Instrumentation Systems Installation (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 5

12 Total Credits

- Complete the following:
  - INTC1348 - Analytical Instrumentation (3)
  - INTC2310 - Principles of Industrial Measurements II (3)
  - INTC2350 - Fieldbus Process Control Systems (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - INTC2350 - Fieldbus Process Control Systems (3)

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## **Pre/Corequisites**

- INTC 1305 Prerequisite(s): CETT 1303 (Prerequisite or Corequisite)
- CETT 1305 Prerequisite(s): CETT 1303 or IEIR 1302 (Pre or Co)
- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- INTC 1355 Prerequisite(s): INTC 1341
- INTC 2336 Prerequisite(s): RBTC 1301 (Prerequisite or Corequisite)
- RBTC 1301, INTC 1348 Prerequisite(s): ELPT 1341
- INTC 1350 Prerequisite(s): RBTC 1301
- INTC 1356, INTC 2333, INTC 2310 Prerequisite(s): INTC 1355
- INTC 2350 Prerequisite(s): INTC 2333

## **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)

## **Mathematics**

### **Description**

The Mathematics department supports and enhances TSTC's technical education mission. It helps to provide Texas industry with employees who perform well at entry level positions through their competence in mathematics and problem-solving techniques. Students learn the principles of physics and mathematics. They use this knowledge to prepare for advancement in the workplace through the acquisition of science- and mathematics-based problem-solving skills; and facilitates progress toward successful completion of further educational goals and/or lifelong learning experiences.

## **Mathematics - Mathematics AS**

### **Locations**

Harlingen

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## **Program Requirements**

### Semester 1

9 Total Credits

- Complete the following:
  - MATH2312 - Pre-Calculus Math (3 SCH version) (3)
  - ENGL1301 - Composition I (3)
  - ACGM3CAR - Creative Arts Elective (3)

### Semester 2

13 Total Credits

- Complete the following:
  - MATH2413 - Calculus I (4 SCH version) (4)
  - ENGL1302 - Composition II (3)
  - GOVT2305 - Federal Government (Federal constitution & topics) (3)
  - ACGM3LPS - Life and Physical Science Elective (3)

### Semester 3

13 Total Credits

- Complete the following:
  - MATH2414 - Calculus II (4 SCH version) (4)
  - GOVT2306 - Texas Government (Texas constitution & topics) (3)
  - ACGM3LPS - Life and Physical Science Elective (3)
  - ACGM3LPC - Language, Philosophy and Culture Elective (3)

### Semester 4

10 Total Credits

- Complete the following:
  - MATH2415 - Calculus III (4 SCH version) (4)
  - Course Not Found
  - HIST1301 - United States History I (3)
  - ACGM3CAOB - Component Area Option (3)

### Semester 5

9 Total Credits

- Complete the following:
  - HIST1302 - United States History II (3)
  - MATH2320 - Differential Equations (3 SCH version) (3)
  - Course Not Found
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **54**

## **Capstone**

- Complete the following:
  - MATH2320 - Differential Equations (3 SCH version) (3)

## **Pre/Corequisites**

- MATH 2312 Prerequisite(s): MATH 1314 or MATH 1316
- MATH 2413 Prerequisite(s): MATH 1316 or MATH 2312 or MATH 2412
- ENGL 1302 Prerequisite(s): ENGL 1301
- MATH 2414 Prerequisite(s): MATH 2413
- MATH 2415, MATH 2320 Prerequisite(s): MATH 2414
- MATH 2320 Prerequisite(s): MATH 2414

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### Elective Options

- Complete at least 1 courses from the following:  
Creative Arts Elective
  - ARTS1301 - Art Appreciation (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 2 courses from the following:  
Life & Physical Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - PHYS1301 - College Physics I (lecture)(3)
  - PHYS1302 - College Physics II (lecture)(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Language, Philosophy & Culture Elective
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2331 - World Literature (3)
  - PHIL1304 - Introduction to World Religions(3)
- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least 1 courses from the following:  
Component Area Option B (for Academic Core Curriculum)
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least courses from the following:  
Math Elective for Math AS
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning) (3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH2318 - Linear Algebra (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I (3)

## **Mechatronics Technology**

### **Description**

Because industrial applications are becoming increasingly multidisciplinary, today's technicians need skills that cross a variety of disciplines. Mechatronics courses combine various disciplines to teach students a holistic approach to developing solutions for engineering applications. Skills found under the Mechatronics Technology umbrella include practical knowledge in the integration of electrical systems, fluid power, electronics, computer controls, programmable logic controllers (PLCs), instrumentation, robotics and information technology.

## **Mechatronics Technology - Mechatronics Technology AAS**

### **Locations**

Harlingen

### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - MECH1370 - Introduction to Mechatronics (3)
  - ENGL1301 - Composition I (3)
  - MATH1314 - College Algebra (3 SCH version) (3)

Semester 2

10 Total Credits

- Complete the following:
  - CETT1305 - AC Circuits (3)
  - MECH1371 - Industry Digital Devices (3)
  - MECH1471 - Hydraulic and Pneumatic Systems (4)
  - Course Not Found

Semester 3

13 Total Credits

- Complete the following:
  - MECH1372 - Basic Programmable Logic Controllers (3)
  - MECH1373 - Motion Control (3)
  - MECH2374 - Robotics Communication (3)
  - MECH2472 - Communication Protocols (4)

Semester 4

13 Total Credits

- Complete the following:
  - MECH2370 - Industrial Process Controls (3)
  - MECH2372 - Essentials to Advance PLC (3)
  - MECH2375 - Production Control (3)
  - MECH2471 - Industrial Control Devices (4)

Semester 5

9 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - MECH2378 - Internship-Mechatronics Technology (3)
    - MECH2373 - Industry 4.0 Project (3)
  - Complete the following:
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **57**



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## **Capstone**

- Complete the following:
  - MECH2373 - Industry 4.0 Project (3)

## **Pre/Corequisites**

- CETT 1305 Prerequisite(s): CETT 1303 or IEIR 1302 (Prerequisite or Corequisite)
- MECH 1371 Prerequisite(s): CETT 1303
- MECH 1372, MECH 1373, MECH 2370, MECH 2375 Prerequisite(s): CETT 1305
- MECH 2372 Prerequisite(s): MECH 1372
- MECH 2471 Prerequisite(s): MECH 1373
- MECH 2373 Prerequisite(s): MECH 2472, MECH 1373

## **Elective Options**

- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

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## Occupational Safety & Environmental Compliance Technology

### Description

The Occupational Safety and Environmental Compliance Technology (OSE) offers in-depth study of Occupational Safety and Health Administration regulations, Environmental Protection Agency regulations, and other pertinent federal, state and local standards. Safety and environmental compliance professionals are responsible for interpreting and implementing regulations, policies and procedures, as well as enforcing government safety and environmental mandates. Compliance professionals use the knowledge gained through the OSE program to develop, improve and manage a company's safety and environmental system to prevent injuries, reduce accidents and protect the environment while minimizing the impact to economic progress.

The Occupational Safety and Environmental Compliance Technology curriculum includes instruction on hazardous waste operations; compliance with regulatory agencies, including submitting regulatory reports and documents; conducting safety training; and performing inspections and compliance audits. Students also learn how to develop OSHA- and EPA-related programs such as hazard communication, permit-required confined space entry, respiratory protection, lockout/tagout, environmental sampling plans, stormwater pollution prevention plans, phase I site assessments, and emergency response plans. Students will learn to anticipate, recognize, evaluate and control industrial health hazards to help build and maintain a safe work culture and protect the environment.

## Occupational Safety & Environmental Compliance Technology - Environmental Compliance

### Locations

Abilene  
Fort Bend County  
Waco

### Program Requirements

Semester 1

14 Total Credits

- Complete the following:
  - EPCT1243 - Treatment, Remediation, and Disposal Techniques (2)
  - EPCT1205 - Environmental Regulations Overview (2)
  - OSHT1305 - OSHA Regulations - Construction Industry (3)
  - EPCT2337 - Site Assessment (3)
  - OSHT2401 - OSHA Regulations - General Industry (4)

Semester 2

12 Total Credits

- Complete the following:
  - EPCT2331 - Industrial Hygiene Applications (3)
  - EPCT1344 - Environmental Sampling and Analysis (3)
  - EPCT1301 - Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics (3)
  - OSHT2320 - Safety Training Presentation Techniques (3)

Degree Plan Credits **26**

### Capstone

- Complete the following:
  - OSHT2320 - Safety Training Presentation Techniques (3)

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## **Occupational Safety & Environmental Compliance Technology - Occupational Safety**

### **Locations**

Abilene  
Fort Bend County  
Waco

### **Program Requirements**

Semester 1  
14 Total Credits

- Complete the following:
  - EPCT1307 - Introduction to Environmental Safety and Health (3)
  - OSH1305 - OSHA Regulations - Construction Industry (3)
  - OSH2401 - OSHA Regulations - General Industry (4)
  - OSH1209 - Physical Hazards Control (2)
  - OSH2209 - Safety Program Management (2)

Semester 2  
12 Total Credits

- Complete the following:
  - EPCT1301 - Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics (3)
  - OSH2370 - Safety and Health First Aid Certification (3)
  - OSH2388 - Internship - Occupational Safety and Health Technology/Technician (3)
  - OSH2320 - Safety Training Presentation Techniques (3)

Degree Plan Credits **26**

### **Capstone**

- Complete the following:
  - OSH2320 - Safety Training Presentation Techniques (3)

## **Occupational Safety & Environmental Compliance Technology - Occupational Safety & Environmental Compliance Technology AAS**

### **Locations**

Waco  
Fort Bend County  
Abilene

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## **Program Requirements**

### Semester 1

11 Total Credits

- Complete all of the following
  - Complete the following:
    - EPCT1243 - Treatment, Remediation, and Disposal Techniques (2)
    - EPCT1307 - Introduction to Environmental Safety and Health (3)
    - OSH1305 - OSHA Regulations - Construction Industry (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 2

13 Total Credits

- Complete the following:
  - OSH1313 - Accident Prevention, Inspection, & Investigation (3)
  - ITSC1309 - Integrated Software Applications I (3)
  - OSH2401 - OSHA Regulations - General Industry (4)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 3

12 Total Credits

- Complete the following:
  - EPCT2331 - Industrial Hygiene Applications (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
  - EPCT1344 - Environmental Sampling and Analysis (3)
  - ACGM3GED - Gen Ed Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - EPCT1205 - Environmental Regulations Overview (2)
  - EPCT2337 - Site Assessment (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)
  - OSH1209 - Physical Hazards Control (2)
  - OSH2209 - Safety Program Management (2)

### Semester 5

12 Total Credits

- Complete the following:
  - EPCT1301 - Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics (3)
  - OSH2370 - Safety and Health First Aid Certification (3)
  - OSH2388 - Internship - Occupational Safety and Health Technology/Technician (3)
  - OSH2320 - Safety Training Presentation Techniques (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - OSH2320 - Safety Training Presentation Techniques (3)

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### **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete 1 General Education Elective as recommended by program
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)

### **Physics**

#### **Description**

The Associate of Science degree in Physics is intended for students planning to transfer to a college or university in order to obtain a bachelor's degree in physics or a physics-related discipline, such as astronomy, geophysics or any engineering field.

### **Physics - Physics AS**

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## **Locations**

Harlingen

## **Program Requirements**

Semester 1

9 Total Credits

- Complete the following:
  - ENGL1301 - Composition I (3)
  - MATH2312 - Pre-Calculus Math (3 SCH version) (3)
  - ACGM3CAR - Creative Arts Elective (3)

Semester 2

14 Total Credits

- Complete the following:
  - ENGL1302 - Composition II (3)
  - CHEM1111 - General Chemistry I (lab) (1)
  - CHEM1311 - General Chemistry I (lecture) (3)
  - GOVT2305 - Federal Government (Federal constitution & topics) (3)
  - MATH2413 - Calculus I (4 SCH version) (4)

Semester 3

14 Total Credits

- Complete the following:
  - CHEM1112 - General Chemistry II (lab) (1)
  - CHEM1312 - General Chemistry II (lecture) (3)
  - GOVT2306 - Texas Government (Texas constitution & topics) (3)
  - MATH2414 - Calculus II (4 SCH version) (4)
  - ACGM3LPC - Language, Philosophy and Culture Elective (3)

Semester 4

10 Total Credits

- Complete the following:
  - HIST1301 - United States History I (3)
  - PHYS2125 - University Physics Laboratory I (lab) (1)
  - PHYS2325 - University Physics I (lecture) (3)
  - Course Not Found
  - ACGM3CAOB - Component Area Option (3)

Semester 5

10 Total Credits

- Complete the following:
  - HIST1302 - United States History II (3)
  - PHYS2126 - University Physics Laboratory II (lab) (1)
  - PHYS2326 - University Physics II (lecture) (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **57**

## **Capstone**

- Complete the following:
  - PHYS2126 - University Physics Laboratory II (lab) (1)
  - PHYS2326 - University Physics II (lecture) (3)

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### **Pre/Corequisites**

- MATH 2312 Prerequisite(s): MATH 1314 or MATH 1316
- ENGL 1302 Prerequisite(s): ENGL 1301
- CHEM 1111 Prerequisite(s): CHEM 1311 (Corequisite)
- CHEM 1311 Prerequisite(s): MATH 1314, CHEM 1111 (Corequisite)
- MATH 2413 Prerequisite(s): MATH 1316 or MATH 2312 or MATH 2412
- CHEM 1112 Prerequisite(s): CHEM 1312 (Corequisite)
- CHEM 1312 Prerequisite(s): CHEM 1111, CHEM 1311, CHEM 1112 (Corequisite)
- MATH 2414 Prerequisite(s): MATH 2413
- PHYS 2125 Prerequisite(s): PHYS 2325 (Corequisite)
- PHYS 2325 Prerequisite(s): MATH 2413, PHYS 2125 (Corequisite)

### **Plumbing & Pipefitting Technology**

#### **Description**

Plumbing & Pipefitting Technology is designed to help students learn the ins and outs of this important, well-paying field. This specialization can help you get on your way in a hurry through a one-year intensive training program to help you build the skill base needed to succeed in the industry. The Plumbing & Pipefitting Technology certificate progresses from basic to advanced coursework in plumbing, piping, construction, fabrication and more. And at TSTC, your college credits can count toward the hours needed to obtain a state license.

### **Plumbing & Pipefitting Technology - Plumbing & Pipefitting Technology - Apprentice with Endorsements CER1**

#### **Locations**

Waco

#### **Program Requirements**

Semester 1

15 Total Credits

- Complete the following:
  - PFPB1306 - Basic Blueprint Reading for Plumbers (3)
  - PFPB1323 - Plumbing Codes I (3)
  - PFPB2308 - Piping Standards and Materials (3)
  - PFPB2309 - Residential Construction Plumbing I (3)
  - PFPB1321 - Plumbing Maintenance and Repair (3)

Degree Plan Credits **15**

#### **Capstone**

- Complete the following:
  - PFPB1323 - Plumbing Codes I (3)

### **Plumbing & Pipefitting Technology - Plumbing & Pipefitting Technology - Journeyman AAS**

#### **Locations**

Waco

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - PFPB1306 - Basic Blueprint Reading for Plumbers (3)
  - PFPB1323 - Plumbing Codes I (3)
  - PFPB2349 - Field Measuring, Sketching, and Layout (3)
  - OSH1305 - OSHA Regulations - Construction Industry (3)

### Semester 2

12 Total Credits

- Complete the following:
  - PFPB1321 - Plumbing Maintenance and Repair (3)
  - PFPB1347 - Backflow Prevention (3)
  - PFPB2309 - Residential Construction Plumbing I (3)
  - PFPB1319 - Commercial Plumbing I (3)

### Semester 3

12 Total Credits

- Complete the following:
  - CBFM1303 - Boiler Maintenance (3)
  - PFPB2345 - Residential Construction Plumbing II (3)
  - CNBT1302 - Mechanical, Electrical & Plumbing Systems in Construction I (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 4

12 Total Credits

- Complete all of the following
  - Complete the following:
    - CNBT1346 - Construction Estimating I (3)
    - BMGT1309 - Information and Project Management (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)
  - Complete the following:
    - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

### Semester 5

12 Total Credits

- Complete the following:
  - PFPB2357 - Plumbing Codes II (3)
  - PFPB2315 - Intermediate Technologies for Piping Trades (3)
  - ACGM3GED - Gen Ed Elective (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - PFPB2357 - Plumbing Codes II (3)

## **Pre/Corequisites**

- PFPB 1319 Prerequisite(s): PFPB 1323, PFPB 2349, PFPB 1306
- PFPB 2345 Prerequisite(s): PFPB 2309

## **Elective Options**

- Complete at least 1 courses from the following:
  - Social/Behavioral Science Elective
    - GOVT2305 - Federal Government (Federal constitution & topics)(3)
    - GOVT2306 - Texas Government (Texas constitution & topics)(3)



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- ANTH2346 - General Anthropology (3)
- ECON1301 - Introduction to Economics (3)
- ECON2301 - Principles of Macroeconomics (3)
- ECON2302 - Principles of Microeconomics (3)
- GEOG1302 - Human Geography (3)
- GEOG1303 - World Regional Geography (3)
- PSYC1100 - Learning Framework (1)
- PSYC2301 - General Psychology (3)
- PSYC2314 - Lifespan Growth & Development (3)
- HIST1301 - United States History I (3)
- HIST1302 - United States History II (3)
- HIST2312 - Western Civilization II (3)
- HIST2321 - World Civilizations I (3)
- SOCI1301 - Introduction to Sociology (3)
- SOCI1306 - Social Problems (3)
- SOCI2319 - Minority Studies I (3)
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture) (3)
  - BIOL1307 - Biology for Science Majors II (3)
  - BIOL1308 - Biology for Non-Science Majors I (3)
  - BIOL1309 - Biology for Non-Science Majors II (3)
  - BIOL2301 - Anatomy & Physiology I (lecture) (3)
  - BIOL2302 - Anatomy & Physiology II (lecture) (3)
  - CHEM1305 - Introductory Chemistry I (lecture) (3)
  - CHEM1311 - General Chemistry I (lecture) (3)
  - CHEM1312 - General Chemistry II (lecture) (3)
  - MATH1314 - College Algebra (3 SCH version) (3)
  - MATH1316 - Plane Trigonometry (3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning) (3)
  - MATH1342 - Elementary Statistical Methods (3)
  - PHYS1315 - Physical Science I (lecture) (3)
  - PHYS1317 - Physical Science II (3)
- Complete at least 1 courses from the following:  
General Education Electives
  - ENGL1301 - Composition I (3)
  - ENGL1302 - Composition II (3)
  - ENGL2311 - Technical & Business Writing (3)
  - HIST2321 - World Civilizations I (3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication (3)
  - ARTS1301 - Art Appreciation (3)
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2341 - Forms of Literature (3)
  - HUMA1301 - Introduction to Humanities I (3)
  - HUMA2323 - World Cultures (3)
  - MUSI1306 - Music Appreciation (3)
  - PHIL1304 - Introduction to World Religions (3)
  - PHIL2306 - Introduction to Ethics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GOVT2305 - Federal Government (Federal constitution & topics) (3)
  - GOVT2306 - Texas Government (Texas constitution & topics) (3)
  - HIST1301 - United States History I (3)
  - HIST1302 - United States History II (3)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development (3)
  - SOCI1301 - Introduction to Sociology (3)
  - BIOL1306 - Biology for Science Majors I (lecture) (3)
  - BIOL1307 - Biology for Science Majors II (3)
  - BIOL1308 - Biology for Non-Science Majors I (3)
  - BIOL1309 - Biology for Non-Science Majors II (3)
  - BIOL2301 - Anatomy & Physiology I (lecture) (3)
  - BIOL2302 - Anatomy & Physiology II (lecture) (3)
  - CHEM1305 - Introductory Chemistry I (lecture) (3)
  - CHEM1311 - General Chemistry I (lecture) (3)

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- CHEM1412 - General Chemistry II(4)
- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1315 - Physical Science I (lecture)(3)
- Complete at least 1 courses from the following:
  - Humanities/Fine Arts Elective
    - HUMA1301 - Introduction to Humanities I(3)
    - HUMA2319 - American Minority Studies (3)
    - HUMA2323 - World Cultures (3)
    - PHIL1301 - Introduction to Philosophy(3)
    - PHIL1304 - Introduction to World Religions(3)
    - PHIL2303 - Introduction to Formal Logic(3)
    - PHIL2306 - Introduction to Ethics(3)
    - ARTS1301 - Art Appreciation (3)
    - ARTS2326 - Sculpture I (3)
    - ARTS2326 - Sculpture I (3)
    - MUSI1306 - Music Appreciation (3)

### **Plumbing & Pipefitting Technology - Plumbing & Pipefitting Technology - Tradesman CER1**

#### **Locations**

Waco

#### **Program Requirements**

Semester 1

15 Total Credits

- Complete the following:
  - PFPB1306 - Basic Blueprint Reading for Plumbers (3)
  - PFPB1323 - Plumbing Codes I (3)
  - PFPB2308 - Piping Standards and Materials (3)
  - PFPB2309 - Residential Construction Plumbing I (3)
  - PFPB2349 - Field Measuring, Sketching, and Layout (3)

Semester 2

12 Total Credits

- Complete the following:
  - PFPB1321 - Plumbing Maintenance and Repair (3)
  - PFPB1347 - Backflow Prevention (3)
  - PFPB2336 - Commercial Construction and Fixture Setting (3)
  - PFPB2343 - Advanced Pipe Practices (3)

Semester 3

6 Total Credits

- Complete the following:
  - PFPB1682 - Cooperative Education - Plumbing Technology/Plumber (6)

Degree Plan Credits **33**

#### **Capstone**

- Complete the following:
  - PFPB1682 - Cooperative Education - Plumbing Technology/Plumber (6)

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### **Pre Allied Health**

#### **Description**

This program establishes a robust foundation for your journey toward advanced education and training in various Allied Health fields.

### **Pre Allied Health - Pre Allied Health**

#### **Locations**

Online - TSTC Connect

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## **Program Requirements**

### Semester 1

13 Total Credits

- Complete all of the following
  - Complete 1 of the following
    - Complete the following:
      - BIOL2401 - Anatomy & Physiology I (lecture + lab) (4)
    - Complete the following:
      - BIOL2301 - Anatomy & Physiology I (lecture) (3)
      - BIOL2101 - Anatomy & Physiology I (lab) (1)
  - Complete the following:
    - ENGL1301 - Composition I (3)
    - PSYC2314 - Lifespan Growth & Development (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 2

14 Total Credits

- Complete all of the following
  - Complete 1 of the following
    - Complete the following:
      - BIOL2402 - Anatomy & Physiology II (lecture + lab) (4)
    - Complete the following:
      - BIOL2302 - Anatomy & Physiology II (lecture) (3)
      - BIOL2102 - Anatomy & Physiology II (lab) (1)
  - Complete 1 of the following
    - Complete the following:
      - BIOL2402 - Anatomy & Physiology II (lecture + lab) (4)
    - Complete the following:
      - BIOL2320 - Microbiology for Non-Science Majors (lecture) (3)
      - BIOL2120 - Microbiology for Non-Science Majors Laboratory (lab) (1)
  - Complete the following:
    - PSYC2301 - General Psychology (3)
    - ACGM3SPH - Gen Ed Speech Elective (3)

### Semester 3

4 Total Credits

- Complete all of the following
  - Complete 1 of the following
    - Complete the following:
      - SRGT1405 - Introduction to Surgical Technology (4)
    - Complete the following:
      - CHEM1305 - Introductory Chemistry I (lecture) (3)
      - CHEM1105 - Introductory Chemistry Laboratory I (lab) (1)
  - Complete the following:
    - Course Not Found

Degree Plan Credits **31**

## **Capstone**

- Complete the following:
  - BIOL2302 - Anatomy & Physiology II (lecture) (3)
  - BIOL2102 - Anatomy & Physiology II (lab) (1)

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### **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)

### **Precision Machining Technology**

#### **Description**

Persons interested in becoming machinists should be mechanically inclined and have good problem-solving abilities. They must be able to work independently and perform highly precise and accurate work that requires concentration and physical effort. Precision Machining Technology at TSTC guides students through a series of machine operation courses to develop and challenge their skills using conventional and computer numerical controlled (CNC) machines. Students also learn about the various materials used in today's manufacturing industry. Machinists use the following machines: horizontal and vertical mills, engine lathes, drill presses, saws, heat treat furnaces, and surface and pedestal grinders. Students learn to program and operate computer-aided machines such as CNC mills and lathes, and learn related skills such as precision measurement, blueprint reading and the heat treatment of metals. A capstone course challenges students' creativity by providing them with the opportunity to design and build complex machinery.

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## **Precision Machining Technology - Precision Machining CNC Machine Operator Specialization CER1**

### **Locations**

Waco  
East Williamson County  
Harlingen  
Fort Bend County  
Marshall  
North Texas

### **Program Requirements**

Semester 1  
12 Total Credits

- Complete the following:
  - MCHN1300 - Beginning Machine Shop (3)
  - MCHN1302 - Print Reading for Machining Trades (3)
  - MCHN1320 - Precision Tools and Measurement (3)
  - MCHN1343 - Machine Shop Mathematics (3)

Semester 2  
13 Total Credits

- Complete the following:
  - MCHN1371 - Engineering Computer Graphics I (3)
  - MCHN1438 - Basic Machine Shop I (4)
  - MCHN2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls (3)
  - MCHN2344 - Computerized Numerical Control Programming (3)

Degree Plan Credits **25**

### **Capstone**

- Complete the following:
  - MCHN2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls (3)

### **Pre/Corequisites**

- MCHN 1438 Prerequisite(s): MCHN 1300
- MCHN 2344 Prerequisite(s): MCHN 1302

## **Precision Machining Technology - Precision Machining Technology AAS**

### **Locations**

Waco  
East Williamson County  
Harlingen  
Fort Bend County  
Marshall  
North Texas

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## **Program Requirements**

### Semester 1

15 Total Credits

- Complete the following:
  - MCHN1300 - Beginning Machine Shop (3)
  - MCHN1302 - Print Reading for Machining Trades (3)
  - MCHN1320 - Precision Tools and Measurement (3)
  - MATH1314 - College Algebra (3 SCH version) (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 2

16 Total Credits

- Complete the following:
  - MCHN1371 - Engineering Computer Graphics I (3)
  - MCHN1438 - Basic Machine Shop I (4)
  - MCHN2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls (3)
  - MCHN2344 - Computerized Numerical Control Programming (3)
  - MATH1316 - Plane Trigonometry (3)

### Semester 3

13 Total Credits

- Complete the following:
  - MCHN1326 - Introduction to Computer-Aided Manufacturing (CAM) (3)
  - MCHN1454 - Intermediate Machining II (4)
  - MCHN2335 - Advanced CNC Machining (3)
  - ENGL1301 - Composition I (3)

### Semester 4

16 Total Credits

- Complete the following:
  - ENTC2310 - Machine Design (3)
  - MCHN2338 - Advanced Computer-Aided Manufacturing (CAM) (3)
  - MCHN2341 - Advanced Machining I (3)
  - MCHN2447 - Specialized Tools and Fixtures (4)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - ENTC2310 - Machine Design (3)

## **Pre/Corequisites**

- MCHN 1438 Prerequisite(s): MCHN 1300
- MCHN 2344 Prerequisite(s): MCHN 1302
- MCHN 1326 Prerequisite(s): MCHN 1371 or DFTG 1309
- MCHN 1454 Prerequisite(s): MCHN 1438
- MCHN 2335 Prerequisite(s): MCHN 2303
- ENTC 2310 Prerequisite(s): MCHN 1326, MCHN 1371
- MCHN 2338 Prerequisite(s): MCHN 1326
- MCHN 2341 Prerequisite(s): MCHN 1454
- MCHN 2447 Prerequisite(s): MCHN 1438

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### **Elective Options**

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

### **Precision Machining Technology - Precision Machining Technology CER2**

#### **Locations**

Waco  
East Williamson County  
Harlingen  
Fort Bend County  
Marshall  
North Texas



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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - MCHN1300 - Beginning Machine Shop (3)
  - MCHN1302 - Print Reading for Machining Trades (3)
  - MCHN1320 - Precision Tools and Measurement (3)
  - MCHN1343 - Machine Shop Mathematics (3)

### Semester 2

13 Total Credits

- Complete the following:
  - MCHN1371 - Engineering Computer Graphics I (3)
  - MCHN1438 - Basic Machine Shop I (4)
  - MCHN2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls (3)
  - MCHN2344 - Computerized Numerical Control Programming (3)

### Semester 3

14 Total Credits

- Complete the following:
  - MCHN1326 - Introduction to Computer-Aided Manufacturing (CAM) (3)
  - MCHN1454 - Intermediate Machining II (4)
  - MCHN2335 - Advanced CNC Machining (3)
  - MCHN2471 - Specialized Equipment and Processes (4)

Degree Plan Credits **39**

## **Capstone**

- Complete the following:
  - MCHN2471 - Specialized Equipment and Processes (4)

## **Pre/Corequisites**

- MCHN 1438 Prerequisite(s): MCHN 1300
- MCHN 2344 Prerequisite(s): MCHN 1302
- MCHN 1326 Prerequisite(s): MCHN 1371 or DFTG 1309
- MCHN 1454 Prerequisite(s): MCHN 1438
- MCHN 2335 Prerequisite(s): MCHN 2303
- MCHN 2471 Prerequisite(s): MCHN 1438

## **Process Operations**

### **Description**

A process technician is a key member of a team responsible for planning, analyzing and controlling the production of products, from the acquisition of raw materials through the production and distribution of products to customers in a variety of process industries. Process operations technicians are responsible for efficient and safe operation of all process equipment within the plant, monitoring of all process and utility systems and equipment to ensure they operate within their proper parameters, collection of product and utility samples and performing lab analysis to ensure products meet specifications, preparation of equipment and systems for maintenance activities, and more. Process Operations students will learn the function and use of pumps, tanks, valves and instrumentation associated with various process systems; knowledge of process variables, indicators and controllers; troubleshooting tools and troubleshooting steps to solve problems in a simple process system. They will be able to demonstrate the proper use of safety, health and environmental equipment.

## **Process Operations - Process Operations - Materials Handler CER2**

### **Locations**

Marshall

### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - PTAC1302 - Introduction to Process Technology (3)
  - PTAC1308 - Safety, Health, and Environment I (3)
  - PTAC2314 - Principles of Quality (3)
  - TECM1303 - Technical Calculations (3)

Semester 2

14 Total Credits

- Complete the following:
  - PTAC1332 - Process Instrumentation I (3)
  - ENGL1301 - Composition I (3)
  - PTAC1410 - Process Technology I - Equipment (4)
  - PTAC2420 - Process Technology II - Systems (4)

Semester 3

8 Total Credits

- Complete the following:
  - PTAC2438 - Process Technology III - Operations (4)
  - PTAC2446 - Process Troubleshooting (4)

Degree Plan Credits **34**

### **Capstone**

- Complete the following:
  - PTAC2446 - Process Troubleshooting (4)
  - PTAC2438 - Process Technology III - Operations (4)

### **Pre/Corequisites**

- PTAC 1410 Prerequisite(s): PTAC 1332
- PTAC 2420 Prerequisite(s): PTAC 1410

## **Process Operations - Process Operations AAS**

### **Locations**

Marshall

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete all of the following
  - Complete the following:
    - PTAC1302 - Introduction to Process Technology (3)
    - PTAC1308 - Safety, Health, and Environment I (3)
    - PTAC2314 - Principles of Quality (3)
  - Complete at least 3 credits from the following:
    - MATH1332 - Contemporary Mathematics (Quantitative Reasoning) (3)
    - MATH1314 - College Algebra (3 SCH version) (3)

### Semester 2

12 Total Credits

- Complete the following:
  - DFTG1325 - Blueprint Reading and Sketching (3)
  - PTAC1332 - Process Instrumentation I (3)
  - ENGL1301 - Composition I (3)
  - SCIT1318 - Applied Physics (3)

### Semester 3

12 Total Credits

- Complete the following:
  - PTAC1410 - Process Technology I - Equipment (4)
  - PTAC2420 - Process Technology II - Systems (4)
  - SCIT1414 - Applied General Chemistry I (4)

### Semester 4

12 Total Credits

- Complete all of the following
  - Complete the following:
    - PTAC2438 - Process Technology III - Operations (4)
    - PTAC2446 - Process Troubleshooting (4)
  - Complete at least 4 credits from the following:
    - PTRT1401 - Introduction to Petroleum Industry (4)
    - PTAC1454 - Industrial Processes (4)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - BMGT2347 - Critical Thinking and Problem Solving (3)
    - PTAC2387 - Internship - Process Technology/Technician (3)
  - Complete the following:
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
    - ACGM3GED - Gen Ed Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - PTAC2446 - Process Troubleshooting (4)
  - PTAC2438 - Process Technology III - Operations (4)

## **Pre/Corequisites**

- PTAC 1410 Prerequisite(s): PTAC 1332
- PTAC 2420 Prerequisite(s): PTAC 1410

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## **Elective Options**

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete 1 General Education Elective as recommended by program

## **Robotics & Industrial Controls Technology**

### **Description**

TSTC's Robotics and Industrial Controls Technology program prepares students for a job in this exploding career field. This option emphasizes the study of complex mechanical systems in computer-integrated manufacturing environments. Focusing on automated manufacturing processes and the role of robots and associated supporting equipment, coursework covers motion programming, vision and conveyor systems, computer networking, PLC programming, automated sorting, sensor systems, computer integration, and machine interfacing.

## **Robotics & Industrial Controls Technology - Robotics & Industrial Controls Technology AAS**

### **Locations**

Waco  
Fort Bend County

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## **Program Requirements**

### Semester 1

9 Total Credits

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - Course Not Found
  - RBTC1343 - Robotics (3)
  - MATH1314 - College Algebra (3 SCH version) (3)

### Semester 2

12 Total Credits

- Complete all of the following
  - Complete the following:
    - CETT1305 - AC Circuits (3)
    - ELPT1341 - Motor Control (3)
    - RBTC1347 - Electro-Mechanical Devices (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 3

12 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - PHYS1310 - Elementary Physics (3)
    - PHYS1315 - Physical Science I (lecture) (3)
  - Complete the following:
    - RBTC1301 - Programmable Logic Controllers (3)
    - RBTC1355 - Sensors (3)
    - RBTC2339 - Robot Programming and Diagnostics (3)

### Semester 4

12 Total Credits

- Complete all of the following
  - Complete the following:
    - RBTC1341 - Vision Systems (3)
    - RBTC1345 - Robot Interfacing (3)
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)
  - Complete at least 3 credits from the following:
    - RBTC1371 - Industrial Motors and Drives (3)
    - CETT1325 - Digital Fundamentals (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - RBTC2375 - Human Machine Interface Programming and Interfacing (3)
    - RBTC2335 - Numerical Controlled/Computer Numerical Control Programming (3)
  - Complete the following:
    - RBTC2345 - Robot Application, Set-up, and Testing (3)
    - RBTC2347 - Computer Integrated Manufacturing (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **57**

## **Capstone**

- Complete the following:
  - RBTC2345 - Robot Application, Set-up, and Testing (3)
  - RBTC2347 - Computer Integrated Manufacturing (3)

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### **Pre/Corequisites**

- RBTC 1343 Prerequisite(s): CETT 1303 or IEIR 1302
- CETT 1305 Prerequisite(s): CETT 1303 or IEIR 1302
- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- RBTC 1301 Prerequisite(s): ELPT 1341
- RBTC 1355 Prerequisite(s): RBTC 2339, RBTC 1347
- RBTC 2339 Prerequisite(s): RBTC 1343
- RBTC 1341 Prerequisite(s): RBTC 2339
- RBTC 1345 Prerequisite(s): RBTC 2339, RBTC 1347, RBTC 1301
- RBTC 1371 Prerequisite(s): RBTC 1301, ELPT 1341
- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305
- RBTC 2375, RBTC 2335, RBTC 2345, RBTC 2347 Prerequisite(s): RBTC 1345, RBTC 1301

### **Elective Options**

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

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## **Robotics & Industrial Controls Technology - Robotics & Industrial Controls Technology CER2**

### **Locations**

Waco  
Fort Bend County

### **Program Requirements**

Semester 1

6 Total Credits

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - Course Not Found
  - RBTC1343 - Robotics (3)

Semester 2

9 Total Credits

- Complete the following:
  - CETT1305 - AC Circuits (3)
  - ELPT1341 - Motor Control (3)
  - RBTC1347 - Electro-Mechanical Devices (3)

Semester 3

9 Total Credits

- Complete the following:
  - RBTC1301 - Programmable Logic Controllers (3)
  - RBTC1355 - Sensors (3)
  - RBTC2339 - Robot Programming and Diagnostics (3)

Semester 4

9 Total Credits

- Complete the following:
  - RBTC1341 - Vision Systems (3)
  - RBTC1345 - Robot Interfacing (3)
  - RBTC1371 - Industrial Motors and Drives (3)

Degree Plan Credits **33**

### **Capstone**

- Complete the following:
  - RBTC1345 - Robot Interfacing (3)

### **Pre/Corequisites**

- RBTC 1343, CETT 1305 Prerequisite(s): CETT 1303 or IEIR 1302
- ELPT 1341 Prerequisite(s): AACT 1371 or ELPT 1311 or CETT 1303 or IEIR 1371
- RBTC 1301 Prerequisite(s): ELPT 1341
- RBTC 1355 Prerequisite(s): RBTC 2339, RBTC 1347
- RBTC 2339 Prerequisite(s): RBTC 1343
- RBTC 1341 Prerequisite(s): RBTC 2339
- RBTC 1345 Prerequisite(s): RBTC 2339, RBTC 1347, RBTC 1301
- RBTC 1371 Prerequisite(s): RBTC 1301, ELPT 1341

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## Solar Energy Technology

### Description

Harnessing the sun's power to convert it into electricity is not a new concept, but only in recent years has the technology really taken off. The rising cost of fossil fuels on both the pocketbook and the environment has spurred interest in renewable resources such as solar energy. Perhaps that's why the future looks so bright for those in the solar energy industry. TSTC is one of just a handful of colleges in the nation to offer an associate degree in Solar Energy Technology. TSTC students get access to a live learning lab on the 216-kilowatt solar roof of TSTC's Electronics Center. Combined with knowledgeable, experienced staff and an advisory committee of solar industry professionals, you can get the education and experience you need for a successful, exciting career in Solar Energy Technology.

## Solar Energy Technology - Energy Efficiency Specialist CER1

### Locations

Waco

### Program Requirements

Semester 1

12 Total Credits

- Complete the following:
  - ELPT2337 - Electrical Planning and Estimating (3)
  - RBPT1370 - Building Envelope Inspection (3)
  - SOLR1371 - Introduction to Solar and Alternative Energy Technologies (3)
  - SOLR2377 - Codes for Alternative Energy, Efficiency & Conservation (3)

Semester 2

12 Total Credits

- Complete the following:
  - OSH1305 - OSHA Regulations - Construction Industry (3)
  - RBPT2325 - Energy Rating Systems for Homes (3)
  - ELPT1325 - National Electrical Code I (3)
  - RBPT2359 - Residential Building Performance Consulting (3)

Degree Plan Credits **24**

### Capstone

- Complete the following:
  - RBPT2359 - Residential Building Performance Consulting (3)

## Solar Energy Technology - Solar Energy Technology AAS

### Locations

Waco



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## **Program Requirements**

### Semester 1

15 Total Credits

- Complete the following:
  - ELPT1325 - National Electrical Code I (3)
  - ELPT1311 - Basic Electrical Theory (3)
  - RBPT1370 - Building Envelope Inspection (3)
  - SOLR1371 - Introduction to Solar and Alternative Energy Technologies (3)
  - SOLR2377 - Codes for Alternative Energy, Efficiency & Conservation (3)

### Semester 2

15 Total Credits

- Complete the following:
  - ELPT1329 - Residential Wiring (3)
  - RBPT2325 - Energy Rating Systems for Homes (3)
  - ELPT1357 - Industrial Wiring (3)
  - RBPT2359 - Residential Building Performance Consulting (3)
  - SOLR1372 - Foundations of Solar Photovoltaic Power Generation (3)

### Semester 3

15 Total Credits

- Complete the following:
  - ELPT1345 - Commercial Wiring (3)
  - OSH1305 - OSHA Regulations - Construction Industry (3)
  - ENGL1301 - Composition I (3)
  - ACGM3GED - Gen Ed Elective (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

15 Total Credits

- Complete all of the following
  - Complete at least 3 credits from the following:
    - DFTG1313 - Drafting for Specific Occupations (3)
    - CNBT1300 - Residential and Light Commercial Blueprint Reading (3)
  - Complete the following:
    - SOLR2375 - Solar System Design, Installation, Troubleshooting & Repair (3)
    - SOLR2376 - Special Projects in Solar Energy Systems (3)
    - ACGM3GED - Gen Ed Elective (3)
    - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - SOLR2375 - Solar System Design, Installation, Troubleshooting & Repair (3)
  - SOLR2376 - Special Projects in Solar Energy Systems (3)

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### Elective Options

- Complete 1 General Education Elective as recommended by program
- Complete at least 1 courses from the following:
  - Humanities/Fine Arts Elective
    - HUMA1301 - Introduction to Humanities I(3)
    - HUMA2319 - American Minority Studies (3)
    - HUMA2323 - World Cultures (3)
    - PHIL1301 - Introduction to Philosophy(3)
    - PHIL1304 - Introduction to World Religions(3)
    - PHIL2303 - Introduction to Formal Logic(3)
    - PHIL2306 - Introduction to Ethics(3)
    - ARTS1301 - Art Appreciation (3)
    - ARTS2326 - Sculpture I (3)
    - ARTS2326 - Sculpture I (3)
    - MUSI1306 - Music Appreciation (3)
  - Complete at least 1 courses from the following:
    - Math/Natural Science Elective
      - BIOL1306 - Biology for Science Majors I (lecture)(3)
      - BIOL1307 - Biology for Science Majors II(3)
      - BIOL1308 - Biology for Non-Science Majors I(3)
      - BIOL1309 - Biology for Non-Science Majors II(3)
      - BIOL2301 - Anatomy & Physiology I (lecture)(3)
      - BIOL2302 - Anatomy & Physiology II (lecture)(3)
      - CHEM1305 - Introductory Chemistry I (lecture)(3)
      - CHEM1311 - General Chemistry I (lecture)(3)
      - CHEM1312 - General Chemistry II (lecture)(3)
      - MATH1314 - College Algebra (3 SCH version)(3)
      - MATH1316 - Plane Trigonometry(3)
      - MATH1332 - Contemporary Mathematics (Quantitative Reasoning) (3)
      - MATH1342 - Elementary Statistical Methods(3)
      - PHYS1315 - Physical Science I (lecture)(3)
      - PHYS1317 - Physical Science II(3)
    - Complete at least 1 courses from the following:
      - Social/Behavioral Science Elective
        - GOVT2305 - Federal Government (Federal constitution & topics)(3)
        - GOVT2306 - Texas Government (Texas constitution & topics)(3)
        - ANTH2346 - General Anthropology (3)
        - ECON1301 - Introduction to Economics(3)
        - ECON2301 - Principles of Macroeconomics (3)
        - ECON2302 - Principles of Microeconomics (3)
        - GEOG1302 - Human Geography (3)
        - GEOG1303 - World Regional Geography(3)
        - PSYC1100 - Learning Framework (1)
        - PSYC2301 - General Psychology (3)
        - PSYC2314 - Lifespan Growth & Development(3)
        - HIST1301 - United States History I(3)
        - HIST1302 - United States History II(3)
        - HIST2312 - Western Civilization II(3)
        - HIST2321 - World Civilizations I(3)
        - SOCI1301 - Introduction to Sociology (3)
        - SOCI1306 - Social Problems (3)
        - SOCI2319 - Minority Studies I(3)

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## **Surgical Technology**

### **Description**

Surgical technologists assist in operations under the supervision of surgeons, registered nurses or other surgical personnel. Before an operation, surgical technologists help set up the operating room with surgical instruments, equipment and sterile solutions. During surgery, technologists pass instruments and other sterile supplies to surgeons and surgeon assistants. They may hold retractors, cut sutures, and help count sponges, needles, supplies and instruments. Surgical technologists help prepare, care for and dispose of specimens taken for laboratory analysis and may help apply dressings. This program provides classroom education and supervised clinical experience. Studies cover the care and safety of patients during surgery, aseptic techniques and surgical procedures. Students also learn to sterilize instruments, prevent and control infection, and handle special drugs, solutions, supplies and equipment. Surgical technologists must possess manual dexterity to handle instruments efficiently and quickly. They also must be conscientious, orderly, and emotionally stable to handle the demands of the operating room environment. Technologists must respond quickly and have a full understanding of the procedures so that they may anticipate the needs of surgeons without having to be asked for instruments or supplies. Students participating in clinical and field internships are required to purchase accident, needlestick, and malpractice insurance.

## **Surgical Technology - Sterile Processing OSA**

### **Locations**

Harlingen

### **Program Requirements**

Semester 1

12 Total Credits

- Complete the following:
  - SRTG1405 - Introduction to Surgical Technology (4)
  - SRTG1409 - Fundamentals of Perioperative Concepts and Techniques (4)
  - SRTG1491 - Special Topics in Surgical/Operating Room TECHNICIAN (4)

Degree Plan Credits **12**

## **Surgical Technology - Surgical Technology AAS**

### **Locations**

Harlingen

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## **Program Requirements**

### Semester 1

13 Total Credits

- Complete all of the following
  - Complete the following:
    - HITT1305 - Medical Terminology I (3)
    - ENGL1301 - Composition I (3)
    - PSYC2301 - General Psychology (3)
  - Complete at least 4 credits from the following:
    - BIOL2401 - Anatomy & Physiology I (lecture + lab) (4)
    - BIOL2301 - Anatomy & Physiology I (lecture) (3)
    - BIOL2101 - Anatomy & Physiology I (lab) (1)

### Semester 2

12 Total Credits

- Complete the following:
  - SRGT1405 - Introduction to Surgical Technology (4)
  - SRGT1409 - Fundamentals of Perioperative Concepts and Techniques (4)
  - SRGT1491 - Special Topics in Surgical/Operating Room TECHNICIAN (4)

### Semester 3

11 Total Credits

- Complete all of the following
  - Complete the following:
    - SRGT1541 - Surgical Procedures I (5)
    - SRGT1244 - Technological Sciences for the Surgical Technologist (2)
  - Complete at least 4 credits from the following:
    - BIOL2402 - Anatomy & Physiology II (lecture + lab) (4)
    - BIOL2302 - Anatomy & Physiology II (lecture) (3)
    - BIOL2102 - Anatomy & Physiology II (lab) (1)

### Semester 4

12 Total Credits

- Complete the following:
  - SRGT1461 - Clinical - Surgical Technology/Technologist (4)
  - SRGT1542 - Surgical Procedures II (5)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 5

12 Total Credits

- Complete all of the following
  - Complete the following:
    - SRGT2462 - Clinical - Surgical Technology/Technologist (4)
    - SRGT2130 - Professional Readiness (1)
  - Complete at least 3 credits from the following:
    - MATH1332 - Contemporary Mathematics (Quantitative Reasoning) (3)
    - MATH1314 - College Algebra (3 SCH version) (3)
  - Complete at least 4 credits from the following:
    - BIOL2420 - Microbiology for Non-Science Majors (lecture + lab) (4)
    - BIOL2320 - Microbiology for Non-Science Majors (lecture) (3)
    - BIOL2120 - Microbiology for Non-Science Majors Laboratory (lab) (1)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - SRGT2462 - Clinical - Surgical Technology/Technologist (4)

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## **Pre/Corequisites**

- SRGT 1461 Prerequisite(s): SRGT 1491
- SRGT 1542 Prerequisite(s): SRGT 1541
- SRGT 2462 Prerequisite(s): SRGT 1461

## **Elective Options**

- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

## **Vocational Nursing**

### **Description**

The nursing profession is a large part of the high-demand health care field. In the Vocational Nursing program, students participate in an innovative learning environment that helps develop their caregiving skills. Instruction consists of classroom, simulation learning labs, interactive online sessions, virtual clinicals and on-site health care clinicals. In the simulation learning lab, students practice the skills and techniques introduced in their classes, and they will be challenged to work through real-world scenarios. After time in the simulation learning labs, students move to clinical sites at hospitals, nursing homes and doctor's offices where they experience the reality and pace of the nursing profession.

The Vocational Nursing program is a progressive learning program with each class built on knowledge from previous classes. It is necessary for student to pass each class before moving on to the next level. In order to progress in the vocational nursing program, a student must make an average of 80% or higher in each nursing course with the exception of A&P I and II, in which a grade of 70 or higher is acceptable.

Graduates of the Vocational Nursing program have many employment opportunities to consider, including hospitals, nursing homes, home health care, doctor's offices and insurance companies.

Requirements to enter the nursing programs differ from those of other programs. Limited numbers of students are accepted. The admission rating scale and application packet criteria will be used to determine acceptance. See the application packet for details. The Vocational Nursing application packet may be accessed at [tstc.edu](http://tstc.edu).

## **Vocational Nursing - Vocational Nursing CER2**

### **Locations**

Breckenridge  
Harlingen  
Sweetwater

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## **Program Requirements**

### Semester 1

10 Total Credits

- Complete all of the following
  - Complete at least 4 credits from the following:
    - BIOL2401 - Anatomy & Physiology I (lecture + lab) (4)
    - BIOL2301 - Anatomy & Physiology I (lecture) (3)
    - BIOL2101 - Anatomy & Physiology I (lab) (1)
  - Complete at least 4 credits from the following:
    - BIOL2402 - Anatomy & Physiology II (lecture + lab) (4)
    - BIOL2302 - Anatomy & Physiology II (lecture) (3)
    - BIOL2102 - Anatomy & Physiology II (lab) (1)
  - Complete the following:
    - HPRS1206 - Essentials of Medical Terminology (2)

### Semester 2

15 Total Credits

- Complete the following:
  - VNSG1261 - Clinical - Licensed Practical/Vocational Nurse Training (2)
  - VNSG1304 - Foundations of Nursing (3)
  - VNSG1331 - Pharmacology (3)
  - VNSG1327 - Essentials of Medication Administration (3)
  - VNSG1402 - Applied Nursing Skills I (4)

### Semester 3

13 Total Credits

- Complete the following:
  - VNSG1230 - Maternal-Neonatal Nursing (2)
  - VNSG1329 - Medical-Surgical Nursing I (3)
  - VNSG1462 - Clinical - Licensed Practical/Vocational Nurse Training (4)
  - VNSG2413 - Applied Nursing Skills II (4)

### Semester 4

12 Total Credits

- Complete the following:
  - VNSG1119 - Leadership and Professional Development (1)
  - VNSG1334 - Pediatrics (3)
  - VNSG1432 - Medical-Surgical Nursing II (4)
  - VNSG2463 - Clinical - Licensed Practical/Vocational Nurse Training (4)

Degree Plan Credits **50**

## **Capstone**

- Complete the following:
  - VNSG2463 - Clinical - Licensed Practical/Vocational Nurse Training (4)

## **Web Design & Development**

### **Description**

Web designers and developers work within a variety of settings to gather information, program content and design a site that is effective and easy to use. The associate degree and certificate programs in Web Design and Development offer targeted coursework in website design, production, programming, applications, and maintenance, as well as the practical hands-on experience needed to understand the technology. The program includes curriculum specific to graphic and web design, web development, computer science and computer networking. The curriculum also covers languages and software such as HTML, JavaScript, PHP, CSS, Python and MySQL. Students not only learn instruction in web page design and composition, but also develop a portfolio and participate in a real-world project that moves them to the top of the class when employers seek candidates.

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## **Web Design & Development - Web Design & Development - Front End Designer CER1**

### **Locations**

Online - TSTC Connect

### **Program Requirements**

Semester 1

9 Total Credits

- Complete the following:
  - IMED1371 - Ui/Ux Design (3)
  - ITSE1311 - Beginning Web Programming (3)
  - IMED1316 - Web Design I (3)

Semester 2

9 Total Credits

- Complete the following:
  - ITSE2302 - Intermediate Web Programming (3)
  - ITSE2313 - Web Authoring (3)
  - IMED2315 - Web Design II (3)

Degree Plan Credits **18**

### **Capstone**

- Complete the following:
  - ITSE2313 - Web Authoring (3)

### **Pre/Corequisites**

- IMED 1316 Prerequisite(s): ARTC 1302 (Prerequisite or Corequisite) or ITSE 1311 (Prerequisite or Corequisite) or IMED 1371 (Prerequisite or Corequisite)
- ITSE 2302, IMED 2315, Prerequisite(s): ITSE 1311
- ITSE 2313 Prerequisite(s): IMED 1316
- ITSE 2302 Prerequisite(s): ITSE 1311

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## **Web Design & Development - Web Design & Development - PHP Developer CER1**

### **Locations**

Online - TSTC Connect

### **Program Requirements**

Semester 1

9 Total Credits

- Complete the following:
  - IMED1371 - Ui/Ux Design (3)
  - ITSE1311 - Beginning Web Programming (3)
  - IMED1316 - Web Design I (3)

Semester 2

9 Total Credits

- Complete the following:
  - ITSE2313 - Web Authoring (3)
  - IMED2315 - Web Design II (3)
  - ITSE2302 - Intermediate Web Programming (3)

Semester 3

9 Total Credits

- Complete the following:
  - ITSE1303 - Introduction to MySQL (3)
  - ITSE1306 - PHP Programming (3)
  - IMED2349 - Internet Server Management (3)

Degree Plan Credits **27**

### **Capstone**

- Complete the following:
  - ITSE1306 - PHP Programming (3)

### **Pre/Corequisites**

- IMED 1316 Prerequisite(s): ARTC 1302 (Prerequisite or Corequisite) or ITSE 1311 (Prerequisite or Corequisite) or IMED 1371 (Prerequisite or Corequisite)
- ITSE 2313, IMED 2315 Prerequisite(s): IMED 1316
- ITSE 2302 Prerequisite(s): ITSE 1311
- ITSE 1306 Prerequisite(s): ITSE 1303 (Prerequisite or Corequisite), ITSE 2302

## **Web Design & Development - Web Design & Development - Web Developer CER2**

### **Locations**

Online - TSTC Connect



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## **Program Requirements**

### Semester 1

9 Total Credits

- Complete the following:
  - IMED1371 - Ui/Ux Design (3)
  - ITSE1311 - Beginning Web Programming (3)
  - IMED1316 - Web Design I (3)

### Semester 2

9 Total Credits

- Complete the following:
  - ITSE2313 - Web Authoring (3)
  - IMED2315 - Web Design II (3)
  - ITSE2302 - Intermediate Web Programming (3)

### Semester 3

9 Total Credits

- Complete the following:
  - ITSE1303 - Introduction to MySQL (3)
  - ITSE1306 - PHP Programming (3)
  - IMED2349 - Internet Server Management (3)

### Semester 4

9 Total Credits

- Complete the following:
  - IMED2309 - Internet Commerce (3)
  - IMED2345 - Interactive Digital Media II (3)
  - IMED2313 - Project Analysis and Design (3)

Degree Plan Credits **36**

## **Capstone**

- Complete the following:
  - IMED2345 - Interactive Digital Media II (3)

## **Pre/Corequisites**

- IMED 1316 Prerequisite(s): ARTC 1302 (Prerequisite or Corequisite) or ITSE 1311 (Prerequisite or Corequisite) or IMED 1371 (Prerequisite or Corequisite)
- ITSE 2313, IMED 2315 Prerequisite(s): IMED 1316
- ITSE 2302 Prerequisite(s): ITSE 1311
- ITSE 1306 Prerequisite(s): ITSE 1303 (Prerequisite or Corequisite), ITSE 2302
- IMED 2309 Prerequisite(s): ITSE 1306
- IMED 2345 Prerequisite(s): ITSE 2302

## **Web Design & Development - Web Design & Development AAS**

### **Locations**

Online - TSTC Connect

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## **Program Requirements**

### Semester 1

12 Total Credits

- Complete all of the following
  - Complete the following:
    - IMED1371 - Ui/Ux Design (3)
    - ITSE1311 - Beginning Web Programming (3)
    - IMED1316 - Web Design I (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)

### Semester 2

12 Total Credits

- Complete the following:
  - ITSE2313 - Web Authoring (3)
  - IMED2315 - Web Design II (3)
  - ITSE2302 - Intermediate Web Programming (3)
  - ACGM3GED - Gen Ed Elective (3)

### Semester 3

12 Total Credits

- Complete the following:
  - ITSE1303 - Introduction to MySQL (3)
  - ITSE1306 - PHP Programming (3)
  - IMED2349 - Internet Server Management (3)
  - ACGM3GED - Gen Ed Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - IMED2309 - Internet Commerce (3)
  - IMED2345 - Interactive Digital Media II (3)
  - IMED2313 - Project Analysis and Design (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 5

12 Total Credits

- Complete the following:
  - IMED2311 - Portfolio Development (3)
  - IMED2351 - Digital Media Programming (3)
  - IMED2388 - Internship - Digital Communication and Media/Multimedia (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - IMED2388 - Internship - Digital Communication and Media/Multimedia (3)
  - IMED2311 - Portfolio Development (3)

## **Pre/Corequisites**

- IMED 1316 Prerequisite(s): ARTC 1302 (Prerequisite or Corequisite) or ITSE 1311 (Prerequisite or Corequisite) or IMED 1371 (Prerequisite or Corequisite)
- ITSE 2313, IMED 2315 Prerequisite(s): IMED 1316
- ITSE 2302 Prerequisite(s): ITSE 1311
- ITSE 1306 Prerequisite(s): ITSE 1303 (Prerequisite or Corequisite), ITSE 2302
- IMED 2345, IMED 2351 Prerequisite(s): ITSE 2302
- IMED 2311, IMED 2388 Prerequisite(s): ITSE 2313, IMED 2309, IMED 2315
- IMED 2388 Prerequisite(s): ITSE 2313, IMED 2309, IMED 2315

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## **Elective Options**

- Complete at least 1 courses from the following:  
Mathematics Elective
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1325 - Calculus for Business & Social Sciences(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - MATH1350 - Math - Teachers I Fundamentals of Math I(3)
  - MATH1351 - Fundamentals of Mathematics II(3)
  - MATH2312 - Pre-Calculus Math (3 SCH version)(3)
  - MATH2313 - Calculus I(3)
  - MATH2318 - Linear Algebra (3)
  - MATH2320 - Differential Equations (3 SCH version)(3)
  - MATH2342 - Elementary Statistical Methods(3)
  - MATH2313 - Calculus I(3)
  - MATH2414 - Calculus II (4 SCH version)(4)
  - MATH2415 - Calculus III (4 SCH version)(4)
- Complete at least 1 courses from the following:  
Biology 4 Credit Approved Elective
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

## **Welding Technology**

### **Description**

The Welding Technology programs at TSTC emphasize the development of actual, hands-on welding, layout and fitting skills. With extensive exposure to welding practices and principles, students can better understand not only how welding processes work, but also why certain welding processes and techniques are used. Welding Technology offers students instruction on plasma torches for oxy-acetylene and air carbon arc cutting. Students also gain extensive skills and knowledge through simulated industrial welder qualification tests with the following processes: SMAW, GMAW, FCAW (gas and self-shielded), GTAW and SAW. With general welding or specialized programs such as Welding Technology AAS, Structural Cert1 or Structural and Pipe Welding available, there are many different options for those wanting to enter the welding industry. For quicker entry into the industry, certificates are available.

## **Welding Technology - Structural Welding CER1**

### **Locations**

Waco  
East Williamson County  
Harlingen  
Fort Bend County  
Sweetwater  
Abilene  
Brownwood  
Breckenridge  
Marshall  
North Texas

### **Program Requirements**

Semester 1

14 Total Credits

- Complete the following:
  - TECM1303 - Technical Calculations (3)
  - WLDG1313 - Introduction to Blueprint Reading for Welders (3)
  - WLDG1407 - Introduction to Welding Using Multiple Processes (4)
  - WLDG1428 - Introduction to Shielded Metal Arc Welding (SMAW) (4)

Semester 2

12 Total Credits

- Complete the following:
  - WLDG1417 - Introduction to Layout and Fabrication (4)
  - WLDG1434 - Introduction to Gas Tungsten Arc (GTAW) Welding (4)
  - WLDG1457 - Intermediate Shielded Metal Arc Welding (SMAW) (4)

Semester 3

12 Total Credits

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)
  - WLDG2435 - Advanced Layout and Fabrication (4)
  - WLDG2443 - Advanced Shielded Metal Arc Welding (SMAW) (4)

Degree Plan Credits **38**

### **Capstone**

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)

### **Pre/Corequisites**

- WLDG 1417 Prerequisite(s): WLDG 1313 (Prerequisite or Corequisite)
- WLDG 1434, WLDG 2413 Prerequisite(s): WLDG 1407
- WLDG 1457 Prerequisite(s): WLDG 1428
- WLDG 2435 Prerequisite(s): WLDG 1417
- WLDG 2443 Prerequisite(s): WLDG 1457

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## **Welding Technology - Welding Advanced Pipe Specialization CER2**

### **Locations**

Abilene  
East Williamson County  
Fort Bend County  
Harlingen  
Marshall  
North Texas  
Waco

### **Program Requirements**

Semester 1  
14 Total Credits

- Complete the following:
  - TECM1303 - Technical Calculations (3)
  - WLDG1313 - Introduction to Blueprint Reading for Welders (3)
  - WLDG1407 - Introduction to Welding Using Multiple Processes (4)
  - WLDG1428 - Introduction to Shielded Metal Arc Welding (SMAW) (4)

Semester 2  
12 Total Credits

- Complete the following:
  - WLDG1417 - Introduction to Layout and Fabrication (4)
  - WLDG1434 - Introduction to Gas Tungsten Arc (GTAW) Welding (4)
  - WLDG1457 - Intermediate Shielded Metal Arc Welding (SMAW) (4)

Semester 3  
12 Total Credits

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)
  - WLDG2435 - Advanced Layout and Fabrication (4)
  - WLDG2443 - Advanced Shielded Metal Arc Welding (SMAW) (4)

Semester 4  
12 Total Credits

- Complete the following:
  - WLDG1435 - Introduction to Pipe Welding (4)
  - WLDG2406 - Intermediate Pipe Welding (4)
  - WLDG2453 - Advanced Pipe Welding (4)

Degree Plan Credits **50**

### **Capstone**

- Complete the following:
  - WLDG2453 - Advanced Pipe Welding (4)

### **Pre/Corequisites**

- WLDG 1417 Prerequisite(s): WLDG 1313 (Prerequisite or Corequisite)
- WLDG 1434, WLDG 2413 Prerequisite(s): WLDG 1407
- WLDG 1457 Prerequisite(s): WLDG 1428
- WLDG 2435 Prerequisite(s): WLDG 1417
- WLDG 2443 Prerequisite(s): WLDG 1457
- WLDG 1435, WLDG 2406, WLDG 2453 Prerequisite(s): WLDG 2435

## **Welding Technology - Welding Advanced Processes Specialization CER2**

### **Locations**

Waco  
East Williamson County  
Harlingen  
Fort Bend County  
Abilene  
Marshall  
North Texas  
Breckenridge  
Brownwood  
Sweetwater

### **Program Requirements**

Semester 1

14 Total Credits

- Complete the following:
  - TECM1303 - Technical Calculations (3)
  - WLDG1313 - Introduction to Blueprint Reading for Welders (3)
  - WLDG1407 - Introduction to Welding Using Multiple Processes (4)
  - WLDG1428 - Introduction to Shielded Metal Arc Welding (SMAW) (4)

Semester 2

12 Total Credits

- Complete the following:
  - WLDG1417 - Introduction to Layout and Fabrication (4)
  - WLDG1434 - Introduction to Gas Tungsten Arc (GTAW) Welding (4)
  - WLDG1457 - Intermediate Shielded Metal Arc Welding (SMAW) (4)

Semester 3

12 Total Credits

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)
  - WLDG2435 - Advanced Layout and Fabrication (4)
  - WLDG2443 - Advanced Shielded Metal Arc Welding (SMAW) (4)

Semester 4

12 Total Credits

- Complete the following:
  - WLDG2447 - Advanced Gas Metal Arc Welding (gmaw) (4)
  - WLDG2451 - Advanced Gas Tungsten Arc Welding (gtaw) (4)
  - WLDG2452 - Advanced Flux Cored Arc Welding (4)

Degree Plan Credits **50**

### **Capstone**

- Complete the following:
  - WLDG2451 - Advanced Gas Tungsten Arc Welding (gtaw) (4)

### **Pre/Corequisites**

- WLDG 1417 Prerequisite(s): WLDG 1313 (Prerequisite or Corequisite)
- WLDG 1434, WLDG 2413 Prerequisite(s): WLDG 1407
- WLDG 1457 Prerequisite(s): WLDG 1428
- WLDG 2435 Prerequisite(s): WLDG 1417
- WLDG 2443 Prerequisite(s): WLDG 1457
- WLDG 2447, WLDG 2451, WLDG 2452 Prerequisite(s): WLDG 2413

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## **Locations**

Abilene  
East Williamson County  
Fort Bend County  
Harlingen  
Waco

## **Program Requirements**

### Semester 1

14 Total Credits

- Complete the following:
  - WLDG1313 - Introduction to Blueprint Reading for Welders (3)
  - WLDG1407 - Introduction to Welding Using Multiple Processes (4)
  - WLDG1428 - Introduction to Shielded Metal Arc Welding (SMAW) (4)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)

### Semester 2

15 Total Credits

- Complete the following:
  - WLDG1417 - Introduction to Layout and Fabrication (4)
  - WLDG1434 - Introduction to Gas Tungsten Arc (GTAW) Welding (4)
  - WLDG1457 - Intermediate Shielded Metal Arc Welding (SMAW) (4)
  - ENGL1301 - Composition I (3)

### Semester 3

15 Total Credits

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)
  - WLDG2435 - Advanced Layout and Fabrication (4)
  - WLDG2443 - Advanced Shielded Metal Arc Welding (SMAW) (4)
  - ACGM3GED - Gen Ed Elective (3)

### Semester 4

16 Total Credits

- Complete the following:
  - WLDG1327 - Welding Codes and Standards (3)
  - NDTE1310 - Liquid Penetrant/Magnetic Particle Testing (3)
  - WLDG2432 - Welding Automation (4)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - WLDG1327 - Welding Codes and Standards (3)

## **Pre/Corequisites**

- WLDG 1417 Prerequisite(s): WLDG 1313 (Prerequisite or Corequisite)
- WLDG 1434, WLDG 2413 Prerequisite(s): WLDG 1407
- WLDG 1457 Prerequisite(s): WLDG 1428
- WLDG 2435 Prerequisite(s): WLDG 1417
- WLDG 2443 Prerequisite(s): WLDG 1457
- WLDG 1327, NDTE 1310, WLDG 2432 Prerequisite(s): WLDG 2413

## **Elective Options**

- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)

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- BIOL2301 - Anatomy & Physiology I (lecture)(3)
- BIOL2302 - Anatomy & Physiology II (lecture)(3)
- CHEM1305 - Introductory Chemistry I (lecture)(3)
- CHEM1311 - General Chemistry I (lecture)(3)
- CHEM1312 - General Chemistry II (lecture)(3)
- MATH1314 - College Algebra (3 SCH version)(3)
- MATH1316 - Plane Trigonometry(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- PHYS1315 - Physical Science I (lecture)(3)
- PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
General Education Electives
  - ENGL1301 - Composition I(3)
  - ENGL1302 - Composition II(3)
  - ENGL2311 - Technical & Business Writing(3)
  - HIST2321 - World Civilizations I(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)
  - ARTS1301 - Art Appreciation (3)
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2341 - Forms of Literature (3)
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2323 - World Cultures (3)
  - MUSI1306 - Music Appreciation (3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - SOCI1301 - Introduction to Sociology (3)
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1412 - General Chemistry II(4)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1315 - Physical Science I (lecture)(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective



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- GOVT2305 - Federal Government (Federal constitution & topics)(3)
- GOVT2306 - Texas Government (Texas constitution & topics)(3)
- ANTH2346 - General Anthropology (3)
- ECON1301 - Introduction to Economics (3)
- ECON2301 - Principles of Macroeconomics (3)
- ECON2302 - Principles of Microeconomics (3)
- GEOG1302 - Human Geography (3)
- GEOG1303 - World Regional Geography (3)
- PSYC1100 - Learning Framework (1)
- PSYC2301 - General Psychology (3)
- PSYC2314 - Lifespan Growth & Development(3)
- HIST1301 - United States History I(3)
- HIST1302 - United States History II(3)
- HIST2312 - Western Civilization II(3)
- HIST2321 - World Civilizations I(3)
- SOCI1301 - Introduction to Sociology (3)
- SOCI1306 - Social Problems (3)
- SOCI2319 - Minority Studies I(3)

### **Wind Energy Technology**

#### **Description**

As a wind energy technician, the sky is only the beginning. You can work at turbine construction and manufacturing sites, in the distribution and generation industries, at utility companies, or on wind farms across the country. At TSTC you will learn to conduct efficiency studies, learn to troubleshoot materials and machines in factories, as well as offices and production sites. You will also prepare machinery and equipment layouts, plan workflow for turbine construction and maintenance, conduct statistical studies of product quality and time usage, and analyze production costs. Upon successful completion of our program, you'll be qualified to operate and maintain the systems that make a wind turbine function.

### **Wind Energy Technology - Wind Energy Technician CER1**

#### **Locations**

Harlingen  
Sweetwater

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## **Program Requirements**

### Semester 1

15 Total Credits

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - TECM1303 - Technical Calculations (3)
  - WIND1300 - Introduction to Wind Energy (3)
  - WIND1302 - Wind Safety (3)
  - ELMT1305 - Basic Fluid Power (3)

### Semester 2

12 Total Credits

- Complete the following:
  - CETT1305 - AC Circuits (3)
  - CETT1325 - Digital Fundamentals (3)
  - WIND2310 - Wind Turbine Materials and Electro-Mechanical Equipment (3)
  - ENER2325 - SCADA and Networking (3)

### Semester 3

9 Total Credits

- Complete the following:
  - ELMT1301 - Programmable Logic Controllers (3)
  - INMT1317 - Industrial Automation (3)
  - WIND2359 - Wind Power Delivery System (3)

Degree Plan Credits **36**

## **Capstone**

- Complete the following:
  - WIND2359 - Wind Power Delivery System (3)

## **Pre/Corequisites**

- CETT 1305 Prerequisite(s): CETT 1303 or IEIR 1302 (Prerequisite or Corequisite)
- CETT 1325 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305 (Prerequisite or Corequisite)
- WIND 2310 Prerequisite(s): WIND 1300, WIND 1302, CETT 1303
- ENER 2325, INMT 1317 Prerequisite(s): CETT 1303, CETT 1305 (Corequisite)
- ELMT 1301 Prerequisite(s): CETT 1325
- WIND 2359 Prerequisite(s): CETT 1305

## **Wind Energy Technology - Wind Energy Technology AAS**

### **Locations**

Harlingen  
Sweetwater

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## **Program Requirements**

### Semester 1

15 Total Credits

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - WIND1300 - Introduction to Wind Energy (3)
  - WIND1302 - Wind Safety (3)
  - MATH1314 - College Algebra (3 SCH version) (3)
  - ELMT1305 - Basic Fluid Power (3)

### Semester 2

15 Total Credits

- Complete the following:
  - CETT1305 - AC Circuits (3)
  - CETT1325 - Digital Fundamentals (3)
  - WIND2310 - Wind Turbine Materials and Electro-Mechanical Equipment (3)
  - ENER2325 - SCADA and Networking (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

### Semester 3

15 Total Credits

- Complete all of the following
  - Complete the following:
    - ELMT1301 - Programmable Logic Controllers (3)
    - INMT1317 - Industrial Automation (3)
  - Complete at least 3 credits from the following:
    - ENGL1301 - Composition I (3)
    - ENGL2311 - Technical & Business Writing (3)
  - Complete the following:
    - WIND2359 - Wind Power Delivery System (3)
    - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - ELMT2341 - Electromechanical Systems (3)
  - WIND1371 - Safety At Height Training (3)
  - WIND2355 - Wind Turbine Troubleshooting and Repair (3)
  - ACGM3GED - Gen Ed Elective (3)

### Semester 5

3 Total Credits

- Complete at least 3 credits from the following:
  - ELMT2380 - Cooperative Education - Electromechanical Technology/Electromechanical Engineering Technology (3)
  - WIND1391 - Special Topics in Wind Energy (3)

Degree Plan Credits **60**

## **Capstone**

- Complete all of the following
  - Complete the following:
    - ELMT2380 - Cooperative Education - Electromechanical Technology/Electromechanical Engineering Technology (3)
  - Complete the following:
    - WIND1391 - Special Topics in Wind Energy (3)

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## Pre/Corequisites

- CETT 1305 Prerequisite(s): CETT 1303 or IEIR 1302 (Prerequisite or Corequisite)
- CETT 1325, WIND 1371 Prerequisite(s): CETT 1302, CETT 1303, IEIR 1302, IEIR 1304, IEIR 1371 or CETT 1305 (Prerequisite or Corequisite)
- WIND 2310 Prerequisite(s): WIND 1300, WIND 1302, CETT 1303
- ENER 2325, INMT 1317 Prerequisite(s): CETT 1303, CETT 1305 (Corequisite)
- ELMT 1301 Prerequisite(s): CETT 1325
- WIND 2359 Prerequisite(s): CETT 1305
- WIND 2355 Prerequisite(s): CETT 1305, INMT 1317

## Elective Options

- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic (3)
  - PHIL2306 - Introduction to Ethics (3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Biology 4 Credit Approved Elective

undefined

undefined - Automation & Controls Technology AAS

## Locations

Marshall

# 2023-2024 Catalog & Student Handbook

## **Program Requirements**

### Semester 1

12 Total Credits

- Complete the following:
  - AACT1371 - Electronics Fundamentals in Automation (3)
  - AACT1372 - Automation Safety and Compliance (3)
  - AACT1373 - Administrative Skills for Technicians (3)
  - ACGM3MTH - Gen Ed Mathematics Elective (3)

### Semester 2

12 Total Credits

- Complete the following:
  - AACT1374 - Electronics Fundamentals in Automation II (3)
  - AACT1375 - Principles of Motion, Measurement and Position I (3)
  - AACT1376 - Intro to Process Control Devices (3)
  - ENGL1301 - Composition I (3)

### Semester 3

12 Total Credits

- Complete the following:
  - AACT2371 - Automation Control Systems Interfacing I (3)
  - AACT2376 - PLC Automation I (3)
  - INTC1343 - Application of Industrial Automatic Controls (3)
  - ACGM3HFA - Gen Ed Humanities/Fine Arts Elective (3)

### Semester 4

12 Total Credits

- Complete the following:
  - AACT2374 - PLC Automation II (3)
  - AACT2372 - Automation Control Systems Interfacing II (3)
  - AACT2375 - Principles of Motion, Measurement and Position II (3)
  - INTC2339 - Instrument and Control Review (3)

### Semester 5

12 Total Credits

- Complete the following:
  - AACT2373 - Factory I/O (3)
  - INTC2330 - Instrumentation Systems Troubleshooting (3)
  - ACGM3MNS - Gen Ed Math/Natural Science Elective (3)
  - ACGM3SBS - Gen Ed Social/Behavioral Science Elective (3)

Degree Plan Credits **60**

## **Capstone**

- Complete the following:
  - AACT2373 - Factory I/O (3)

## **Pre/Corequisites**

- AACT 1374, AACT 1375, AACT 1376 Prerequisite(s): AACT 1371
- AACT 2371 Prerequisite(s): AACT 1376
- AACT 2376 Prerequisite(s): AACT 1375
- AACT 2374 Prerequisite(s): AACT 2376
- AACT 2372 Prerequisite(s): AACT 2371
- AACT 2375 Prerequisite(s): AACT 2371
- INTC 2339 Prerequisite(s): INTC 1343
- AACT 2373 prerequisite(s): AACT 2376
- INTC 2330 Prerequisite(s): INTC 1343

## **Elective Options**

- Complete at least 1 courses from the following:
  - Mathematics Elective
    - MATH1314 - College Algebra (3 SCH version)(3)

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- MATH1316 - Plane Trigonometry(3)
- MATH1325 - Calculus for Business & Social Sciences(3)
- MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
- MATH1342 - Elementary Statistical Methods(3)
- MATH1350 - Math - Teachers I Fundamentals of Math I(3)
- MATH1351 - Fundamentals of Mathematics II(3)
- MATH2312 - Pre-Calculus Math (3 SCH version)(3)
- MATH2313 - Calculus I(3)
- MATH2318 - Linear Algebra (3)
- MATH2320 - Differential Equations (3 SCH version)(3)
- MATH2342 - Elementary Statistical Methods(3)
- MATH2313 - Calculus I(3)
- MATH2414 - Calculus II (4 SCH version)(4)
- MATH2415 - Calculus III (4 SCH version)(4)
- Complete at least 1 courses from the following:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)
- Complete at least 1 courses from the following:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)
- Complete at least 1 courses from the following:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography(3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)

# Courses

## Academic Course

### **ACGM3CAOA - Component Area Option A**

#### **Course Title**

Component Area Option A

#### **Academic Level**

Undergraduate

#### **Description**

Component Area Option A \* 3 credits

#### **Course Options**

- Complete at least 3 credits from the following course set:  
Component Area Option A (for Computer Science AS)
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2331 - World Literature (3)
  - PSYC2314 - Lifespan Growth & Development(3)
- Complete at least 3 credits from the following course set:  
Component Area Option A (for Academic Core Curriculum)
  - BIOL1106 - Biology for Science Majors Laboratory I (lab)(1)
  - BIOL1107 - Biology for Science Majors II Lab(1)
  - BIOL1108 - Biology Non-Science Majors Laboratory I(1)
  - BIOL1109 - Biology for Non-Science Majors II Lab(1)
  - BIOL2101 - Anatomy & Physiology I (lab)(1)
  - BIOL2102 - Anatomy & Physiology II (lab)(1)
  - CHEM1111 - General Chemistry I (lab)(1)
  - CHEM1112 - General Chemistry II (lab)(1)
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2331 - World Literature (3)
  - PHYS1101 - College Physics Laboratory I(1)
  - PHYS1102 - College Physics Lab II(1)
  - PHYS1115 - Physical Science Lab I(1)
  - PHYS1117 - Physical Science Lab II(1)
  - PSYC2314 - Lifespan Growth & Development(3)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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### **ACGM3CAOB - Component Area Option**

#### **Course Title**

Component Area Option

#### **Academic Level**

Undergraduate

#### **Description**

Component Area Option A \* 3 credits

#### **Course Options**

- Complete at least 3 credits from the following course set:  
Component Area Option B (for Academic Core Curriculum)
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ACGM3CAR - Creative Arts Elective**

#### **Course Title**

Creative Arts Elective

#### **Academic Level**

Undergraduate

#### **Description**

Creative Arts Elective 3 credits

#### **Course Options**

- Complete at least 3 credits from the following course set:  
Creative Arts Elective
  - ARTS1301 - Art Appreciation (3)
  - MUSI1306 - Music Appreciation (3)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



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### **ACGM3GED - Gen Ed Elective**

#### **Course Title**

Gen Ed Elective

#### **Academic Level**

Undergraduate

#### **Description**

Gen Ed Elective

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ACGM3HFA - Gen Ed Humanities/Fine Arts Elective**

#### **Course Title**

Gen Ed Humanities/Fine Arts Elective

#### **Academic Level**

Undergraduate

#### **Description**

Gen Ed Humanities/Fine Arts Elective

#### **Course Options**

- Complete at least 3 credits from the following course set:  
Humanities/Fine Arts Elective
  - HUMA1301 - Introduction to Humanities I(3)
  - HUMA2319 - American Minority Studies (3)
  - HUMA2323 - World Cultures (3)
  - PHIL1301 - Introduction to Philosophy(3)
  - PHIL1304 - Introduction to World Religions(3)
  - PHIL2303 - Introduction to Formal Logic(3)
  - PHIL2306 - Introduction to Ethics(3)
  - ARTS1301 - Art Appreciation (3)
  - ARTS2326 - Sculpture I (3)
  - ARTS2326 - Sculpture I (3)
  - MUSI1306 - Music Appreciation (3)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ACGM3LPC - Language, Philosophy and Culture Elective**

#### **Course Title**

Language, Philosophy and Culture Elective

#### **Academic Level**

Undergraduate

#### **Description**

Language, Philosophy and Culture Elective

#### **Course Options**

- Complete at least 3 credits from the following course set:  
Language, Philosophy & Culture Elective
  - ENGL2321 - British Literature (3)
  - ENGL2326 - American Literature (single-Semester Course) (3)
  - ENGL2331 - World Literature (3)
  - PHIL1304 - Introduction to World Religions (3)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ACGM3LPS - Life and Physical Science Elective**

#### **Course Title**

Life and Physical Science Elective

#### **Academic Level**

Undergraduate

#### **Description**

Life and Physical Science Elective

#### **Course Options**

- Complete at least 3 credits from the following course set:  
Life & Physical Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - PHYS1301 - College Physics I (lecture)(3)
  - PHYS1302 - College Physics II (lecture)(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ACGM3MNS - Gen Ed Math/Natural Science Elective**

#### **Course Title**

Gen Ed Math/Natural Science Elective

#### **Academic Level**

Undergraduate

#### **Description**

Gen Ed Math/Natural Science Elective

#### **Course Options**

- Complete at least 3 credits from the following course set:  
Math/Natural Science Elective
  - BIOL1306 - Biology for Science Majors I (lecture)(3)
  - BIOL1307 - Biology for Science Majors II(3)
  - BIOL1308 - Biology for Non-Science Majors I(3)
  - BIOL1309 - Biology for Non-Science Majors II(3)
  - BIOL2301 - Anatomy & Physiology I (lecture)(3)
  - BIOL2302 - Anatomy & Physiology II (lecture)(3)
  - CHEM1305 - Introductory Chemistry I (lecture)(3)
  - CHEM1311 - General Chemistry I (lecture)(3)
  - CHEM1312 - General Chemistry II (lecture)(3)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - PHYS1315 - Physical Science I (lecture)(3)
  - PHYS1317 - Physical Science II(3)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

# 2023-2024 Catalog & Student Handbook

## **ACGM3MTH - Gen Ed Mathematics Elective**

### **Course Title**

Gen Ed Mathematics Elective

### **Academic Level**

Undergraduate

### **Description**

Gen Ed Mathematics Elective

### **Course Options**

- Complete at least 3 credits from the following course set:  
Mathematics Elective
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1325 - Calculus for Business & Social Sciences(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH1342 - Elementary Statistical Methods(3)
  - MATH1350 - Math - Teachers I Fundamentals of Math I(3)
  - MATH1351 - Fundamentals of Mathematics II(3)
  - MATH2312 - Pre-Calculus Math (3 SCH version)(3)
  - MATH2313 - Calculus I(3)
  - MATH2318 - Linear Algebra (3)
  - MATH2320 - Differential Equations (3 SCH version)(3)
  - MATH2342 - Elementary Statistical Methods(3)
  - MATH2313 - Calculus I(3)
  - MATH2414 - Calculus II (4 SCH version)(4)
  - MATH2415 - Calculus III (4 SCH version)(4)
- Complete at least 3 credits from the following course set:  
Mathematics Elective (for Academic Core)
  - MATH1314 - College Algebra (3 SCH version)(3)
  - MATH1316 - Plane Trigonometry(3)
  - MATH1332 - Contemporary Mathematics (Quantitative Reasoning)(3)
  - MATH2312 - Pre-Calculus Math (3 SCH version)(3)

### **Lecture Hours**

3

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

# 2023-2024 Catalog & Student Handbook

## **ACGM3NSC - Gen Ed Natural Science Elective**

### **Course Title**

Gen Ed Natural Science Elective

### **Academic Level**

Undergraduate

### **Description**

Gen Ed Natural Science Elective

### **Course Options**

- Complete at least 3 credits from the following course set:  
Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics(3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)
- Complete at least 3 credits from the following course set:  
Social/Behavioral Science Elective (for Academic Core Majors)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - SOCI1301 - Introduction to Sociology (3)

### **Lecture Hours**

3

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ACGM3SBS - Gen Ed Social/Behavioral Science Elective**

#### **Course Title**

Gen Ed Social/Behavioral Science Elective

#### **Academic Level**

Undergraduate

#### **Description**

Gen Ed Social/Behavioral Science Elective

#### **Course Options**

- Social/Behavioral Science Elective
  - GOVT2305 - Federal Government (Federal constitution & topics)(3)
  - GOVT2306 - Texas Government (Texas constitution & topics)(3)
  - ANTH2346 - General Anthropology (3)
  - ECON1301 - Introduction to Economics (3)
  - ECON2301 - Principles of Macroeconomics (3)
  - ECON2302 - Principles of Microeconomics (3)
  - GEOG1302 - Human Geography (3)
  - GEOG1303 - World Regional Geography (3)
  - PSYC1100 - Learning Framework (1)
  - PSYC2301 - General Psychology (3)
  - PSYC2314 - Lifespan Growth & Development(3)
  - HIST1301 - United States History I(3)
  - HIST1302 - United States History II(3)
  - HIST2312 - Western Civilization II(3)
  - HIST2321 - World Civilizations I(3)
  - SOCI1301 - Introduction to Sociology (3)
  - SOCI1306 - Social Problems (3)
  - SOCI2319 - Minority Studies I(3)

Social/Behavioral Science Elective (for Academic Core Majors)

- ECON2301 - Principles of Macroeconomics (3)
- ECON2302 - Principles of Microeconomics (3)
- PSYC2301 - General Psychology (3)
- PSYC2314 - Lifespan Growth & Development(3)
- SOCI1301 - Introduction to Sociology (3)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ACGM3SPH - Gen Ed Speech Elective**

#### **Course Title**

Gen Ed Speech Elective

#### **Academic Level**

Undergraduate

#### **Description**

Gen Ed Speech Elective

#### **Course Options**

- Complete at least 3 credits from the following course set:  
Speech Elective
  - SPCH1311 - Introduction to Speech Communication(3)
  - SPCH1315 - Public Speaking (3)
  - SPCH1318 - Interpersonal Communication (3)
  - SPCH1321 - Business & Professional Communication(3)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Accounting**



## 2023-2024 Catalog & Student Handbook

### **ACCT2301 - Principles of Financial Accounting**

#### **Course Title**

Principles of Financial Accounting

#### **Academic Level**

Undergraduate

#### **Description**

This course is an introduction to the fundamental concepts of financial accounting as prescribed by U.S. generally accepted accounting principles (GAAP) as applied to transactions and events that affect business organizations. Students will examine the procedures and systems to accumulate, analyze, measure, and record financial transactions. Students will use recorded financial information to prepare a balance sheet, income statement, statement of cash flows, and statement of shareholders' equity to communicate the business entity's results of operations and financial position to users of financial information who are external to the company. Students will study the nature of assets, liabilities, and owners' equity while learning to use reported financial information for purposes of making decisions about the company. Students will be exposed to International Financial Reporting Standards (IFRS).

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

---

## Accounting Technology

### **ACNT1001 - Beginning Bookkeeping**

#### **Course Title**

Beginning Bookkeeping

#### **Academic Level**

Continuing Education

#### **Description**

Focus on analyzing, classifying, and recording business transactions. Emphasizes understanding of complete accounting cycle and preparing financial statements, bank reconciliations, and payroll.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ACNT1004 - Accounting Fundamentals II**

#### **Course Title**

Accounting Fundamentals II

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ACNT1025 - Principles of Accounting I**

#### **Course Title**

Principles of Accounting I

#### **Academic Level**

Continuing Education

#### **Description**

A study of accounting concepts and their application in transaction analysis and financial statement preparation and asset and equity accounting in proprietorships and corporations. Emphasis on accounting cycle for service and merchandising enterprises.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ACNT1041 - Accounting II**

#### **Course Title**

Accounting II

#### **Academic Level**

Continuing Education

#### **Description**

Introduction to cost behavior, budgeting, responsibility accounting, cost control, product costing, break even analysis, incremental analysis, and decision-making and planning.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ACNT1303 - Introduction to Accounting I** **Course Title**

Introduction to Accounting I

### **Academic Level**

Undergraduate

### **Description**

A study of analyzing, classifying, and recording business transactions in a manual and computerized environment. Emphasis on understanding the complete accounting cycle and preparing financial statements, bank reconciliations, and payroll.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **ACNT1311 - Introduction to Computerized Accounting** **Course Title**

Introduction to Computerized Accounting

### **Academic Level**

Undergraduate

### **Description**

Introduction to utilizing the computer in maintaining accounting records with primary emphasis on a general ledger package.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ACNT1325 - Principles of Accounting I**

#### **Course Title**

Principles of Accounting I

#### **Academic Level**

Undergraduate

#### **Description**

A study of accounting concepts and their application in transaction analysis and financial statement preparation. Emphasis on the accounting cycle for service and merchandising enterprises.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ACNT1329 - Payroll & Business Tax Accounting**

#### **Course Title**

Payroll & Business Tax Accounting

#### **Academic Level**

Undergraduate

#### **Description**

A study of payroll procedures, taxing entities, and reporting requirements of local, state, and federal taxing authorities in a manual and computerized environment.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ACNT2302 - Accounting Capstone**

#### **Course Title**

Accounting Capstone

#### **Academic Level**

Undergraduate

#### **Description**

Allows students to apply broad knowledge of the accounting profession through discipline specific projects involving the integration of individuals and teams performing activities to simulate workplace situations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Agriculture-Mechanization**

### **AGME1353 - Harvesting Equipment**

#### **Course Title**

Harvesting Equipment

#### **Academic Level**

Undergraduate

#### **Description**

Operation and maintenance including adjustment techniques of harvesting equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Air Conditioning**

## 2023-2024 Catalog & Student Handbook

### **MAIR1000 - Troubleshooting**

#### **Course Title**

Troubleshooting

#### **Academic Level**

Continuing Education

#### **Description**

Introduction to the skills required to troubleshoot, repair, or renovate domestic equipment.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Semester Credit Hours**

0

### **MAIR1349 - Refrigeration, Freezers, Window Air Cond**

#### **Course Title**

Refrigeration, Freezers, Window Air Cond

#### **Academic Level**

Undergraduate

#### **Description**

Theory, sequence of operation, components and repair, electrical schematics, and troubleshooting electronic components in air conditioning and refrigeration. Emphasis on safety for the electrical, mechanical, and sealed systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Animation, Video Graphics**

## 2023-2024 Catalog & Student Handbook

### **GAME1029 - Flash 8 Characters and Storyboarding**

#### **Course Title**

Flash 8 Characters and Storyboarding

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Anthropology**

### **ANTH2346 - General Anthropology**

#### **Course Title**

General Anthropology

#### **Academic Level**

Undergraduate

#### **Description**

The study of human beings, their antecedents, related primates, and their cultural behavior and institutions. Introduces the major subfields: physical and cultural anthropology, archeology, linguistics, their applications, and ethics in the discipline.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Applied/Technical Mathematics**

## 2023-2024 Catalog & Student Handbook

### **TECM1049 - Technical Math**

#### **Course Title**

Technical Math

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **TECM1091 - St in Applied Mathematics, Gen**

#### **Course Title**

St in Applied Mathematics, Gen

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **TECM1091 - Sp Top Applied Math, Gen.**

#### **Course Title**

Sp Top Applied Math, Gen.

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **TECM1303 - Technical Calculations**

#### **Course Title**

Technical Calculations

#### **Academic Level**

Undergraduate

#### **Description**

Specific mathematical calculations required by business, industry, and health occupations.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **TECM1349 - Technical Math Applications**

#### **Course Title**

Technical Math Applications

#### **Academic Level**

Undergraduate

#### **Description**

Trigonometry and geometry as used in a variety of technical settings. Includes the use of plane and solid geometry to solve areas and volumes encountered in industry.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Architecture**

## 2023-2024 Catalog & Student Handbook

### **ARCE1303 - Architectural Materials and Methods of Construction** **Course Title**

Architectural Materials and Methods of Construction

#### **Academic Level**

Undergraduate

#### **Description**

Properties, specifications, vendor references, and uses of materials as related to architectural systems of structures.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:

### **ARCE1321 - Architectural Illustration** **Course Title**

Architectural Illustration

#### **Academic Level**

Undergraduate

#### **Description**

Architectural drawing and sketching. Emphasizes architectural structures in 3-D or pictorially either by hand or computer software.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - Course Not Found

#### **Corequisites**

- Completed or concurrently enrolled in:
  - Course Not Found

## 2023-2024 Catalog & Student Handbook

### **ARCE1342 - Codes, Specifications, and Contract Documents**

#### **Course Title**

Codes, Specifications, and Contract Documents

#### **Academic Level**

Undergraduate

#### **Description**

Study of ordinances, codes, and legal documents as they relate to specifications and drawing. Discussion of owner-architect-contractor responsibilities, duties, and legal relationships.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARCE1303 - Architectural Materials and Methods of Construction (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - ARCE1303 - Architectural Materials and Methods of Construction (3)

## 2023-2024 Catalog & Student Handbook

### **ARCE1352 - Structural Drafting**

#### **Course Title**

Structural Drafting

#### **Academic Level**

Undergraduate

#### **Description**

A study of structural systems including concrete foundations and frames, wood framing and trusses, and structural steel framing systems. Includes detailing of concrete, wood, and steel to meet industry standards including the American Institute of Steel Construction and The American Concrete Institute.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG2328 - Architectural Drafting - Commercial (3)

### **ARCE2052 - Mechanical and Electrical Systems**

#### **Course Title**

Mechanical and Electrical Systems

#### **Academic Level**

Continuing Education

#### **Description**

The properties of building materials (assemblies), specifications, codes, vendor references, and uses of mechanical, plumbing, conveying, and electrical systems as they relate to architecture for residential and commercial construction.

#### **Lecture Hours**

0

#### **Lab Hours**

5

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ARCE2352 - Mechanical and Electrical Systems**

#### **Course Title**

Mechanical and Electrical Systems

#### **Academic Level**

Undergraduate

#### **Description**

The properties of building materials (assemblies), specifications, codes, vendor references, and uses of mechanical, plumbing, conveying, and electrical systems as they relate to architecture for residential and commercial construction.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG2328 - Architectural Drafting - Commercial (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - DFTG2328 - Architectural Drafting - Commercial (3)

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## Arts

### **ARTS1301 - Art Appreciation**

#### **Course Title**

Art Appreciation

#### **Academic Level**

Undergraduate

#### **Description**

A general introduction to the visual arts designed to create an appreciation of the vocabulary, media, techniques, and purposes of the creative process. Students will critically interpret and evaluate works of art within formal, cultural, and historical contexts.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ARTS1304 - Art History II** **Course Title**

Art History II

### **Academic Level**

Undergraduate

### **Description**

A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present day.

### **Lecture Hours**

3

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **ARTS2326 - Sculpture I** **Course Title**

Sculpture I

### **Academic Level**

Undergraduate

### **Description**

Exploration of ideas using sculpture media and techniques.

### **Lecture Hours**

3

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

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## **Auctioneering**

## 2023-2024 Catalog & Student Handbook

### **AUCT2001 - License Renewal for Auctioneer** **Course Title**

License Renewal for Auctioneer

### **Academic Level**

Continuing Education

### **Description**

Refresher course in the universal standards of auctioneering practices and the various state and federal statutes that govern the licensing of auctioneers for the purpose of license renewal. Includes the study of the Texas Auctioneer Law, professionalism, conduct, ethics, deceptive trade practice law, and other applicable laws.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

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## **Autobody**

### **ABDR1031 - Basic Refinishing** **Course Title**

Basic Refinishing

### **Academic Level**

Continuing Education

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ABDR1203 - Vehicle Design and Structural Analysis**

#### **Course Title**

Vehicle Design and Structural Analysis

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to the collision repair industry with emphasis on safety, professionalism, and vehicle structural design.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

### **ABDR1207 - Collision Repair Welding**

#### **Course Title**

Collision Repair Welding

#### **Academic Level**

Undergraduate

#### **Description**

A study of collision repair welding and cutting procedures.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2



## 2023-2024 Catalog & Student Handbook

### **ABDR1215 - Vehicle Trim and Hardware**

#### **Course Title**

Vehicle Trim and Hardware

#### **Academic Level**

Undergraduate

#### **Description**

A study of vehicle trim and glass service.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

### **ABDR1266 - Practicum**

#### **Course Title**

Practicum

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Rule Not Selected

## 2023-2024 Catalog & Student Handbook

### **ABDR1280 - Cooperative Education - Autobody/Collision and Repair Technology/Technician** **Course Title**

Cooperative Education - Autobody/Collision and Repair Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Students are required to complete 176 hrs total in the semester. It is recommended that a student completes 23.5 hours a week for the 7.5 week coop. The position and company must be pre-approved before a student signs up for the coop class. Employer reviews and hour logs are required.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **ABDR1307 - Collision Repair Welding** **Course Title**

Collision Repair Welding

#### **Academic Level**

Undergraduate

#### **Description**

A study of industry and standard welding and cutting procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ABDR1215 - Vehicle Trim and Hardware (2)

## 2023-2024 Catalog & Student Handbook

### **ABDR1323 - Front and Rear Wheel Alignment**

#### **Course Title**

Front and Rear Wheel Alignment

#### **Academic Level**

Undergraduate

#### **Description**

Study of vehicle steering components including alignment, tire rotation, and balancing.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ABDR2435 - Structural Analysis and Damage Repair IV (4)

### **ABDR1331 - Basic Refinishing**

#### **Course Title**

Basic Refinishing

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to current refinishing products, shop safety, and equipment used in the automotive refinishing industry. Emphasis on surface preparation, masking techniques, and refinishing of trim and replacement parts.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ABDR1349 - Automotive Plastic and Sheet Molded Compound Repair**

#### **Course Title**

Automotive Plastic and Sheet Molded Compound Repair

#### **Academic Level**

Undergraduate

#### **Description**

A comprehensive course in repair of interior and exterior plastics including the use of various types of adhesives.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Corequisites**

- - ABDR1431 - Basic Refinishing (4)
  - AACT2373 - Factory I/O (3)
  - ABDR2449 - Advanced Refinishing (4)
  - ABDR1203 - Vehicle Design and Structural Analysis (2)

### **ABDR1359 - Sheet Metal Fabrication I**

#### **Course Title**

Sheet Metal Fabrication I

#### **Academic Level**

Undergraduate

#### **Description**

A study of the basic shaping techniques required for fabricating sheet metal parts and pieces. Discussion will include custom cars and street rods.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices**

#### **Course Title**

Basic Paint Techniques, Equipment & Environmental Practices

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to current refinishing products, equipment and procedures used in the automotive refinishing industry on damaged panels. Emphasis on surface preparation, corrosion protection, masking techniques, masking techniques, block sanding techniques, and refinishing repaired panels.

#### **Lecture Hours**

1

#### **Lab Hours**

6

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ABDR1411 - Vehicle Measurement and Damage Repair Procedures**

#### **Course Title**

Vehicle Measurement and Damage Repair Procedures

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to vehicle measurement and structural alignment equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **ABDR1419 - Basic Metal Repair**

#### **Course Title**

Basic Metal Repair

#### **Academic Level**

Undergraduate

#### **Description**

Covers basic metal principles and working techniques including proper tool usage and product application.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **ABDR1431 - Basic Refinishing**

#### **Course Title**

Basic Refinishing

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to current refinishing products, shop safety, and equipment used in the automotive refinishing industry. Emphasis on surface preparation, masking techniques, and refinishing of trim and replacement parts.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices (3)

## 2023-2024 Catalog & Student Handbook

### **ABDR1441 - Struct Analysis & Damage Repair I** **Course Title**

Struct Analysis & Damage Repair I

### **Academic Level**

Undergraduate

### **Description**

Expanded training in the roughing and shaping procedures on automotive sheet metal necessary to perform body repairs. Emphasis on the alignment of component parts such as doors, hood, front-end assemblies, and deck lids.

### **Lecture Hours**

2

### **Lab Hours**

6

### **Credits**

4

### **Semester Credit Hours**

4

### **ABDR1442 - Structural Analysis and Damage Repair II** **Course Title**

Structural Analysis and Damage Repair II

### **Academic Level**

Undergraduate

### **Description**

Continuation of general repair and replacement procedures for damaged structural parts and collision damage.

### **Lecture Hours**

2

### **Lab Hours**

6

### **Credits**

4

### **Semester Credit Hours**

4

### **Prerequisites**

- Complete the following:
  - ABDR1323 - Front and Rear Wheel Alignment (3)
  - ABDR1419 - Basic Metal Repair (4)
  - ABDR2435 - Structural Analysis and Damage Repair IV (4)

## 2023-2024 Catalog & Student Handbook

### **ABDR1458 - Intermediate Refinishing**

#### **Course Title**

Intermediate Refinishing

#### **Academic Level**

Undergraduate

#### **Description**

Training in mixing and spraying of automotive topcoats. Emphasis on formula ingredient, reducing, thinning, and special spraying techniques. Introduction to partial panel refinishing techniques and current industry paint removal techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ABDR1371 - Basic Paint Techniques, Equipment & Environmental Practices (3)

### **ABDR1472 - Cosmetic Repair and Conditioning**

#### **Course Title**

Cosmetic Repair and Conditioning

#### **Academic Level**

Undergraduate

#### **Description**

This course is intended to educate the entry-level technician to the Tesla Motors advanced autobody repair technology. Topics will included, but not limited to safety, dent removal and repair, estimating, sanding and refinishing vehicle make ready.

#### **Lecture Hours**

2

#### **Lab Hours**

8

#### **Credits**

4

#### **Semester Credit Hours**

4



## 2023-2024 Catalog & Student Handbook

### **ABDR1473 - Tesla Specialized Welding** **Course Title**

Tesla Specialized Welding

### **Academic Level**

Undergraduate

### **Description**

This course is intended to educate the entry-level technician to the Tesla Motors advanced autobody repair technology. Topics will included, but not limited to safety, steel welding, aluminum welding, rivet bonding and weld bonding.

### **Lecture Hours**

2

### **Lab Hours**

8

### **Credits**

4

### **Semester Credit Hours**

4

### **ABDR1474 - Tesla Structural Repair** **Course Title**

Tesla Structural Repair

### **Academic Level**

Undergraduate

### **Description**

This course is intended to educate the entry-level technician to the Tesla Motors advanced autobody repair technology. Topics will include, but not limited to safety, estimating, structural repairs, OEM repair procedures

### **Lecture Hours**

2

### **Lab Hours**

8

### **Credits**

4

### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **ABDR1481 - Cooperative Education - Autobody/Collision and Repair Technology/Technician** **Course Title**

Cooperative Education - Autobody/Collision and Repair Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Students are required to complete 352 hrs total in the semester. It is recommended that a student completes 23.5 hours a week for the 15 week semester. The position and company must be pre-approved before a student signs up for the coop class. Employer reviews and hour logs are required.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

### **ABDR1542 - Structural Analysis and Damage Repair II** **Course Title**

Structural Analysis and Damage Repair II

#### **Academic Level**

Undergraduate

#### **Description**

Continuation of general repair and replacement procedures for damaged structural parts and collision damage.

#### **Lecture Hours**

3

#### **Lab Hours**

6

#### **Credits**

5

#### **Semester Credit Hours**

5

## 2023-2024 Catalog & Student Handbook

### **ABDR2255 - Collision Repair Estimating** **Course Title**

Collision Repair Estimating

### **Academic Level**

Undergraduate

### **Description**

An advanced course in collision estimating and development of a damage report utilizing estimating software.

### **Lecture Hours**

1

### **Lab Hours**

2

### **Credits**

2

### **Semester Credit Hours**

2

### **ABDR2270 - Advanced Application Processes of Refinishing** **Course Title**

Advanced Application Processes of Refinishing

### **Academic Level**

Undergraduate

### **Description**

An advanced course in the practical application of acquired refinishing skills. Use industry relevant estimating programs and interpret work orders to create and implement a repair plan on live projects. Repairs will be completed by application of theory, concepts and skills involving specialized materials, tools, equipment, procedures, regulations, laws and interactions with the instructor/customer; and will demonstrate ethical behavior, safety practices, interpersonal and teamwork skills and appropriate written and verbal communication skills using the terminology of collision repair industry and the instructor/customer.

### **Lecture Hours**

0

### **Lab Hours**

8

### **Credits**

2

### **Semester Credit Hours**

2

### **Prerequisites**

- Complete the following:
  - ABDR2449 - Advanced Refinishing (4)
  - ABDR2551 - Specialized Refinishing Techniques (5)

## 2023-2024 Catalog & Student Handbook

### **ABDR2281 - Cooperative Education - Autobody/Collision and Repair Technology/Technician** **Course Title**

Cooperative Education - Autobody/Collision and Repair Technology/Technician

### **Academic Level**

Undergraduate

### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Students are required to complete 176 hrs total in the semester. It is recommended that a student completes 23.5 hours a week for the 7.5 week coop. The position and company must be pre-approved before a student signs up for the coop class. Employer reviews and hour logs are required.

### **Lecture Hours**

1

### **Lab Hours**

0

### **Credits**

2

### **Semester Credit Hours**

2

### **Prerequisites**

- Complete the following:
  - ABDR2449 - Advanced Refinishing (4)
  - ABDR2551 - Specialized Refinishing Techniques (5)

### **ABDR2305 - Sheet Metal Fab II** **Course Title**

Sheet Metal Fab II

### **Academic Level**

Undergraduate

### **Description**

A study of the advanced shaping techniques required for fabricating sheet metal parts and pieces. Discussion will include custom cars and street rods.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ABDR2345 - Vehicle Safety Systems**

#### **Course Title**

Vehicle Safety Systems

#### **Academic Level**

Undergraduate

#### **Description**

Theory and operation of air bags and other passive and non-passive restraint systems including automotive anti-lock systems and diagnostic methods used in the collision repair industry.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ABDR2357 - Collision Repair Shop Management**

#### **Course Title**

Collision Repair Shop Management

#### **Academic Level**

Undergraduate

#### **Description**

Examination of shop management functions and decision-making processes including planning, organizing, leading and staffing used in collision repair shops to ensure operational profitability.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ABDR2255 - Collision Repair Estimating (2)

## 2023-2024 Catalog & Student Handbook

### **ABDR2359 - Structural Sectioning**

#### **Course Title**

Structural Sectioning

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in the practical application of welded panel replacement and structural sectioning procedures as well as practical equipment applications in structural vehicle straightening, alignment, welding, and corrosion protection.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ABDR1307 - Collision Repair Welding (3)
  - ABDR1419 - Basic Metal Repair (4)
  - ABDR2435 - Structural Analysis and Damage Repair IV (4)

### **ABDR2371 - Refinishing Process I**

#### **Course Title**

Refinishing Process I

#### **Academic Level**

Undergraduate

#### **Description**

The theory and practical application of spray booth and vehicle pre-spray preparation. Remove and perform final finishing. Apply decals and stripes with emphasis on paint problems and remedies.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ABDR1458 - Intermediate Refinishing (4)
  - ABDR1431 - Basic Refinishing (4)

## 2023-2024 Catalog & Student Handbook

### **ABDR2380 - Cooperative Education - Autobody/Collision and Repair Technology/Technician Course Title**

Cooperative Education - Autobody/Collision and Repair Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Students are required to complete 240 hrs total in the semester. It is recommended that a student completes 32 hours a week for the 7.5 week coop. The position and company must be pre-approved before a student signs up for the coop class. Employer reviews and hour logs are required.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ABDR2381 - Cooperative Education - Autobody/Collision and Repair Technology/Technician Course Title**

Cooperative Education - Autobody/Collision and Repair Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Career Related Activities Encountered in the Student's Area of Specialization Are Offered Through a Cooperative Agreement Between the College, Employer, and Student. Under Supervision of The College and the Employer, the Student Combines Classroom Learning With Work Experience. Directly Related to a Technical Discipline, Specific Learning Objectives Guide the Student Through the Paid Work Experience.

Students are required to complete 240 hrs total in the semester. It is recommended that a student completes 32 hours a week for the 7.5 week coop. The position and company must be pre-approved before a student signs up for the coop class. Employer reviews and hour logs are required.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ABDR2402 - Auto Body Mechanical & Electrical Srvc. Service**

#### **Course Title**

Auto Body Mechanical & Electrical Srvc. Service

#### **Academic Level**

Undergraduate

#### **Description**

A course in the repair, replacement, and/or service of collision damaged mechanical or electrical systems. Topics include drive train removal, reinstallation and service; cooling system service and repair; exhaust system service; and emission control systems. Additional topics include wire and connector repair, reading wiring diagrams and troubleshooting.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **ABDR2435 - Structural Analysis and Damage Repair IV**

#### **Course Title**

Structural Analysis and Damage Repair IV

#### **Academic Level**

Undergraduate

#### **Description**

Continuation of skills development in the repair and replacement of major body units.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ABDR1215 - Vehicle Trim and Hardware (2)



## 2023-2024 Catalog & Student Handbook

### **ABDR2447 - Advanced Collision Repair Welding**

#### **Course Title**

Advanced Collision Repair Welding

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in the use of advanced welding and cutting processes. Emphasizes current welding procedures and specific repair requirements for specialized metals.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ABDR1307 - Collision Repair Welding (3)

### **ABDR2449 - Advanced Refinishing**

#### **Course Title**

Advanced Refinishing

#### **Academic Level**

Undergraduate

#### **Description**

Application of multi-stage refinishing techniques. Advanced skill development solving refinishing problems. Application of multi-stage refinishing techniques with emphasis on formula mixing and special spraying techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ABDR1458 - Intermediate Refinishing (4)
  - ABDR1431 - Basic Refinishing (4)

## 2023-2024 Catalog & Student Handbook

### **ABDR2453 - Color Analysis and Paint Matching**

#### **Course Title**

Color Analysis and Paint Matching

#### **Academic Level**

Undergraduate

#### **Description**

Advanced course in color theory, analysis, tinting, and blending techniques for acceptable paint matching.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ABDR2449 - Advanced Refinishing (4)
  - ABDR2551 - Specialized Refinishing Techniques (5)

### **ABDR2502 - Auto Body Mechanical and Electrical Service**

#### **Course Title**

Auto Body Mechanical and Electrical Service

#### **Academic Level**

Undergraduate

#### **Description**

A course in the repair, replacement, and/or service of collision damaged mechanical or electrical systems. Topics include drive train removal, reinstallation and service; cooling system service and repair; exhaust system service; and emission control systems. Additional topics include wire and connector repair, reading wiring diagrams, and troubleshooting.

#### **Lecture Hours**

3

#### **Lab Hours**

6

#### **Credits**

5

#### **Semester Credit Hours**

5

#### **Prerequisites**

- Complete the following:
  - ABDR1307 - Collision Repair Welding (3)
  - ABDR1419 - Basic Metal Repair (4)
  - ABDR2435 - Structural Analysis and Damage Repair IV (4)

## 2023-2024 Catalog & Student Handbook

### **ABDR2551 - Specialized Refinishing Techniques**

#### **Course Title**

Specialized Refinishing Techniques

#### **Academic Level**

Undergraduate

#### **Description**

Advanced topics in specialty automotive refinishing. Emphasis on refinishing plastics, fiberglass, aluminum, and galvanized panels as well as custom graphics and current industry innovations.

#### **Lecture Hours**

3

#### **Lab Hours**

6

#### **Credits**

5

#### **Semester Credit Hours**

5

#### **Prerequisites**

- Complete the following:
  - ABDR1458 - Intermediate Refinishing (4)
  - ABDR1431 - Basic Refinishing (4)

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## Automated Office

### **POFI1001 - Computer Applications I**

#### **Course Title**

Computer Applications I

#### **Academic Level**

Continuing Education

#### **Description**

Overview of computer office applications including current terminology and technology. Introduction to computer hardware, software applications, and procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **POFI1004 - Computer Fundamentals**

#### **Course Title**

Computer Fundamentals

#### **Academic Level**

Continuing Education

#### **Description**

Computer applications specific to business-related software. Emphasizes the concurrent development of office skills and computer knowledge.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **POFI1005 - Intro. to Ms Publisher 2007**

#### **Course Title**

Intro. to Ms Publisher 2007

#### **Academic Level**

Continuing Education

#### **Description**

Desktop publishing terminology, text editing, and use of design principles to create business documents.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **POFI1042 - Word Processing Applications II**

#### **Course Title**

Word Processing Applications II

#### **Academic Level**

Continuing Education

#### **Description**

Word processing production techniques. Includes search and replace functions, headers and footers, mail merge, file functions, and printer setup.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **POFI1349 - Spreadsheets**

#### **Course Title**

Spreadsheets

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in concepts, procedures, and application of spreadsheets. This course is designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **POFI2037 - Word Processing Applications III**

#### **Course Title**

Word Processing Applications III

#### **Academic Level**

Continuing Education

#### **Description**

Advanced instruction in document preparation, editing, and formatting. Emphasizes special problems encountered in business and industry.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **POFI2301 - Word Processing**

#### **Course Title**

Word Processing

#### **Academic Level**

Undergraduate

#### **Description**

Word processing software focusing on business applications. This course is designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Automation & Controls**

## 2023-2024 Catalog & Student Handbook

### **AACT1371 - Electronics Fundamentals in Automation**

#### **Course Title**

Electronics Fundamentals in Automation

#### **Academic Level**

Undergraduate

#### **Description**

An entry level course in electronics to include Ohm's law, Kirchhoff's laws, AC circuits, capacitance, inductance, and circuit analysis techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AACT1372 - Automation Safety and Compliance**

#### **Course Title**

Automation Safety and Compliance

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to safety procedures and practices relating to Automation Applications. Includes Lock/Out tag out training, Arc flash training, working with fluids training, first aid training and CPR certifications.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AACT1373 - Administrative Skills for Technicians**

#### **Course Title**

Administrative Skills for Technicians

#### **Academic Level**

Undergraduate

#### **Description**

An introductory course to automation administration skills. The course covers general office administration programs, equipment interpretation data, design of technical documentation and communication skills use in industry.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AACT1374 - Electronics Fundamentals in Automation II**

#### **Course Title**

Electronics Fundamentals in Automation II

#### **Academic Level**

Undergraduate

#### **Description**

Advanced study of the fundamentals of electronics used in automation to include transistors, filters, diodes, IGBTs, SCRs and optic electronics, and encoders

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AACT1371 - Electronics Fundamentals in Automation (3)



## 2023-2024 Catalog & Student Handbook

### **AACT1375 - Principles of Motion, Measurement and Position I** **Course Title**

Principles of Motion, Measurement and Position I

#### **Academic Level**

Undergraduate

#### **Description**

This course explores theoretical concepts in motor control. Emphasis in different systems design, protection control devices, close and open loop control. In-depth coverage of different motors designs and control systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AACT1371 - Electronics Fundamentals in Automation (3)

### **AACT1376 - Intro to Process Control Devices** **Course Title**

Intro to Process Control Devices

#### **Academic Level**

Undergraduate

#### **Description**

Overview of process control applications. Introduction process controls programming, electrical devices, mechanical systems and calibration.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AACT1371 - Electronics Fundamentals in Automation (3)

## 2023-2024 Catalog & Student Handbook

### **AACT2371 - Automation Control Systems Interfacing I** **Course Title**

Automation Control Systems Interfacing I

#### **Academic Level**

Undergraduate

#### **Description**

An introductory course to automation wiring to address industrial needs for connecting devices as they apply to industry. Includes basic interfacing programming, wiring methods, color coding identification, communications wiring and the troubleshooting of wiring faults in Automation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AACT1376 - Intro to Process Control Devices (3)

### **AACT2372 - Automation Control Systems Interfacing II** **Course Title**

Automation Control Systems Interfacing II

#### **Academic Level**

Undergraduate

#### **Description**

This course explores theoretical concepts of communications protocols programming. Emphasis in connecting devices as they apply to industry, and concepts of networking, data collection, and troubleshooting of Industrial Networks.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AACT2371 - Automation Control Systems Interfacing I (3)

## 2023-2024 Catalog & Student Handbook

### **AACT2373 - Factory I/O**

#### **Course Title**

Factory I/O

#### **Academic Level**

Undergraduate

#### **Description**

A capstone course that provides students the opportunity to apply the knowledge and skills gained in the program. The course will be taken after completing specific specialized courses in the program to include programmable logic controller, Automation Control Systems Interfacing and Application of Industrial Automatic Controls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ELPT2319 - Programmable Logic Controllers I (3)

### **AACT2374 - PLC Automation II**

#### **Course Title**

PLC Automation II

#### **Academic Level**

Undergraduate

#### **Description**

Advanced applications of programmable logic controllers as used in automated manufacturing utilizing various programming techniques and protocols. Emphasis on device interconnectivity, design, implementation, troubleshooting, and interfacing to equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AACT2376 - PLC Automation I (3)

## 2023-2024 Catalog & Student Handbook

### **AACT2375 - Principles of Motion, Measurement and Position II**

#### **Course Title**

Principles of Motion, Measurement and Position II

#### **Academic Level**

Undergraduate

#### **Description**

This course covers the principles of motion control devices used in industry. Topics include the design, development, and current applications of motion control systems including their configuration, operation, and control. Upon completion students will be able to wire and program different control devices used in automation for motion control.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AACT2371 - Automation Control Systems Interfacing I (3)

### **AACT2376 - PLC Automation I**

#### **Course Title**

PLC Automation I

#### **Academic Level**

Undergraduate

#### **Description**

Basic course in programmable logic controller with emphasis on automated systems. In-depth coverage of hardware identification, basic ladder programming and basic wiring of inputs and outputs.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AACT1375 - Principles of Motion, Measurement and Position I (3)

## Automotive

### **AUMT1001 - Vehicle Maintenance & Services**

#### **Course Title**

Vehicle Maintenance & Services

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **AUMT1166 - Practicum (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician**

#### **Course Title**

Practicum (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

This course is taught by the manufacturer programs, with Min-Max 30-40 hours a week for 7 weeks

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **AUMT1167 - Practicum (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician** **Course Title**

Practicum (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

This course is taught by the manufacturer programs, with Min-Max 30-40 hours a week for 7 weeks

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **AUMT1201 - Introduction and Theory of Automotive Technology** **Course Title**

Introduction and Theory of Automotive Technology

#### **Academic Level**

Undergraduate

#### **Description**

An introductory overview of the automotive service industry including history, safety practices, shop equipment and tools, vehicle subsystems, service publications, professional responsibilities, and automobile maintenance.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **AUMT1249 - Automotive Electronics Theory**

#### **Course Title**

Automotive Electronics Theory

#### **Academic Level**

Undergraduate

#### **Description**

A course in automotive technology including electrical principles, semiconductor and integrated circuits, digital fundamentals, microcomputer systems, and electrical test equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

1

#### **Credits**

2

#### **Semester Credit Hours**

2

### **AUMT1266 - Practicum-Automotive/Auto Mechanics Tech**

#### **Course Title**

Practicum-Automotive/Auto Mechanics Tech

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **AUMT1280 - Cooperative Education- Automobile/ Automotive Mechanics Technology/Tech Course Title**

Cooperative Education- Automobile/ Automotive Mechanics Technology/Tech

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

This course is taught by the manufacturer programs, with Min-Max 30-40 hours a week for 7 weeks

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **AUMT1281 - Cooperative Education- Automobile/ Automotive Mechanics Technology/Tech Course Title**

Cooperative Education- Automobile/ Automotive Mechanics Technology/Tech

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2



## 2023-2024 Catalog & Student Handbook

### **AUMT1305 - Introduction to Automotive Technology**

#### **Course Title**

Introduction to Automotive Technology

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, professional responsibilities, and basic automotive maintenance. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AUMT1307 - Automotive Electrical Systems**

#### **Course Title**

Automotive Electrical Systems

#### **Academic Level**

Undergraduate

#### **Description**

An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of, charging and starting systems, and electrical accessories. Emphasis on electrical principles schematic diagrams, and service manuals. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AUMT1310 - Automotive Brake Systems**

#### **Course Title**

Automotive Brake Systems

#### **Academic Level**

Undergraduate

#### **Description**

Operation and repair of drum/disc type brake systems. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught with manufacturer specific instructions.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AUMT1312 - Basic Automotive Service**

#### **Course Title**

Basic Automotive Service

#### **Academic Level**

Undergraduate

#### **Description**

Basic automotive service. Includes compliance with safety and hazardous material handling procedures and maintenance of shop equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AUMT1319 - Automotive Engine Repair**

#### **Course Title**

Automotive Engine Repair

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, disassembly, repair, and reassembly of the engine. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AUMT1345 - Automotive Climate Control Systems**

#### **Course Title**

Automotive Climate Control Systems

#### **Academic Level**

Undergraduate

#### **Description**

Diagnosis and repair of manual/electronic climate control systems. Includes the refrigeration cycle and EPA guidelines for refrigerant handling. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - AUMT1307 - Automotive Electrical Systems (3)
  - Complete at least 1 of the following:
    - AUMT1201 - Introduction and Theory of Automotive Technology (2)
    - AUMT1305 - Introduction to Automotive Technology (3)

#### **Corequisites**

- Complete the following:
  - AUMT1307 - Automotive Electrical Systems (3)

## 2023-2024 Catalog & Student Handbook

### **AUMT1380 - Cooperative Education - Automobile/Automotive Mechanics Technology/Technician Course Title**

Cooperative Education - Automobile/Automotive Mechanics Technology/Technician

### **Academic Level**

Undergraduate

### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

This course is the technical elective for the AUT.MLR.CER1 with a minimum requirement of 15 hours per week for 15 weeks

### **Lecture Hours**

1

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - AUMT1310 - Automotive Brake Systems (3)

### **Corequisites**

- Completed or concurrently enrolled in:
  - AUMT1310 - Automotive Brake Systems (3)

## 2023-2024 Catalog & Student Handbook

### **AUMT1407 - Automotive Electrical Systems**

#### **Course Title**

Automotive Electrical Systems

#### **Academic Level**

Undergraduate

#### **Description**

An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of charging and starting systems, and electrical accessories. Emphasis on electrical principles schematic diagrams, and service manuals. May be taught manufacturer specific. null null

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **AUMT1410 - Automotive Brake Systems**

#### **Course Title**

Automotive Brake Systems

#### **Academic Level**

Undergraduate

#### **Description**

Operation and repair of drum/disc type brake systems. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught with manufacturer specific instructions. null null

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **AUMT1416 - Automotive Suspension and Steering Systems**

#### **Course Title**

Automotive Suspension and Steering Systems

#### **Academic Level**

Undergraduate

#### **Description**

Diagnosis and repair of automotive suspension and steering systems including electronically controlled systems. Includes component repair, alignment procedures and tire and wheel service. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **AUMT1419 - Automotive Engine Repair**

#### **Course Title**

Automotive Engine Repair

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, and disassembly, repair, and reassembly of the engine. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - AUMT1305 - Introduction to Automotive Technology (3)

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### **AUMT1471 - Introduction and Theory of Tesla Vehicles**

#### **Course Title**

Introduction and Theory of Tesla Vehicles

#### **Academic Level**

Undergraduate

#### **Description**

This course is intended to educate the entry -level technician to the Tesla Motors advanced automotive technology. Topics studied will include , but not limited to: safety when working with or around high voltage systems, basic electrical systems, basic vehicle service procedures, and applying soft skills used in the Tesla automotive field.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **AUMT1472 - Automotive Electrical, Chassis, Driver Assist Systems Theory**

#### **Course Title**

Automotive Electrical, Chassis, Driver Assist Systems Theory

#### **Academic Level**

Undergraduate

#### **Description**

This course is intended to educate the entry -level technician to the Tesla Motors advanced automotive technology. Topics studied will include , but not limited to: safety when working with or around high voltage systems, regeneration braking, electric vehicle applications and their integrated systems.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **AUMT1473 - Automotive Electronics Theory**

#### **Course Title**

Automotive Electronics Theory

#### **Academic Level**

Undergraduate

#### **Description**

This course is intended to educate the entry -level technician to the Tesla Motors advanced automotive technology. Topics studied will include , but not limited to: safety when working with or around high voltage systems, inverter power transfer, battery technologies, battery management systems, High Voltage Bus & Charging, Pack Connector & Penthouse controls and Autonomous technology.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **AUMT1474 - Infotainment Systems and Service Center Skills**

#### **Course Title**

Infotainment Systems and Service Center Skills

#### **Academic Level**

Undergraduate

#### **Description**

This course is intended to educate the entry -level technician to the Tesla Motors advanced automotive technology. Topics studied will include , but not limited to: safety when working with or around high voltage systems, infotainment systems and subsystems. Work activities at the Tesla Service Center.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4



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### **AUMT2030 - Auto Steering & Suspension**

#### **Course Title**

Auto Steering & Suspension

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **AUMT2035 - Auto Service Excellence-Ase**

#### **Course Title**

Auto Service Excellence-Ase

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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### **AUMT2188 - Internship (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician Course Title**

Internship (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

This course is taught by the manufacturer programs, with Min-Max 30-40 hours a week for 7 weeks

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **AUMT2189 - Internship (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician Course Title**

Internship (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

This course is taught by the manufacturer programs, with Min-Max 30-40 hours a week for 7 weeks

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

#### **Prerequisites**

- Complete the following:
  - AUMT2417 - Automotive Engine Performance Analysis I (4)
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)

#### **Corequisites**

- Complete the following:
  - AUMT2417 - Automotive Engine Performance Analysis I (4)

### **AUMT2266 - Practicum - Automotive/Auto Mechanics Te Course Title**

Practicum - Automotive/Auto Mechanics Te

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

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### **AUMT2288 - Internship - Automobile/Automotive Mechanics Technology/Technician** **Course Title**

Internship - Automobile/Automotive Mechanics Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **AUMT2289 - Internship (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician** **Course Title**

Internship (or Field Experience) - Automobile/Automotive Mechanics Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **AUMT2301 - Automotive Management** **Course Title**

Automotive Management

### **Academic Level**

Undergraduate

### **Description**

Study of human and customer relations, and customer satisfaction in the automotive service industry. Emphasis on management and building relationships between the service department and the customer. null null

### **Lecture Hours**

3

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **AUMT2302 - Automotive Compression Ignition Engines & Fuel Systems** **Course Title**

Automotive Compression Ignition Engines & Fuel Systems

### **Academic Level**

Undergraduate

### **Description**

Diagnosis and repair of modern light-duty automotive compression ignition engines and related systems. Includes the use of advanced engine performance diagnostic equipment.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - AUMT2417 - Automotive Engine Performance Analysis I (4)

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### **AUMT2307 - Hybrid Systems Diagnostics**

#### **Course Title**

Hybrid Systems Diagnostics

#### **Academic Level**

Undergraduate

#### **Description**

An advanced study of hybrid vehicles and the unique characteristics of hybrid systems. Includes hybrid safety procedures and diagnosis and repair of hybrid systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AUMT2413 - Automotive Drive Train and Axles (4)

#### **Corequisites**

- Complete the following:
  - AUMT2425 - Automotive Automatic Transmission and Transaxle (4)

### **AUMT2310 - Automotive Service Consultant**

#### **Course Title**

Automotive Service Consultant

#### **Academic Level**

Undergraduate

#### **Description**

Automotive service consulting skills and procedures. Includes vehicle identification, product knowledge, shop operations, warranty service contracts, communications, customer relations, internal relations, and sales skills. Emphasizes courtesy, professionalism, and communications.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AUMT2313 - Automotive Drive Train and Axles**

#### **Course Title**

Automotive Drive Train and Axles

#### **Academic Level**

Undergraduate

#### **Description**

A study of automotive clutches, clutch operation devices, manual transmissions/ transaxles, and differentials with emphasis on diagnosis and repair. May be taught with manufacturer specific instructions.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AUMT2321 - Automotive Electrical Diagnosis and Repair**

#### **Course Title**

Automotive Electrical Diagnosis and Repair

#### **Academic Level**

Undergraduate

#### **Description**

Repair of automotive electrical subsystems, lighting, instrumentation, and accessories. Emphasis on accurate diagnosis and proper repair methods using various troubleshooting skills and techniques. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AUMT2328 - Automotive Service**

#### **Course Title**

Automotive Service

#### **Academic Level**

Undergraduate

#### **Description**

Mastery of automotive service including competencies covered in related courses. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AUMT2413 - Automotive Drive Train and Axles (4)
  - AUMT2417 - Automotive Engine Performance Analysis I (4)
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)



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### **AUMT2337 - Automotive Electronics**

#### **Course Title**

Automotive Electronics

#### **Academic Level**

Undergraduate

#### **Description**

Study of electronic principles applied to microcomputers and communication systems. Includes digital fundamentals, and use of electronic test equipment. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)

#### **Corequisites**

- Complete the following:
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)

### **AUMT2357 - Automotive Alternative Fuels**

#### **Course Title**

Automotive Alternative Fuels

#### **Academic Level**

Undergraduate

#### **Description**

A study of the composition and use of various alternative automobile fuels including retrofit procedures and applications, emission standards, availability, and cost effectiveness. Overview of federal and state regulations concerning fuels.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AUMT2380 - Cooperative Education - Automobile/Automotive Mechanics Technology/Technician** **Course Title**

Cooperative Education - Automobile/Automotive Mechanics Technology/Technician

### **Academic Level**

Undergraduate

### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

This course is the technical elective for AUT.AAS & AUT.CER2 with a minimum of 20 hours per week for 15 weeks

### **Lecture Hours**

1

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - AUMT2413 - Automotive Drive Train and Axles (4)
  - AUMT2417 - Automotive Engine Performance Analysis I (4)
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)

### **Corequisites**

- Complete the following:
  - AUMT1307 - Automotive Electrical Systems (3)

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### **AUMT2407 - Hybrid Systems Diagnostics**

#### **Course Title**

Hybrid Systems Diagnostics

#### **Academic Level**

Undergraduate

#### **Description**

An advanced study of hybrid vehicles and the unique characteristics of hybrid systems. Includes hybrid safety procedures and diagnosis and repair of hybrid systems.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **AUMT2413 - Automotive Drive Train and Axles**

#### **Course Title**

Automotive Drive Train and Axles

#### **Academic Level**

Undergraduate

#### **Description**

A study of automotive clutches, clutch operation devices, manual transmissions/ transaxles, and differentials with emphasis on diagnosis and repair. May be taught with manufacturer specific instructions.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **AUMT2417 - Automotive Engine Performance Analysis I**

#### **Course Title**

Automotive Engine Performance Analysis I

#### **Academic Level**

Undergraduate

#### **Description**

Theory, operation, diagnosis of drivability concerns, and repair of ignition and fuel delivery systems. Use of current engine performance diagnostic equipment. May be taught with manufacturer specific instructions.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete all of the following
  - Complete at least 3 credits from the following:
    - AUMT1201 - Introduction and Theory of Automotive Technology (2)
    - AUMT1305 - Introduction to Automotive Technology (3)
  - Complete the following:
    - AUMT1307 - Automotive Electrical Systems (3)
    - AUMT1419 - Automotive Engine Repair (4)

#### **Corequisites**

- Complete the following:
  - AUMT1419 - Automotive Engine Repair (4)

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### **AUMT2425 - Automotive Automatic Transmission and Transaxle** **Course Title**

Automotive Automatic Transmission and Transaxle

### **Academic Level**

Undergraduate

### **Description**

A study of the operation, hydraulic circuits and electronic controls of modern automatic transmissions and automatic transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and repair techniques. May be taught manufacturer specific.

### **Lecture Hours**

2

### **Lab Hours**

6

### **Credits**

4

### **Semester Credit Hours**

4

### **Prerequisites**

- Complete the following:
  - AUMT2417 - Automotive Engine Performance Analysis I (4)
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)

### **Corequisites**

- Complete the following:
  - AUMT2417 - Automotive Engine Performance Analysis I (4)

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### **AUMT2434 - Automotive Engine Performance Analysis II**

#### **Course Title**

Automotive Engine Performance Analysis II

#### **Academic Level**

Undergraduate

#### **Description**

Diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems. Includes use of advanced engine performance diagnostic equipment. May be taught manufacturer specific.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - AUMT2417 - Automotive Engine Performance Analysis I (4)
  - AUMT2321 - Automotive Electrical Diagnosis and Repair (3)

#### **Corequisites**

- Complete the following:
  - AUMT2417 - Automotive Engine Performance Analysis I (4)

### **AUMT2457 - Automotive Alternative Fuels**

#### **Course Title**

Automotive Alternative Fuels

#### **Academic Level**

Undergraduate

#### **Description**

A study of the composition and use of various alternative automobile fuels including retrofit procedures and applications, emission standards, availability, and cost effectiveness. Overview of federal and state regulations concerning fuels.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

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### **AUMT2470 - Automotive Compression Ignition Engines & Fuel Systems**

#### **Course Title**

Automotive Compression Ignition Engines & Fuel Systems

#### **Academic Level**

Undergraduate

#### **Description**

Diagnosis and repair of modern light-duty automotive compression ignition engines, air induction systems, fuel systems, and exhaust after treatment systems. Emphasis is placed on the differences between diagnosis and repair of spark-ignition engine systems and compression ignition engine systems.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

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## Aviation

### **AVIM1090 - Special Topics in Aviation and Airway Sc**

#### **Course Title**

Special Topics in Aviation and Airway Sc

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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### **AVIM1391 - Special Topics in Aviation Management**

#### **Course Title**

Special Topics in Aviation Management

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AVIM2337 - Aviation Law**

#### **Course Title**

Aviation Law

#### **Academic Level**

Undergraduate

#### **Description**

A study of domestic and international aviation law.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Aviation/Aircraft Maintenance**



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### **AERM1091 - Special Topics in Aircraft Mechanic/ Technician Airframe**

#### **Course Title**

Special Topics in Aircraft Mechanic/ Technician Airframe

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **AERM1092 - Special Topics in Aircraft Mechanic/ Technician Powerplant**

#### **Course Title**

Special Topics in Aircraft Mechanic/ Technician Powerplant

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

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### **AERM1107 - Aviation Mathematics**

#### **Course Title**

Aviation Mathematics

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of mathematics applied to aircraft principles and operations as required by the Federal Aviation Administration for airframe and powerplant mechanics. null null

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **AERM1109 - Aviation Physics**

#### **Course Title**

Aviation Physics

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of physics applied to aircraft principles and operations as required by the Federal Aviation Administration for airframe and powerplant mechanics.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Credits**

1

#### **Semester Credit Hours**

1

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### **AERM1112 - Aviation Drawings**

#### **Course Title**

Aviation Drawings

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of aviation drawings applied to aircraft principles and operations as required by the Federal Aviation Administration for airframe and powerplant mechanics.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Credits**

1

#### **Semester Credit Hours**

1

### **AERM1153 - Aircraft Welding**

#### **Course Title**

Aircraft Welding

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in repair procedures for steel, magnesium, brass, and aluminum materials. Includes the selection and application of appropriate methods of welding, brazing, and soldering. Fundamentals of safety procedures also addressed.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Credits**

1

#### **Semester Credit Hours**

1

#### **Prerequisites**

- Complete the following:
  - AERM1203 - Shop Practices (2)

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### **AERM1203 - Shop Practices**

#### **Course Title**

Shop Practices

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to shop safety, the correct use of hand tools, equipment and precision measurement, identification of aircraft hardware, and the fabrication of fluid lines and tubing. Emphasis on procedures for testing, heat treating, and inspection of aircraft structures.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **AERM1205 - Weight and Balance**

#### **Course Title**

Weight and Balance

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to Federal Aviation Administration (FAA) required subjects relating to the weighing of aircraft, the performance of weight and balance calculations, and appropriate maintenance record entries.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

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### **AERM1208 - Federal Aviation Regulations**

#### **Course Title**

Federal Aviation Regulations

#### **Academic Level**

Undergraduate

#### **Description**

A course in the use and understanding of Federal Aviation Administration (FAA) and aircraft manufacturers' publications, forms, and records; and the exercise of mechanic privileges within prescribed limitations.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **AERM1210 - Ground Operations**

#### **Course Title**

Ground Operations

#### **Academic Level**

Undergraduate

#### **Description**

An introductory course in fuels, servicing methods, safety procedures, aircraft movement, securing and operations of aircraft, external power equipment, aircraft cleaning, and corrosion control.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **AERM1240 - Aircraft Propellers**

#### **Course Title**

Aircraft Propellers

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of propeller design, function, and construction. Skill development in inspection, servicing, and repair of fixed-pitch, constant-speed, and feathering propellers and governing systems. Instruction in removal, balancing, and installation of propellers and fundamentals of safety are also addressed.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete at least 1 of the following:
  - AERM1109 - Aviation Physics (1)
  - AERM1315 - Aviation Science (3)

### **AERM1241 - Wood, Fabric, and Finishes**

#### **Course Title**

Wood, Fabric, and Finishes

#### **Academic Level**

Undergraduate

#### **Description**

A course in the use and care of various covering materials, finishes, and wood structures including approved methods and procedures. Safety also addressed.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

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### **AERM1243 - Instruments and Navigation/Communication** **Course Title**

Instruments and Navigation/Communication

#### **Academic Level**

Undergraduate

#### **Description**

A study of aircraft instruments and electronic flight instrument systems including testing and installing instruments; inspecting, checking, and troubleshooting navigation and communication systems; and inspecting and repairing antennas and electronic equipment installations.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete at least 1 of the following:
  - AERM1314 - Basic Electricity (3)
  - AERM1414 - Basic Electricity (4)

### **AERM1247 - Airframe Auxiliary Systems** **Course Title**

Airframe Auxiliary Systems

#### **Academic Level**

Undergraduate

#### **Description**

A comprehensive study of airframe auxiliary systems including cabin atmospheric control systems, ice and rain control systems for aircraft and engines, and fire detection and protection systems. Fundamentals of safety procedures also addressed.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **AERM1253 - Aircraft Welding**

#### **Course Title**

Aircraft Welding

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in repair procedures for steel, magnesium, brass, and aluminum materials. Includes the selection and application of appropriate methods of welding, brazing, and soldering. Fundamentals of safety procedures also addressed.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

### **AERM1254 - Aircraft Composites**

#### **Course Title**

Aircraft Composites

#### **Academic Level**

Undergraduate

#### **Description**

Comprehensive concepts of the inspection and repair of composite, fabric, core, and laminated structural materials including doors, windows, bonded structures, and interior furnishings. Safety procedures to include the handling and storage of composite materials will also be addressed.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2



## 2023-2024 Catalog & Student Handbook

### **AERM1314 - Basic Electricity**

#### **Course Title**

Basic Electricity

#### **Academic Level**

Undergraduate

#### **Description**

A study of aircraft electrical systems and their requirements including the use of ammeter, voltmeter, and ohmmeter; series and parallel circuits; inductance and capacitance; magnetism; converting alternating current (AC) to direct current (DC); controlling devices; maintenance and servicing of aircraft batteries; and reading and interpreting aircraft electrical diagrams to include solid state devices and logic functions. Fundamentals of electrical safety also addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AERM1315 - Aviation Science**

#### **Course Title**

Aviation Science

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of mathematics, physics, and drawings as they apply to aircraft principles and operations as required by the Federal Aviation Administration (FAA) for airframe and powerplant mechanics.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AERM1340 - Aircraft Propellers**

#### **Course Title**

Aircraft Propellers

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of propeller design, function, and construction. Skill development in inspection, servicing, and repair of fixed-pitch, constant-speed, and feathering propellers and governing systems. Instruction in removal, balancing, and installation of propellers and fundamentals of safety are also addressed. null null

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AERM1343 - Instruments and Navigation/Communication**

#### **Course Title**

Instruments and Navigation/Communication

#### **Academic Level**

Undergraduate

#### **Description**

A study of aircraft instruments and electronic flight instrument systems including testing and installing instruments; inspecting, checking, and troubleshooting navigation and communication systems; and inspecting and repairing antennas and electronic equipment installations.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AERM1344 - Aircraft Reciprocating Engines**

#### **Course Title**

Aircraft Reciprocating Engines

#### **Academic Level**

Undergraduate

#### **Description**

A study of reciprocating engines and their development, operating principles, and theory. Instruction in engine instruments, lubricating, and exhaust systems. Fundamentals of safety will also be addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AERM1345 - Airframe Electrical Systems**

#### **Course Title**

Airframe Electrical Systems

#### **Academic Level**

Undergraduate

#### **Description**

A study of airframe electrical systems including installation, removal, disassembly, and repair of electrical components and related wiring. Fundamentals of electrical safety also addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - AERM1314 - Basic Electricity (3)
  - AERM1414 - Basic Electricity (4)

## 2023-2024 Catalog & Student Handbook

### **AERM1347 - Airframe Auxiliary Systems**

#### **Course Title**

Airframe Auxiliary Systems

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in repair procedures for steel, magnesium, brass, and aluminum materials. Includes the selection and application of appropriate methods of welding, brazing, and soldering. Fundamentals of safety procedures also addressed.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete 1 of the following
  - Complete the following:
    - AERM1315 - Aviation Science (3)
    - AERM1314 - Basic Electricity (3)
  - Complete at least 1 of the following:
    - AERM1109 - Aviation Physics (1)
    - AERM1414 - Basic Electricity (4)

### **AERM1350 - Landing Gear Systems**

#### **Course Title**

Landing Gear Systems

#### **Academic Level**

Undergraduate

#### **Description**

General principles of inspection, servicing, overhaul, and repair of fixed and retractable landing gear systems and the operation and repair of position and warning systems. Includes coverage of systems, components, operation, and fundamentals of safety procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AERM1351 - Aircraft Turbine Engine Theory**

#### **Course Title**

Aircraft Turbine Engine Theory

#### **Academic Level**

Undergraduate

#### **Description**

General principles of theory, history, and servicing of turbine engines to include lubrication, instrumentation, auxiliary power units, and exhaust systems. Fundamentals of safety procedures are also addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - AERM1109 - Aviation Physics (1)
  - AERM1315 - Aviation Science (3)

## 2023-2024 Catalog & Student Handbook

### **AERM1352 - Aircraft Sheet Metal**

#### **Course Title**

Aircraft Sheet Metal

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in inspection and repair of sheet metal structures including forming, lay out, and bending of sheet metal and identification, selection, and installation of rivets and fasteners. Fundamentals of safety procedures also addressed.

#### **Lecture Hours**

1

#### **Lab Hours**

7

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - AERM1107 - Aviation Mathematics (1)
    - AERM1112 - Aviation Drawings (1)
    - AERM1203 - Shop Practices (2)
  - Complete at least 1 of the following:
    - AERM1203 - Shop Practices (2)
    - AERM1315 - Aviation Science (3)

## 2023-2024 Catalog & Student Handbook

### **AERM1356 - Aircraft Powerplant Electrical** **Course Title**

Aircraft Powerplant Electrical

#### **Academic Level**

Undergraduate

#### **Description**

General principles of theory, operation, and maintenance of powerplant electrical systems including ignition, starting, and fire protection systems. Fundamentals of safety procedures will also be addressed.

#### **Lecture Hours**

1

#### **Lab Hours**

7

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - AERM1314 - Basic Electricity (3)
  - AERM1414 - Basic Electricity (4)

### **AERM1357 - Fuel Metering and Induction Systems** **Course Title**

Fuel Metering and Induction Systems

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in fuel metering and induction systems used on reciprocating and turbine engines including fuel metering systems, carburetors, induction systems, heat exchangers, and cooling systems. Fundamentals of safety procedures will also be addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - AERM1109 - Aviation Physics (1)
  - AERM1315 - Aviation Science (3)

**AERM1414 - Basic Electricity**

**Course Title**

Basic Electricity

**Academic Level**

Undergraduate

**Description**

A study of aircraft electrical systems and their voltmeter, and ohmmeter; series and parallel circuits; inductance and capacitance; magnetism; converting alternating current (AC) to direct current (DC); controlling devices; maintenance and servicing of aircraft batteries; and reading and interpreting aircraft electrical diagrams to include solid state devices and logic functions. Fundamentals of safety also addressed.

**Lecture Hours**

2

**Lab Hours**

5

**Credits**

4

**Semester Credit Hours**

4

**AERM1444 - Aircraft Reciprocating Engines**

**Course Title**

Aircraft Reciprocating Engines

**Academic Level**

Undergraduate

**Description**

Reciprocating engines, their development, operating principles, and theory. Includes engine instruments, lubrication, and exhaust systems. Also addresses fundamentals of safety.

**Lecture Hours**

3

**Lab Hours**

4

**Credits**

4

**Semester Credit Hours**

4

**Prerequisites**

- Complete at least 1 of the following:
  - AERM1109 - Aviation Physics (1)
  - AERM1315 - Aviation Science (3)



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### **AERM1449 - Hydraulic, Pneumatic, and Fuel Systems**

#### **Course Title**

Hydraulic, Pneumatic, and Fuel Systems

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in inspecting, servicing, and maintaining aircraft fluid systems including hydraulics, pneumatics, and fuel. Application of concepts through detailed maintenance procedures. Fundamentals of safety procedures also addressed.

#### **Lecture Hours**

3

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete at least 1 of the following:
  - AERM1109 - Aviation Physics (1)
  - AERM1315 - Aviation Science (3)

### **AERM1452 - Aircraft Sheet Metal**

#### **Course Title**

Aircraft Sheet Metal

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in inspection and repair of sheet metal structures including forming, lay out, and bending of sheet metal and identification, selection, and installation of rivets and fasteners. Fundamentals of safety procedures also addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **AERM1456 - Aircraft Powerplant Electrical** **Course Title**

Aircraft Powerplant Electrical

### **Academic Level**

Undergraduate

### **Description**

General principles of theory, operation, and maintenance of powerplant electrical systems including ignition, starting, and fire protection systems. Fundamentals of safety procedures will also be addressed.

### **Lecture Hours**

2

### **Lab Hours**

6

### **Credits**

4

### **Semester Credit Hours**

4

### **AERM2230 - FAA Review - Airframe** **Course Title**

FAA Review - Airframe

### **Academic Level**

Undergraduate

### **Description**

Review of Federal Aviation Administration subject matter in the General and Airframe curricula with an emphasis on enhancing knowledge and physical skills in preparing for the FAA-required computer, oral and practical examinations.

### **Lecture Hours**

1

### **Lab Hours**

3

### **Credits**

2

### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **AERM2231 - Airframe Inspection**

#### **Course Title**

Airframe Inspection

#### **Academic Level**

Undergraduate

#### **Description**

In-depth coverage of methods and procedures to perform airframe conformity and air worthiness inspections (including One Hundred Hour Inspections) in accordance with Federal Aviation Regulations and manufacturer's service information. Safety procedures will also be addressed.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **AERM2234 - FAA Review - Powerplant**

#### **Course Title**

FAA Review - Powerplant

#### **Academic Level**

Undergraduate

#### **Description**

Federal Aviation Administration subject matter in the General and Powerplant curricula with an emphasis on enhancing knowledge and physical skills in preparing for the FAA-required computer, oral, and powerplant examinations.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **AERM2333 - Assembly and Rigging**

#### **Course Title**

Assembly and Rigging

#### **Academic Level**

Undergraduate

#### **Description**

A comprehensive study of the assembly and rigging of fixed and rotary-wing aircraft including structural alignment, balancing and rigging of control systems, and assembly of aircraft components. Fundamentals of safety procedures are also addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - AERM1109 - Aviation Physics (1)
  - AERM1315 - Aviation Science (3)

### **AERM2341 - Powerplant and Auxiliary Power Units**

#### **Course Title**

Powerplant and Auxiliary Power Units

#### **Academic Level**

Undergraduate

#### **Description**

Advanced concepts of auxiliary power unit (APU) and powerplant systems and components. Safety procedures will also be addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - AERM1109 - Aviation Physics (1)
  - AERM1315 - Aviation Science (3)

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### **AERM2351 - Aircraft Turbine Engine Overhaul**

#### **Course Title**

Aircraft Turbine Engine Overhaul

#### **Academic Level**

Undergraduate

#### **Description**

Comprehensive study in inspection, disassembly, reassembly, and replacement of gas turbine engines, sections, and components including operational troubleshooting, analysis, and safety.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AERM1351 - Aircraft Turbine Engine Theory (3)

### **AERM2352 - Aircraft Powerplant Inspection**

#### **Course Title**

Aircraft Powerplant Inspection

#### **Academic Level**

Undergraduate

#### **Description**

In depth coverage of methods and procedures to perform powerplant conformity and airworthiness inspections (including one hundred hour inspections) in accordance with Federal Aviation Regulations and manufacturer's information. Safety procedures will also be addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AERM2447 - Aircraft Reciprocating Engine Overhaul**

#### **Course Title**

Aircraft Reciprocating Engine Overhaul

#### **Academic Level**

Undergraduate

#### **Description**

A comprehensive study of reciprocating engine overhaul including measurement and inspection procedures. Instruction in removal and installation, inspections, checks, servicing, repair of engines, and safety procedures will also be addressed.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - AERM1444 - Aircraft Reciprocating Engines (4)

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## **Aviation/Pilot, Flight Instruc**

### **AIRP1015 - Private Flight**

#### **Course Title**

Private Flight

#### **Academic Level**

Continuing Education

#### **Description**

Flight training to prepare the student for the completion of the Federal Aviation Administration private pilot certificate, including dual and solo flight in the areas of maneuvers and cross-country navigation.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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### **AIRP1017 - Private Pilot Ground School**

#### **Course Title**

Private Pilot Ground School

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **AIRP1175 - Intermediate Flight**

#### **Course Title**

Intermediate Flight

#### **Academic Level**

Undergraduate

#### **Description**

Provides students with flight hours and skills necessary to fulfill solo cross-country hours required for the Federal Aviation Administration Commercial Pilot, single engine land, airplane certificate.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

#### **Prerequisites**

- Complete the following:
  - AIRP1215 - Private Flight (2)

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### **AIRP1215 - Private Flight** **Course Title**

Private Flight

### **Academic Level**

Undergraduate

### **Description**

Flight and ground training to prepare the student for the completion of the Federal Aviation Administration private pilot certificate.

### **Lecture Hours**

0

### **Lab Hours**

5

### **Credits**

2

### **Semester Credit Hours**

2

### **AIRP1255 - Intermediate Flight** **Course Title**

Intermediate Flight

### **Academic Level**

Undergraduate

### **Description**

Provides students with flight hours and skills necessary to fulfill solo cross-country hours required for the Federal Aviation Administration Commercial Pilot, single engine land, airplane certificate.

### **Lecture Hours**

0

### **Lab Hours**

5

### **Credits**

2

### **Semester Credit Hours**

2



## 2023-2024 Catalog & Student Handbook

### **AIRP1301 - Air Navigation**

#### **Course Title**

Air Navigation

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in Visual Flight rules navigation in the National Airspace System. Topics include, flight computers, plotters, and navigation logs and publications. Qualifies as part of a program leading to Federal Aviation Administration Private Pilot certification.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AIRP1307 - Aviation Meteorology**

#### **Course Title**

Aviation Meteorology

#### **Academic Level**

Undergraduate

#### **Description**

In-depth coverage of meteorological phenomena affecting aircraft flight. Topics include basic concepts of aviation meteorology in the study of temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing, and fog. Also includes analysis and use of weather data for flight planning.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AIRP1341 - Advanced Air Navigation**

#### **Course Title**

Advanced Air Navigation

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in advanced airplane systems and performance including radio navigation and cross-country flight planning. Includes an introduction to instrument flight operations and navigation. This course may be used as part of a program leading to Federal Aviation Administration certification.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AIRP1343 - Aerodynamics**

#### **Course Title**

Aerodynamics

#### **Academic Level**

Undergraduate

#### **Description**

Study of the general principles of the physical laws of flight. Topics include physical terms and the four forces of flight: lift, weight, thrust, and drag. Aircraft design, stability control, and high-speed flight characteristics are also included.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AIRP1345 - Aviation Safety**

#### **Course Title**

Aviation Safety

#### **Academic Level**

Undergraduate

#### **Description**

A study of the fundamentals essential to the safety of flight. A survey of the aviation industry including decision-making factors, accident reporting, accident investigation, air traffic systems, and aircraft technologies.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AIRP1373 - Helicopter Aerodynamics**

#### **Course Title**

Helicopter Aerodynamics

#### **Academic Level**

Undergraduate

#### **Description**

Study of the General Principles of the Physical Laws of Flight. Topics Include Physical Terms and the Four Forces of Flight, Lift, Weight, Thrust, and Drag, Helicopter Design, Aerodynamic forces on rotor airfoils, Stability Control and stability/controllability characteristics, hazardous flight conditions, and overlapping fixed-wing aerodynamics similarities.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AIRP1417 - Private Pilot Ground School**

#### **Course Title**

Private Pilot Ground School

#### **Academic Level**

Undergraduate

#### **Description**

Basic ground school for the Federal Aviation Administration Private Pilot Certificate, providing the student with the necessary aeronautical knowledge that can be used for private pilot certification. Topics include principles of flight, radio procedures, weather, navigation, aerodynamics, and Federal Aviation Administration regulations.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

### **AIRP1451 - Instrument Ground School**

#### **Course Title**

Instrument Ground School

#### **Academic Level**

Undergraduate

#### **Description**

A study of basic instrument radio and navigation fundamentals used in instrument flight. Topics include a description and practical use of navigation systems and instruments, charts used for instrument flight, and Federal Aviation Administration regulations. Qualifies as part of a program leading to Federal Aviation Administration certification.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **AIRP1471 - Helicopter Instrument Ground School**

#### **Course Title**

Helicopter Instrument Ground School

#### **Academic Level**

Undergraduate

#### **Description**

A study of basic instrument radio and navigation fundamentals used in instrument helicopter flight. Topics include a description and practical use of navigation systems and instruments, charts used for instrument flight, and Federal Aviation Administration regulations. Qualifies as part of a program leading to Federal Aviation Administration certification.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

### **AIRP2039 - Commercial Flight**

#### **Course Title**

Commercial Flight

#### **Academic Level**

Continuing Education

#### **Description**

Flight instruction necessary to qualify for the Federal Aviation Administration Commercial Pilot Certificate. Instruction includes both dual and solo flight training to prepare the student for mastery of all commercial pilot maneuvers.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **AIRP2043 - Flight Instructor - Multiengine Airplane**

#### **Course Title**

Flight Instructor - Multiengine Airplane

#### **Academic Level**

Continuing Education

#### **Description**

Flight instruction necessary to qualify for the Federal Aviation Administration Flight Instructor - Multiengine Airplane Rating. Includes combined ground and flight instruction and analysis of flight maneuvers.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **AIRP2050 - Instrument Flight**

#### **Course Title**

Instrument Flight

#### **Academic Level**

Continuing Education

#### **Description**

Preparation for completion of the Federal Aviation Administration Instrument Pilot Rating with mastery of all instrument flight procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **AIRP2051 - Multiengine Flight** **Course Title**

Multiengine Flight

### **Academic Level**

Continuing Education

### **Description**

Preparation for the multiengine class rating which will be added to a current pilot certificate. Includes explanation and demonstration of all required Federal Aviation Administration normal and emergency operations and procedures.

### **Lecture Hours**

2

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **AIRP2151 - Multiengine Flight** **Course Title**

Multiengine Flight

### **Academic Level**

Undergraduate

### **Description**

Preparation for the multiengine class rating which will be added to a current pilot certificate. Includes explanation and demonstration of all required Federal Aviation Administration normal and emergency operations and procedures.

### **Lecture Hours**

0

### **Lab Hours**

3

### **Credits**

1

### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **AIRP2172 - Flight Instructor-Instrument Helicopter** **Course Title**

Flight Instructor-Instrument Helicopter

### **Academic Level**

Undergraduate

### **Description**

Skill development in the fundamentals of teaching and learning in a helicopter oriented environment. Introduction to the techniques of instruction and analysis of helicopter flight maneuvers. Topics include helicopter flight instructor responsibilities and Federal Aviation Regulations relating to the instructor rating.

### **Lecture Hours**

0

### **Lab Hours**

3

### **Credits**

1

### **Semester Credit Hours**

1

### **AIRP2175 - Human Factors in Aviation** **Course Title**

Human Factors in Aviation

### **Academic Level**

Undergraduate

### **Description**

Instruction in flight physiology, the decision-making process, pilot health maintenance, psychological aspects of flight, human behavior as related to the aircraft flight deck, and aeromedical information of significance to flight crews.

### **Lecture Hours**

1

### **Lab Hours**

0

### **Credits**

1

### **Semester Credit Hours**

1



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### **AIRP2236 - Certified Flight Instructor - Flight Course Title**

Certified Flight Instructor - Flight

#### **Academic Level**

Undergraduate

#### **Description**

Flight and ground instruction required to qualify for the Federal Aviation Administration Certified Flight Instructor - Airplane certificate.

#### **Lecture Hours**

0

#### **Lab Hours**

5

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - AIRP2239 - Commercial Flight (2)

### **AIRP2239 - Commercial Flight Course Title**

Commercial Flight

#### **Academic Level**

Undergraduate

#### **Description**

Flight instruction necessary to qualify for the Federal Aviation Administration Commercial Pilot Certificate. Instruction includes both dual and solo flight training to prepare the student to perform commercial pilot maneuvers.

#### **Lecture Hours**

0

#### **Lab Hours**

5

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - AIRP2250 - Instrument Flight (2)

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### **AIRP2242 - Flight Instrument-Instruction Airplane** **Course Title**

Flight Instrument-Instruction Airplane

### **Academic Level**

Undergraduate

### **Description**

Flight and ground instruction required to qualify for the Federal Aviation Administration Certified Flight Instructor--Instrument Airplane certificate.

### **Lecture Hours**

0

### **Lab Hours**

5

### **Credits**

2

### **Semester Credit Hours**

2

### **AIRP2250 - Instrument Flight** **Course Title**

Instrument Flight

### **Academic Level**

Undergraduate

### **Description**

Preparation for completion of the Federal Aviation Administration Instrument Pilot Rating with mastery of all instrument flight procedures.

### **Lecture Hours**

0

### **Lab Hours**

5

### **Credits**

2

### **Semester Credit Hours**

2

### **Prerequisites**

- Complete the following:
  - AIRP1215 - Private Flight (2)

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### **AIRP2251 - Multiengine Flight**

#### **Course Title**

Multiengine Flight

#### **Academic Level**

Undergraduate

#### **Description**

Preparation for the multiengine class rating which will be added to a current pilot certificate. Includes explanation and demonstration of all required Federal Aviation Administration normal and emergency operations and procedures.

#### **Lecture Hours**

0

#### **Lab Hours**

5

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - AIRP2239 - Commercial Flight (2)

### **AIRP2273 - Helicopter Commercial Flight**

#### **Course Title**

Helicopter Commercial Flight

#### **Academic Level**

Undergraduate

#### **Description**

Helicopter flight instruction necessary to qualify for the Federal Aviation Administration Commercial Pilot Certificate. Instruction includes both dual and solo flight training to prepare the student to perform commercial helicopter pilot maneuvers.

#### **Lecture Hours**

0

#### **Lab Hours**

5

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **AIRP2274 - Helicopter Certified Flight Instructor** **Course Title**

Helicopter Certified Flight Instructor

#### **Academic Level**

Undergraduate

#### **Description**

Helicopter flight and ground school instruction required to qualify for the Federal Aviation Administration Certified Flight Instructor-Helicopter certificate.

#### **Lecture Hours**

0

#### **Lab Hours**

5

#### **Credits**

2

#### **Semester Credit Hours**

2

### **AIRP2275 - Agricultural Aircraft Operations Flight** **Course Title**

Agricultural Aircraft Operations Flight

#### **Academic Level**

Undergraduate

#### **Description**

Flight and ground training to prepare the student for safe agricultural aerial application operations. The student will meet requirements for 14 CFR 137.19(e) upon completion of the course.

#### **Lecture Hours**

0

#### **Lab Hours**

5

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **AIRP2331 - Advanced Meteorology**

#### **Course Title**

Advanced Meteorology

#### **Academic Level**

Undergraduate

#### **Description**

Preparation for advanced aviation students to apply knowledge of varying meteorological factors including weather hazards to flight, techniques for minimizing weather hazards, and aviation weather services.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AIRP2333 - Aircraft Systems**

#### **Course Title**

Aircraft Systems

#### **Academic Level**

Undergraduate

#### **Description**

Study of the general principles, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection, and warning systems. Emphasis on subsystems and control systems. null null

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AIRP2337 - Commercial Ground School**

#### **Course Title**

Commercial Ground School

#### **Academic Level**

Undergraduate

#### **Description**

A study of advanced aviation topics used for Federal Aviation Administration certification at the commercial pilot level. Includes preparation for the Federal Aviation Administration Commercial Airplane Practical test.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AIRP2349 - Instructor Ground School**

#### **Course Title**

Instructor Ground School

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in the fundamentals of teaching and learning in an aviation- oriented environment. Introduction to the techniques of instruction and analysis of flight maneuvers. Topics include flight instructor responsibilities and Federal Aviation Regulations relating to the instructor rating.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AIRP2355 - Propulsion Systems**

#### **Course Title**

Propulsion Systems

#### **Academic Level**

Undergraduate

#### **Description**

In-depth coverage of aircraft engine theory and principles of operation of various types of aircraft engines. Topics include propellers, superchargers, engine accessories, controls, and instrumentation.

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AIRP2357 - Turbine Aircraft Systems Ground School**

#### **Course Title**

Turbine Aircraft Systems Ground School

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in the systems of specific turbine aircraft. Emphasis on the "glass cockpit", auxiliary power, aircraft systems, and the first officer's operational role.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AIRP2370 - Helicopter Systems**

#### **Course Title**

Helicopter Systems

#### **Academic Level**

Undergraduate

#### **Description**

Study of helicopter general principles, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection, and warning systems found in helicopters. Emphasis on subsystems, control, and rotor systems.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AIRP2371 - Helicopter Instructor Ground School**

#### **Course Title**

Helicopter Instructor Ground School

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in the fundamentals of teaching and learning in a helicopter oriented environment. Introduction to the techniques of instruction and analysis of helicopter flight maneuvers. Topics include helicopter flight instructor responsibilities and Federal Aviation Regulations relating to the instructor rating.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **AIRP2374 - Helicopter Instrument Ground School**

#### **Course Title**

Helicopter Instrument Ground School

#### **Academic Level**

Undergraduate

#### **Description**

A study of basic instrument radio and navigation fundamentals used in instrument helicopter flight. Topics include a description and practical use of navigation systems and instruments, charts used for instrument flight, and Federal Aviation Administration regulations. Qualifies as part of a program leading to Federal Aviation Administration certification.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AIRP2375 - Agricultural Aircraft Operations Ground School**

#### **Course Title**

Agricultural Aircraft Operations Ground School

#### **Academic Level**

Undergraduate

#### **Description**

A study of aerial application techniques as it applies to aiding the agricultural industry. Topics include aerial application maneuvers, agricultural aviation GPS systems, regulations applicable to aerial application, and aerial application dispersal equipment. Includes preparation for the Texas Department of Agriculture Commercial Pesticide Applicator License exams.

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AIRP2376 - Helicopter Propulsion Systems**

#### **Course Title**

Helicopter Propulsion Systems

#### **Academic Level**

Undergraduate

#### **Description**

In-depth coverage of aircraft engine theory and principles of operation of various types of helicopter engines. Topics include engine components, rotors, engine accessories, engine controls, and helicopter engine instrumentation to include glass cockpit instrumentation.

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AIRP2449 - Instructor Ground School**

#### **Course Title**

Instructor Ground School

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in the fundamentals of teaching and learning in an aviation- oriented environment. Introduction to the techniques of instruction and analysis of flight maneuvers. Preparation for the Federal Aviation Administration Airman Certification Standards for Certified Flight Instructor.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

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## **Avionics**

## 2023-2024 Catalog & Student Handbook

### **AVNC1303 - Introduction to Aviation Electronic Systems**

#### **Course Title**

Introduction to Aviation Electronic Systems

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to the relationship between aviation electronic systems and aircraft flight and navigational systems with emphasis on the operation and function of the systems.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AVNC1306 - FAA Regulations for Avionics Certified Repair Station**

#### **Course Title**

FAA Regulations for Avionics Certified Repair Station

#### **Academic Level**

Undergraduate

#### **Description**

This course provides practical experience in the day-to-day operations of a Federal Aviation Administration Certified Repair Station. Students will perform tasks which will include completion of repair station and FAA forms and records, maintenance of technical data and servicing equipment.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AVNC1343 - Aviation Electrical and Electronic Systems Installation**

#### **Course Title**

Aviation Electrical and Electronic Systems Installation

#### **Academic Level**

Undergraduate

#### **Description**

A comprehensive study of and practical experience in the installation of avionic systems in aircraft, mounting electronic equipment, construction and installation of electrical wiring and cables, proper use of tools, selection of materials, and safety.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AVNC1353 - Operational Testing of Aviation Electronic Systems**

#### **Course Title**

Operational Testing of Aviation Electronic Systems

#### **Academic Level**

Undergraduate

#### **Description**

Operation of ramp test equipment in common usage to test avionic systems. Emphasis on performance of functional checks of aviation electronic systems and any safety concerns.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AVNC1391 - Installation & Operational Testing of Avionics & Pitot-Static Systems** **Course Title**

Installation & Operational Testing of Avionics & Pitot-Static Systems

#### **Academic Level**

Undergraduate

#### **Description**

A practical experience in the planning and execution, and testing of avionics and pitot-static installations. Advanced test equipment will be used where required.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AVNC2304 - Foundations in Avionics Equipment Component Level Repairs** **Course Title**

Foundations in Avionics Equipment Component Level Repairs

#### **Academic Level**

Undergraduate

#### **Description**

In-depth study of common circuit designs found in modern avionics equipment as well as a study of the electronics theory needed to troubleshoot these circuits.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AVNC2308 - Aviation Electrical and Electronics Systems Installation II**

#### **Course Title**

Aviation Electrical and Electronics Systems Installation II

#### **Academic Level**

Undergraduate

#### **Description**

A continuation of AVNC 1343. This course is designed as a study of practical experience in the installation of avionics systems in aircraft, mounting electronic equipment, construction and installation of electrical wiring and cables, proper use of tools, and selection of materials.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AVNC2345 - Aviation Navigational Equipment Component Level Repair**

#### **Course Title**

Aviation Navigational Equipment Component Level Repair

#### **Academic Level**

Undergraduate

#### **Description**

Skills development in component level repair of modern aviation navigational systems including Very High Frequency Omni Range (VOR) and Instrument Landing Systems (ILS). Emphasis on equipment block diagram and specialized test equipment will be covered in detail.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AVNC2350 - Aviation Pulsed RF Equipment Component Level Repair**

#### **Course Title**

Aviation Pulsed RF Equipment Component Level Repair

#### **Academic Level**

Undergraduate

#### **Description**

Skills development in component level repair of modern aviation pulsed Radio Frequency (RF) systems. Emphasis on equipment block diagram and specialized test equipment will be covered.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **AVNC2355 - Advanced Aviation Electronics Troubleshooting**

#### **Course Title**

Advanced Aviation Electronics Troubleshooting

#### **Academic Level**

Undergraduate

#### **Description**

A capstone course designed for students to demonstrate acquired knowledge of avionics systems as well as display techniques required to troubleshoot those systems. The student will face component level repair scenarios.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **AVNC2357 - Aviation Communication Component Level Repair** **Course Title**

Aviation Communication Component Level Repair

### **Academic Level**

Undergraduate

### **Description**

Skills development in component level repair of modern aviation communications and audio equipment. Emphasis on equipment block diagram and specialized test equipment will be covered.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

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## **Baker/Pastry Chef**

### **PSTR1301 - Fundamentals of Baking** **Course Title**

Fundamentals of Baking

### **Academic Level**

Undergraduate

### **Description**

Fundamentals of baking including dough, quick breads, pies, cakes, cookies, and tarts. Instruction in flours, fillings, and ingredients. Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and the evaluation of baked products.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - CHEF1205 - Sanitation and Safety (2)
  - IFWA1205 - Food Service Equipment and Planning (2)
  - IFWA1401 - Food Preparation I (4)



## 2023-2024 Catalog & Student Handbook

### **PSTR2431 - Advanced Pastry Shop**

#### **Course Title**

Advanced Pastry Shop

#### **Academic Level**

Undergraduate

#### **Description**

A study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, and decorations. Emphasis on advanced techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - PSTR1301 - Fundamentals of Baking (3)

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## **Banking / Finance**

### **BNKG1002 - Principles of Banking**

#### **Course Title**

Principles of Banking

#### **Academic Level**

Continuing Education

#### **Description**

Banking

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **BNKG1004 - Tellers**

#### **Course Title**

Tellers

#### **Academic Level**

Continuing Education

#### **Description**

Banking

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Biology**

### **BIOL1106 - Biology for Science Majors Laboratory I (lab)**

#### **Course Title**

Biology for Science Majors Laboratory I (lab)

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies Biology 1306, Biology for Science Majors I. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **BIOL1107 - Biology for Science Majors II Lab**

#### **Course Title**

Biology for Science Majors II Lab

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies Biology 1307, Biology for Science Majors II. Laboratory activities will reinforce study of the diversity and classification of life, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **BIOL1108 - Biology Non-Science Majors Laboratory I**

#### **Course Title**

Biology Non-Science Majors Laboratory I

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies BIOL 1308, Biology for Non-Science Majors I. Laboratory activities will reinforce a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **BIOL1109 - Biology for Non-Science Majors II Lab**

#### **Course Title**

Biology for Non-Science Majors II Lab

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies BIOL 1309, Biology for Non-Science Majors II. Laboratory activities will reinforce a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **BIOL1111 - General Botany Lab**

#### **Course Title**

General Botany Lab

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies Biology 1311, General Botany. Laboratory activities will reinforce fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. (This course is intended for science majors.)

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **BIOL1113 - General Zoology (lab)**

#### **Course Title**

General Zoology (lab)

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies Biology 1313, General Zoology. Laboratory activities will reinforce fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny, and ecology. (This course is intended for science majors.)

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **BIOL1306 - Biology for Science Majors I (lecture)**

#### **Course Title**

Biology for Science Majors I (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BIOL1307 - Biology for Science Majors II**

#### **Course Title**

Biology for Science Majors II

#### **Academic Level**

Undergraduate

#### **Description**

The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BIOL1308 - Biology for Non-Science Majors I**

#### **Course Title**

Biology for Non-Science Majors I

#### **Academic Level**

Undergraduate

#### **Description**

Provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BIOL1309 - Biology for Non-Science Majors II**

#### **Course Title**

Biology for Non-Science Majors II

#### **Academic Level**

Undergraduate

#### **Description**

This course will provide a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BIOL1311 - General Botany**

#### **Course Title**

General Botany

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. (This course is intended for science majors.)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BIOL1313 - General Zoology (lecture)**

#### **Course Title**

General Zoology (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny, and ecology. (This course is intended for science majors.)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BIOL1322 - Nutrition & Diet Therapy**

#### **Course Title**

Nutrition & Diet Therapy

#### **Academic Level**

Undergraduate

#### **Description**

This course introduces general nutritional concepts in health and disease and includes practical applications of that knowledge. Special emphasis is given to nutrients and nutritional processes including functions, food sources, digestion, absorption, and metabolism. Food safety, availability, and nutritional information including food labels, advertising, and nationally established guidelines are addressed.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **BIOL1406 - Biology for Science Majors I**

#### **Course Title**

Biology for Science Majors I

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of BIOL 1306 Biology for Science Majors I (lecture) and BIOL 1106 Biology for Science Majors I (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **BIOL1407 - Biology for Science Majors II**

#### **Course Title**

Biology for Science Majors II

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of BIOL 1307 Biology for Science Majors II (lecture) and BIOL 1107 Biology for Science Majors II (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **BIOL1408 - Biology for Non-Science Majors I**

#### **Course Title**

Biology for Non-Science Majors I

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of BIOL 1308 Biology for Non-Science Majors I (lecture) and BIOL 1108 Biology for Non- Science Majors I (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **BIOL1409 - Biology for Non-Science Majors II**

#### **Course Title**

Biology for Non-Science Majors II

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of BIOL 1309 Biology for Non-Science Majors II (lecture) and BIOL 1109 Biology for Non-Science Majors II (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **BIOL1411 - General Botany**

#### **Course Title**

General Botany

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of BIOL 1311 (lecture) and BIOL 1111 (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **BIOL2101 - Anatomy & Physiology I (lab)**

#### **Course Title**

Anatomy & Physiology I (lab)

#### **Academic Level**

Undergraduate

#### **Description**

The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include integumentary, skeletal, muscular, nervous, and special senses.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **BIOL2102 - Anatomy & Physiology II (lab)**

#### **Course Title**

Anatomy & Physiology II (lab)

#### **Academic Level**

Undergraduate

#### **Description**

The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics).

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **BIOL2106 - Environmental Biology (lab)**

#### **Course Title**

Environmental Biology (lab)

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies Biology 2306, Environmental Biology. Laboratory activities will reinforce principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **BIOL2116 - Genetics (lab)**

#### **Course Title**

Genetics (lab)

#### **Academic Level**

Undergraduate

#### **Description**

Study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **BIOL2120 - Microbiology for Non-Science Majors Laboratory (lab)**

#### **Course Title**

Microbiology for Non-Science Majors Laboratory (lab)

#### **Academic Level**

Undergraduate

#### **Description**

This course covers basics of culture and identification of bacteria and microbial ecology. This course is primarily directed at pre-nursing and other pre-allied health majors and covers basics of microbiology. Emphasis is on medical microbiology, infectious diseases, and public health.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **BIOL2121 - Microbiology for Science Majors Lab**

#### **Course Title**

Microbiology for Science Majors Lab

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies Biology 2321, Microbiology for Science Majors. Laboratory activities will reinforce principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **BIOL2301 - Anatomy & Physiology I (lecture)**

#### **Course Title**

Anatomy & Physiology I (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Anatomy and Physiology I is the first part of a two course sequence. It is a study of the structure and function of the human body including cells, tissues and organs of the following systems: integumentary, skeletal, muscular, nervous and special senses. Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BIOL2302 - Anatomy & Physiology II (lecture)**

#### **Course Title**

Anatomy & Physiology II (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BIOL2306 - Environmental Biology (lecture)**

#### **Course Title**

Environmental Biology (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BIOL2316 - Genetics (lecture)**

#### **Course Title**

Genetics (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BIOL2320 - Microbiology for Non-Science Majors (lecture)**

#### **Course Title**

Microbiology for Non-Science Majors (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

This course covers basic microbiology and immunology and is primarily directed at pre-nursing, pre-allied health, and non-science majors. It provides an introduction to historical concepts of the nature of microorganisms, microbial diversity, the importance of microorganisms and acellular agents in the biosphere, and their roles in human and animal diseases. Major topics include bacterial structure as well as growth, physiology, genetics, and biochemistry of microorganisms. Emphasis is on medical microbiology, infectious diseases, and public health.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **BIOL2321 - Microbiology for Science Majors**

#### **Course Title**

Microbiology for Science Majors

#### **Academic Level**

Undergraduate

#### **Description**

Principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BIOL2401 - Anatomy & Physiology I (lecture + lab)**

#### **Course Title**

Anatomy & Physiology I (lecture + lab)

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of BIOL 2301 Anatomy and Physiology I (lecture) and BIOL 2101 Anatomy and Physiology I (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **BIOL2402 - Anatomy & Physiology II (lecture + lab)**

#### **Course Title**

Anatomy & Physiology II (lecture + lab)

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of BIOL 2302 Anatomy and Physiology II (lecture) and BIOL 2102 Anatomy and Physiology II (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **BIOL2404 - Anatomy & Physiology (specialized, Single-Semester Course, Lec + Lab)**

#### **Course Title**

Anatomy & Physiology (specialized, Single-Semester Course, Lec + Lab)

#### **Academic Level**

Undergraduate

#### **Description**

Study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems. Content may be either integrated or specialized.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **BIOL2406 - Environmental Biology**

#### **Course Title**

Environmental Biology

#### **Academic Level**

Undergraduate

#### **Description**

Human interaction with and effect upon plant and animal communities. Conservation, pollution, energy, and other contemporary ecological problems.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **BIOL2416 - Genetics**

#### **Course Title**

Genetics

#### **Academic Level**

Undergraduate

#### **Description**

Study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **BIOL2420 - Microbiology for Non-Science Majors (lecture + lab)**

#### **Course Title**

Microbiology for Non-Science Majors (lecture + lab)

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of BIOL 2320 Microbiology for Non-Science Majors (lecture) and BIOL 2120 Microbiology for Non-Science Majors Laboratory (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **BIOL2421 - Microbiology for Science Majors**

#### **Course Title**

Microbiology for Science Majors

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of BIOL 2321 (lecture) and BIOL 2121 (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

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## **Biomedical Engineering Tech**

## 2023-2024 Catalog & Student Handbook

### **BIOM1101 - Biomedical Equipment Technology**

#### **Course Title**

Biomedical Equipment Technology

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to current biomedical job responsibilities, salaries, and classifications in the health care industry.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **BIOM1201 - Biomedical Equipment Technology**

#### **Course Title**

Biomedical Equipment Technology

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to current biomedical job responsibilities, salaries, and classifications in the health care industry.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **BIOM1250 - Diagnostic Ultrasound Imaging System**

#### **Course Title**

Diagnostic Ultrasound Imaging System

#### **Academic Level**

Undergraduate

#### **Description**

Diagnostic ultrasound imaging systems. Covers basic systems troubleshooting and problem solving.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **BIOM1270 - Shop Skills for Biomedical Equipment Technicians**

#### **Course Title**

Shop Skills for Biomedical Equipment Technicians

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in the common repair tools and repair techniques used by the Biomedical Equipment Technician in the healthcare.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **BIOM1291 - Special Topics in Biomedical Engineering-Related Technology/Technician** **Course Title**

Special Topics in Biomedical Engineering-Related Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A study of theory, principles and application of the effective administration of technology in the Health care environment with emphasis on the practical understanding of current technology trends and their implications on health care. Topics include codes/standards, computer networks, technology administration/integration and the effective servicing of technology.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **BIOM1309 - Applied Biomedical Equipment Technology** **Course Title**

Applied Biomedical Equipment Technology

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to biomedical instrumentation as related to anatomy and physiology. Includes medical devices for monitoring, diagnosis, and treatment of anatomical systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BIOM1315 - Medical Equipment Networks**

#### **Course Title**

Medical Equipment Networks

#### **Academic Level**

Undergraduate

#### **Description**

Identification of basic principles of medical equipment networking. Hardware, software, and connectivity issues of medical equipment in healthcare facilities will be covered.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - BIOM1373 - Medical Software and Hardware (3)

### **BIOM1341 - Medical Circuits/Troubleshooting**

#### **Course Title**

Medical Circuits/Troubleshooting

#### **Academic Level**

Undergraduate

#### **Description**

Development of skills in troubleshooting of medical electronic circuits and utilization of test equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - CETT1305 - AC Circuits (3)



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### **BIOM1350 - Diagnostic Ultrasound Imaging System**

#### **Course Title**

Diagnostic Ultrasound Imaging System

#### **Academic Level**

Undergraduate

#### **Description**

Diagnostic ultrasound imaging systems. Covers basic systems troubleshooting and problem solving.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - CETT1305 - AC Circuits (3)

### **BIOM1355 - Medical Electronic Applications**

#### **Course Title**

Medical Electronic Applications

#### **Academic Level**

Undergraduate

#### **Description**

Presentation of sensors, transducers, and supporting circuits used in medical instrumentation devices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - BIOM2301 - Safety in Health Care Facilities (3)

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### **BIOM1373 - Medical Software and Hardware**

#### **Course Title**

Medical Software and Hardware

#### **Academic Level**

Undergraduate

#### **Description**

Overview of common medical equipment software, hardware, and operating system maintenance.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BIOM2215 - Physiological Instruments I**

#### **Course Title**

Physiological Instruments I

#### **Academic Level**

Undergraduate

#### **Description**

Theory of operation, circuit analysis, and troubleshooting physiological instruments.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - BIOM2301 - Safety in Health Care Facilities (3)

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### **BIOM2231 - Biomedical Clinical Instrumentation**

#### **Course Title**

Biomedical Clinical Instrumentation

#### **Academic Level**

Undergraduate

#### **Description**

A study of theory, application, and principles of operation of instruments commonly used in a medical laboratory.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **BIOM2239 - Physiological Instruments II**

#### **Course Title**

Physiological Instruments II

#### **Academic Level**

Undergraduate

#### **Description**

Graphic display recording devices. Includes defibrillators and multi-purpose diagnostic equipment.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - BIOM2301 - Safety in Health Care Facilities (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - BIOM2215 - Physiological Instruments I (2)

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### **BIOM2301 - Safety in Health Care Facilities**

#### **Course Title**

Safety in Health Care Facilities

#### **Academic Level**

Undergraduate

#### **Description**

Study of codes, standards and management principles related to biomedical instrumentation. Emphasizes application of safety test equipment, preventive maintenance procedures, and documentation of work performed.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - CETT1305 - AC Circuits (3)

### **BIOM2311 - General Medical Equipment I**

#### **Course Title**

General Medical Equipment I

#### **Academic Level**

Undergraduate

#### **Description**

Analysis of selected current paths from a larger schematic. Discussion of equipment and disassembly and reassembly of equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - CETT1305 - AC Circuits (3)

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### **BIOM2319 - Fundamentals of X-Ray and Medical Imaging Systems**

#### **Course Title**

Fundamentals of X-Ray and Medical Imaging Systems

#### **Academic Level**

Undergraduate

#### **Description**

Radiation theory and safety hazards, fundamental circuits, and application of X-ray systems including circuit analysis and troubleshooting.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - CETT1305 - AC Circuits (3)

### **BIOM2333 - Digital Radiography**

#### **Course Title**

Digital Radiography

#### **Academic Level**

Undergraduate

#### **Description**

General principles of digital radiography systems. Fundamentals of problem solving, troubleshooting, and analysis of image quality are emphasized.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - BIOM2319 - Fundamentals of X-Ray and Medical Imaging Systems (3)

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### **BIOM2343 - General Medical Equipment II**

#### **Course Title**

General Medical Equipment II

#### **Academic Level**

Undergraduate

#### **Description**

Theory and principles of operation of a variety of basic electro-mechanical equipment with emphasis on repair and service of actual medical equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - BIOM2301 - Safety in Health Care Facilities (3)

### **BIOM2345 - Advanced Imaging Systems**

#### **Course Title**

Advanced Imaging Systems

#### **Academic Level**

Undergraduate

#### **Description**

Principles of operation and repair of computerized tomography (CT), magnetic resonance imaging (MRI), single photon emission computerized tomography, and other advanced imaging modalities.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - BIOM2319 - Fundamentals of X-Ray and Medical Imaging Systems (3)

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### **BIOM2347 - RF/X-Ray System**

#### **Course Title**

RF/X-Ray System

#### **Academic Level**

Undergraduate

#### **Description**

Principles of radiographic and fluoroscopic systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - BIOM2319 - Fundamentals of X-Ray and Medical Imaging Systems (3)

### **BIOM2377 - Medical Imaging Communication & Storage**

#### **Course Title**

Medical Imaging Communication & Storage

#### **Academic Level**

Undergraduate

#### **Description**

A course in medical imaging communication and storage systems, including Digital Imaging Communication (DICOM) standards and Picture Archiving and Communication Systems (PACS). Image transfer via DICOM standard to PACS and printers, including modality (X-ray, Computerized Tomography, and Ultrasound) and PACS function, configuration, and troubleshooting, is covered.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BIOM2388 - Internship - Biomedical Technology/Technician** **Course Title**

Internship - Biomedical Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BIOM2389 - Internship-Biomedical Engineering Technician** **Course Title**

Internship-Biomedical Engineering Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Bus Sys Netwrk, Unix**



## 2023-2024 Catalog & Student Handbook

### **ITCC1314 - CCNA 1: Introduction to Networks**

#### **Course Title**

CCNA 1: Introduction to Networks

#### **Academic Level**

Undergraduate

#### **Description**

This course covers networking architecture, structure, and functions; introduces the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations to provide a foundation for the curriculum.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITCC1340 - CCNA 2: Routing and Switching Essentials**

#### **Course Title**

CCNA 2: Routing and Switching Essentials

#### **Academic Level**

Undergraduate

#### **Description**

Describes the architecture, components, and basic operation of routers and explains the basic principles of routing and routing protocols. It also provides an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITCC1344 - CCNA 2: Switching, Routing, and Wireless Essentials**

#### **Course Title**

CCNA 2: Switching, Routing, and Wireless Essentials

#### **Academic Level**

Undergraduate

#### **Description**

Describes the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts; provides an in-depth understanding of how routers and switches operate and are implemented in the LAN environment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITCC1314 - CCNA 1: Introduction to Networks (3)

### **ITCC1391 - Special Topics in System, Networking, and LAN/WAN Management "Wireless Infrastructure/IoT"**

#### **Course Title**

Special Topics in System, Networking, and LAN/WAN Management "Wireless Infrastructure/IoT"

#### **Academic Level**

Undergraduate

#### **Description**

Mac OS X covers, but is not limited to, installation, automation, customizing the operating system, supporting applications, and setting up peripherals. This is an Apple Training Series which serves as both a self-paced learning tool and the official curriculum for the Mac OS X Support Essentials certification program.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITCC2312 - CCNA 3: Scaling Networks**

#### **Course Title**

CCNA 3: Scaling Networks

#### **Academic Level**

Undergraduate

#### **Description**

CCNA R&S: Scaling Networks (ScaN) covers the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches using advanced protocols.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITCC2313 - CCNA 4: Connecting Networks**

#### **Course Title**

CCNA 4: Connecting Networks

#### **Academic Level**

Undergraduate

#### **Description**

WAN technologies and network services required by converged applications in a complex network; enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITCC2320 - CCNA 3: Enterprise Networking, Security , and Automation** **Course Title**

CCNA 3: Enterprise Networking, Security , and Automation

#### **Academic Level**

Undergraduate

#### **Description**

Describes the architecture, components, operations, and security to scale for large, complex networks, including wide area network (WAN) technologies. Emphasizes network security concepts and introduces network virtualization and automation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITCC1344 - CCNA 2: Switching, Routing, and Wireless Essentials (3)

### **ITCC2341 - CCNA Security** **Course Title**

CCNA Security

#### **Academic Level**

Undergraduate

#### **Description**

Overall security processes with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies, products, and solutions; and secure router design, installation, configuration, and maintenance; AAA and VPN implementation using routers and firewalls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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### **ITCC2343 - Network Security**

#### **Course Title**

Network Security

#### **Academic Level**

Undergraduate

#### **Description**

Overall security processes with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies; products and solutions; firewall and secure router design, installation, configuration, and maintenance; AAA and VPN implementation using routers and firewalls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Business**

### **BMGT1022 - Communication Skills for Managers**

#### **Course Title**

Communication Skills for Managers

#### **Academic Level**

Continuing Education

#### **Description**

Basic theory of communication skills as appropriate and applicable to individuals or groups in the business environment. Includes listening, speaking, writing, and communicating non-verbally.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **BMGT1025 - Office Management**

#### **Course Title**

Office Management

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **BMGT1028 - Core Negotiating Skills**

#### **Course Title**

Core Negotiating Skills

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **BMGT1036 - Purchasing Management-Introduction**

#### **Course Title**

Purchasing Management-Introduction

#### **Academic Level**

Continuing Education

#### **Description**

Materials management concepts, planning, pricing and negotiations, product commodity purchase analysis, measurement, appraisal, and legal and ethical considerations.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **BMGT1053 - Ethics Training**

#### **Course Title**

Ethics Training

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **BMGT1097 - Sp Topic Sales, Distribution, Marketing**

#### **Course Title**

Sp Topic Sales, Distribution, Marketing

#### **Academic Level**

Continuing Education

#### **Description**

Marketing

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **BMGT1098 - Special Topics in Selling Skills and Sal**

#### **Course Title**

Special Topics in Selling Skills and Sal

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **BMGT1305 - Communications in Management** **Course Title**

Communications in Management

#### **Academic Level**

Undergraduate

#### **Description**

Basic theory and processes of communication skills necessary for the management of an organization's workforce.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BMGT1306 - Facilities Management** **Course Title**

Facilities Management

#### **Academic Level**

Undergraduate

#### **Description**

General management and supervision of public buildings, business and industrial facilities, and other complexes requiring supervision and control. Includes fire alarm maintenance, plant maintenance, occupational safety, OSHA rules and regulations, management of maintenance supervisors, and hazardous materials awareness.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **BMGT1309 - Information and Project Management** **Course Title**

Information and Project Management

### **Academic Level**

Undergraduate

### **Description**

Critical path methods for planning and controlling projects. Includes time/cost tradeoffs, resource utilization, stochastic considerations, task determination, time management, scheduling management, status reports, budget management, customer service, professional attitude, and project supervision.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **BMGT1325 - Office Management** **Course Title**

Office Management

### **Academic Level**

Undergraduate

### **Description**

Systems, procedures, and practices related to organizing and planning office work, supervising employee performance, and exercising leadership skills.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

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### **BMGT1327 - Principles of Management**

#### **Course Title**

Principles of Management

#### **Academic Level**

Undergraduate

#### **Description**

Concepts, terminology, principles, theories, and issues in the field of management.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BMGT1331 - Production and Operations Management**

#### **Course Title**

Production and Operations Management

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of techniques used in the practice of production and operations management. Includes location, design, and resource allocation.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BMGT2331 - Principles of Quality Management**

#### **Course Title**

Principles of Quality Management

#### **Academic Level**

Undergraduate

#### **Description**

Includes planning and implementing quality programs in an organization and analyzing cost/benefit of quality. Also covers the impact of employee empowerment.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BMGT2341 - Strategic Management**

#### **Course Title**

Strategic Management

#### **Academic Level**

Undergraduate

#### **Description**

Strategic management process, including analysis of how organizations develop and implement a strategy for achieving organizational objectives in a changing environment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BMGT2347 - Critical Thinking and Problem Solving**

#### **Course Title**

Critical Thinking and Problem Solving

#### **Academic Level**

Undergraduate

#### **Description**

Interpreting data for problem solving and recommending corrective action. Emphasis on a structured approach to critical thinking and problem solving in a team environment.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **POFT1002 - Mastering Public Speaking**

#### **Course Title**

Mastering Public Speaking

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **POFT1006 - Employment Success**

#### **Course Title**

Employment Success

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **POFT1013 - Professional Development for Office Pers**

#### **Course Title**

Professional Development for Office Pers

#### **Academic Level**

Continuing Education

#### **Description**

Preparation for the work force including ethics, interpersonal relations, professional attire, and career advancement.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **POFT1020 - Communication Skills for Busin**

#### **Course Title**

Communication Skills for Busin

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **POFT1022 - Introduction to General Office Skills**

#### **Course Title**

Introduction to General Office Skills

#### **Academic Level**

Continuing Education

#### **Description**

List basic office skills; and define business communication skills

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **POFT1120 - Job Search Skills**

#### **Course Title**

Job Search Skills

#### **Academic Level**

Undergraduate

#### **Description**

Skills to seek and obtain employment in business and industry.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **POFT1301 - Business English**

#### **Course Title**

Business English

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **POFT1319 - Records & Information Management I**

#### **Course Title**

Records & Information Management I

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to basic records information management systems including manual and electronic filing.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **POFT2012 - Business Correspondence & Communication**

#### **Course Title**

Business Correspondence & Communication

#### **Academic Level**

Continuing Education

#### **Description**

Development of writing and presentation skills to produce effective business communications.

#### **Lecture Hours**

6

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **POFT2312 - Business Correspondence & Communication** **Course Title**

Business Correspondence & Communication

#### **Academic Level**

Undergraduate

#### **Description**

Development of writing and presentation skills to produce effective business communications.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **POFT2380 - Cooperative Education - Administrative Assistant and Secretarial Science, General** **Course Title**

Cooperative Education - Administrative Assistant and Secretarial Science, General

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

16 per week/240 Total

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Business Management**



## 2023-2024 Catalog & Student Handbook

### **BUSG1005 - Intro to Customer Service**

#### **Course Title**

Intro to Customer Service

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **BUSG1012 - Professionalism in the Workplace**

#### **Course Title**

Professionalism in the Workplace

#### **Academic Level**

Continuing Education

#### **Description**

Develop entry-level skills for the workforce. Includes professionalism, interpersonal skills, communication, workplace civility, and employability skills.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **BUSG1029 - Financial Planning Skills**

#### **Course Title**

Financial Planning Skills

#### **Academic Level**

Continuing Education

#### **Description**

Integration of non-insurance financial products/services with life insurance as part of the financial planning process. Includes financial plans, financial statements, IRS Form 1040, stocks, bonds, and limited partnerships.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **BUSG1301 - Business Principles**

#### **Course Title**

Business Principles

#### **Academic Level**

Undergraduate

#### **Description**

This course provides a survey of economic systems, forms of business ownership, and considerations for running a business. Students will learn various aspects of business, management, and leadership functions; organizational considerations; and decision-making processes. Financial topics are introduced, including accounting, money and banking, and securities markets. Also included are discussions of business challenges in the legal and regulatory environment, business ethics, social responsibility, and international business. Emphasized is the dynamic role of business in everyday life.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BUSG1302 - E-Business Management**

#### **Course Title**

E-Business Management

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to business. Includes the internet, infrastructure for electronic commerce, markup languages, web-based tools and software, security issues, and electronic payment systems. Also covers strategies for marketing, sales, and purchasing; legal, ethical, and tax issues; and management functions.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BUSG1304 - Financial Literacy**

#### **Course Title**

Financial Literacy

#### **Academic Level**

Undergraduate

#### **Description**

A study of the financial principles when managing financial affairs. Includes topics such as budgeting, retirement, property ownership, savings, and investment planning. null End of Course Outcomes Identify the concepts associated with the time value of money; identify the differences among various savings and investment programs and classes of securities; identify the options for insurance; describe retirement and estate planning techniques; explain owning versus renting real property; and describe consumer protection legislation.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **BUSG1315 - Small Business Operations**

#### **Course Title**

Small Business Operations

#### **Academic Level**

Undergraduate

#### **Description**

Operating a small business. Emphasizes management functions including planning, leading, organizing, staffing, and controlling operations.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **BUSG2301 - Business Law**

#### **Course Title**

Business Law

#### **Academic Level**

Undergraduate

#### **Description**

The course provides the student with foundational information about the U.S. legal system and dispute resolution, and their impact on business. The major content areas will include general principles of law, the relationship of business and the U.S. Constitution, state and federal legal systems, the relationship between law and ethics, contracts, sales, torts, agency law, intellectual property, and business law in the global context.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Cartography, GIS & GPS**

### **CRTG1301 - Cartography and Geography in Geographical Information Systems (GIS) and Global Positioning Systems**

#### **Course Title**

Cartography and Geography in Geographical Information Systems (GIS) and Global Positioning Systems

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to the principles of cartography and geography. Emphasis on global reference systems and the use of satellites for measurements and navigation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CRTG1311 - Introduction to Geographic Information Systems (GIS)**

#### **Course Title**

Introduction to Geographic Information Systems (GIS)

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to basic concepts of vector GIS using several industry specific software programs including nomenclature of cartography and geography.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CRTG2320 - Intermediate Geographic Information Systems (GIS)**

#### **Course Title**

Intermediate Geographic Information Systems (GIS)

#### **Academic Level**

Undergraduate

#### **Description**

This course focuses on the study of spatial data structures and the display, manipulation, and analysis of geographic information. Students will study the technical aspects involved in spatial data handling, analysis and modeling. Instruction will include theories and procedures associated with the implementation and management of GIS projects. A variety of GIS software packages will be used in the laboratory.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Chemistry

## 2023-2024 Catalog & Student Handbook

### **CHEM1105 - Introductory Chemistry Laboratory I (lab)**

#### **Course Title**

Introductory Chemistry Laboratory I (lab)

#### **Academic Level**

Undergraduate

#### **Description**

Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for non-science and allied health students.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **CHEM1107 - Introductory Chemistry Laboratory II**

#### **Course Title**

Introductory Chemistry Laboratory II

#### **Academic Level**

Undergraduate

#### **Description**

Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for allied health students and for students who are not science majors.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **CHEM1111 - General Chemistry I (lab)**

#### **Course Title**

General Chemistry I (lab)

#### **Academic Level**

Undergraduate

#### **Description**

Basic laboratory experiments supporting theoretical principles presented in CHEM 1311; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

#### **Corequisites**

- Completed or concurrently enrolled in:
  - CHEM1311 - General Chemistry I (lecture) (3)

### **CHEM1112 - General Chemistry II (lab)**

#### **Course Title**

General Chemistry II (lab)

#### **Academic Level**

Undergraduate

#### **Description**

Basic laboratory experiments supporting theoretical principles presented in CHEM 1312; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

#### **Corequisites**

- Completed or concurrently enrolled in:
  - CHEM1312 - General Chemistry II (lecture) (3)

## 2023-2024 Catalog & Student Handbook

### **CHEM1305 - Introductory Chemistry I (lecture)**

#### **Course Title**

Introductory Chemistry I (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for non-science and allied health students.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CHEM1307 - Introductory Chemistry II**

#### **Course Title**

Introductory Chemistry II

#### **Academic Level**

Undergraduate

#### **Description**

A Continuation of Chem 1305 for Allied Health and Related Science Majors. Topics Include Ionization, Chemical Equilibrium, Oxidation-Reduction, Nuclear Chemistry, and an Introduction Into Organic and Biochemistry.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **CHEM1311 - General Chemistry I (lecture)**

#### **Course Title**

General Chemistry I (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MATH1314 - College Algebra (3 SCH version) (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - CHEM1111 - General Chemistry I (lab) (1)

## 2023-2024 Catalog & Student Handbook

### **CHEM1312 - General Chemistry II (lecture)**

#### **Course Title**

General Chemistry II (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Chemical equilibrium; phase diagrams and spectrometry; acid-base concepts; thermodynamics; kinetics; electrochemistry; nuclear chemistry; an introduction to organic chemistry and descriptive inorganic chemistry.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CHEM1111 - General Chemistry I (lab) (1)
  - CHEM1311 - General Chemistry I (lecture) (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - CHEM1112 - General Chemistry II (lab) (1)

### **CHEM1405 - Introductory Chemistry I**

#### **Course Title**

Introductory Chemistry I

#### **Academic Level**

Undergraduate

#### **Description**

Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for non-science and allied health students.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **CHEM1406 - Introductory Chemistry I**

#### **Course Title**

Introductory Chemistry I

#### **Academic Level**

Undergraduate

#### **Description**

Survey Course Introducing Chemistry. Topics May Include Inorganic, Organic, Biochemistry, Food/Physiological Chemistry, and Environmental/Consumer Chemistry. Designed for Non-Science and Allied Health Students

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **CHEM1411 - General Chemistry I**

#### **Course Title**

General Chemistry I

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of 1314 General Chemistry I Lecture and 1111 General Chemistry I Lab, including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **CHEM1412 - General Chemistry II**

#### **Course Title**

General Chemistry II

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of 1312 General Chemistry II Lecture and 1112 General Chemistry II Lab, including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **CHEM1414 - General Chemistry II**

#### **Course Title**

General Chemistry II

#### **Academic Level**

Undergraduate

#### **Description**

General principles, problems, fundamental laws, and theories. Course content provides a foundation for work in advanced chemistry and related sciences.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **CHEM2123 - Organic Chemistry I Lab**

#### **Course Title**

Organic Chemistry I Lab

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies CHEM 2323, Organic Chemistry I. Laboratory activities will reinforce fundamental principles of organic chemistry, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. Methods for the purification and identification of organic compounds will be examined.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **CHEM2125 - Organic Chemistry II Lab**

#### **Course Title**

Organic Chemistry II Lab

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies CHEM 2325, Organic Chemistry II. Laboratory activities reinforce advanced principles of organic chemistry, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **CHEM2323 - Organic Chemistry I**

#### **Course Title**

Organic Chemistry I

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental principles of organic chemistry will be studied, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CHEM2325 - Organic Chemistry II**

#### **Course Title**

Organic Chemistry II

#### **Academic Level**

Undergraduate

#### **Description**

Advanced principles of organic chemistry will be studied, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CTEC2386 - Internship - Chemical Technology**

#### **Course Title**

Internship - Chemical Technology

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CTEC2387 - Internship - Chemical Technology**

#### **Course Title**

Internship - Chemical Technology

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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**Child Care Guida. Wkr/Mgr/Gen**

## 2023-2024 Catalog & Student Handbook

### **CDEC1012 - Child Guidance and Discipline**

#### **Course Title**

Child Guidance and Discipline

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CDEC1318 - Wellness of the Young Child**

#### **Course Title**

Wellness of the Young Child

#### **Academic Level**

Undergraduate

#### **Description**

Factors impacting the well-being of young children. Includes healthy behavior, food, nutrition, fitness, and safety practices. Focuses on local and national standards and legal implications of relevant policies and regulations. Course content is aligned with State Board of Educator Certification Pedagogy and Professional Responsibilities standards. Requires students to participate in a minimum of 16 hours field experience with children from infancy through age 12 in a variety of settings with varied and diverse populations.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **CDEC1321 - The Infant and Toddler** **Course Title**

The Infant and Toddler

### **Academic Level**

Undergraduate

### **Description**

A study of appropriate infant and toddler programs (birth to age 3), including an overview of development, quality routines, learning environments, materials and activities, and teaching/guidance techniques.

### **Lecture Hours**

3

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **CDEC1356 - Emergent Literacy for Early Childhood** **Course Title**

Emergent Literacy for Early Childhood

### **Academic Level**

Undergraduate

### **Description**

An exploration of principles, methods, and materials for teaching language and literacy through a play-based integrated curriculum to children from birth through age eight.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CDEC1359 - Children with Special Needs**

#### **Course Title**

Children with Special Needs

#### **Academic Level**

Undergraduate

#### **Description**

A survey of information regarding children with special needs including possible causes and characteristics of exceptionalities, intervention strategies, available resources, referral processes, the advocacy role, and legislative issues.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CDEC2340 - Instructional Techniques for Children with Special Needs**

#### **Course Title**

Instructional Techniques for Children with Special Needs

#### **Academic Level**

Undergraduate

#### **Description**

Exploration of development and implementation of curriculum for children with special needs.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **College Success**

## 2023-2024 Catalog & Student Handbook

### **TSTC1101 - College Success**

#### **Course Title**

College Success

#### **Academic Level**

Undergraduate

#### **Description**

Essential elements of student learning success at TSTC.

#### **Lecture Hours**

1

#### **Lab Hours**

1

#### **Credits**

1

#### **Semester Credit Hours**

1

### **TSTC1102 - Professional Skills & Success**

#### **Course Title**

Professional Skills & Success

#### **Academic Level**

Undergraduate

#### **Description**

Preparation for career success including professional and employability skills, interpersonal skills, and communication.

#### **Lecture Hours**

1

#### **Lab Hours**

1

#### **Credits**

1

#### **Semester Credit Hours**

1

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## **Commercial Photography**

## 2023-2024 Catalog & Student Handbook

### **PHTC1004 - Introductory Professional Photography**

#### **Course Title**

Introductory Professional Photography

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **PHTC1011 - Fundamentals of Photography**

#### **Course Title**

Fundamentals of Photography

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to camera operation and image production, composition, flash usage, and use of exposure meters and filters.

#### **Lecture Hours**

10

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **PHTC1311 - Fundamentals of Photography**

#### **Course Title**

Fundamentals of Photography

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to camera operation and image production, composition, flash usage, and use of exposure meters and filters.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1302 - Digital Imaging I (3)

### **PHTC1340 - Photographic Retouching I**

#### **Course Title**

Photographic Retouching I

#### **Academic Level**

Undergraduate

#### **Description**

An overview of retouching techniques to enhance photographic media. Includes restoration and coloration.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PHTC1343 - Expressive Photography**

#### **Course Title**

Expressive Photography

#### **Academic Level**

Undergraduate

#### **Description**

A study of formal, professional, and individual uses of photography by applying photographic technology to personalized needs. Emphasis on creative visual thinking and problem solving and the exploration of personal vision.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PHTC1345 - Illustrative Photography I**

#### **Course Title**

Illustrative Photography I

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in the technical aspects involved in commercial photography. Topics include lighting equipment, techniques of production photography, reproduction principles, illustrative techniques, and advertising.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PHTC1353 - Portraiture I**

#### **Course Title**

Portraiture I

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in the photographic principles of portrait lighting, posing, and subject rapport.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PHTC1371 - Commercial Photography**

#### **Course Title**

Commercial Photography

#### **Academic Level**

Undergraduate

#### **Description**

The study and utilization of professional commercial photography techniques, including the use of industry standard software, professional lighting techniques, and the emulation of an industry environment utilizing sample employers and clients.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PHTC1391 - Special Topics in Commercial Photography** **Course Title**

Special Topics in Commercial Photography

### **Academic Level**

Undergraduate

### **Description**

The study and utilization of professional commercial photography techniques, including the use of industry standard software, professional lighting techniques, and the emulation of an industry environment utilizing sample employers and clients.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **PHTC2340 - Photographic Studio Management** **Course Title**

Photographic Studio Management

### **Academic Level**

Undergraduate

### **Description**

In-depth study of photography business management, pricing, market analysis, promotion, networking, job acquisition, and photographic equipment analysis.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

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## **Commercial Vehicle Operation**



## 2023-2024 Catalog & Student Handbook

### **CVOP1001 - Commercial Drivers License Dri**

#### **Course Title**

Commercial Drivers License Dri

#### **Academic Level**

Continuing Education

#### **Description**

Overview of the State of Texas Class A Commercial Drivers License driving test. In-depth coverage of in-cab air brake test, proper shifting, right and left-hand turns, movement in traffic, parking of a tractor trailer, highway and city driving, and backward movement and control.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **CVOP1005 - Commercial Drivers License Written Skill**

#### **Course Title**

Commercial Drivers License Written Skill

#### **Academic Level**

Continuing Education

#### **Description**

Overview of the State of Texas Class A Commercial Drivers License written test. In-depth coverage of air brakes, combination vehicle, doubles and triples, tankers, and hazardous materials. Includes preparation for mastery of the Commercial Drivers License written examination.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CVOP1011 - Driving Skills for Transporting Passengers**

#### **Course Title**

Driving Skills for Transporting Passengers

#### **Academic Level**

Continuing Education

#### **Description**

Overview of the State of Texas Class A or Class B Commercial Drivers License driving test. In-depth coverage of the in-cab air brake test, proper shifting, right and left hand turns, movement in traffic, parking of a vehicle designed to transport passengers, highway and city driving, and backward movement and control.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CVOP1013 - Professional Truck Driver I**

#### **Course Title**

Professional Truck Driver I

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CVOP1040 - Professional Truck Driver II**

#### **Course Title**

Professional Truck Driver II

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CVOP1091 - Special Topics in Truck, Bus and Other C** **Course Title**

Special Topics in Truck, Bus and Other C

### **Academic Level**

Continuing Education

### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **CVOP1091 - St Truck,bus/Other Comm. Vehicle Operat** **Course Title**

St Truck,bus/Other Comm. Vehicle Operat

### **Academic Level**

Continuing Education

### **Lecture Hours**

0

### **Lab Hours**

2

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CVOP1301 - Commercial Drivers License Driving Skills**

#### **Course Title**

Commercial Drivers License Driving Skills

#### **Academic Level**

Undergraduate

#### **Description**

Overview of the State of Texas Class A Commercial Driver's License driving test. In-depth coverage of in-cab air brake test, proper shifting, right and left-hand turns, movement in traffic, parking of a tractor trailer, highway and city driving, and backward movement and control.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CVOP1305 - Commercial Drivers License Written Skills**

#### **Course Title**

Commercial Drivers License Written Skills

#### **Academic Level**

Undergraduate

#### **Description**

Overview of the State of Texas Class A Commercial Driver's License written test. In-depth coverage of general knowledge, air brakes, combination vehicle, doubles and triples, tankers, and hazardous materials. Includes preparation for mastery of the Commercial Drivers License written examination.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CVOP2005 - Fundamental Driving Skills**

#### **Course Title**

Fundamental Driving Skills

#### **Academic Level**

Continuing Education

#### **Description**

Operation of a tractor-trailer combination. Emphasis on the safe maneuvering and control of the tractor-trailer in numerous traffic situations and sharing the highway with other vehicles.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **CVOP2037 - Advanced Driving Skills II**

#### **Course Title**

Advanced Driving Skills II

#### **Academic Level**

Continuing Education

#### **Description**

Continuation of tractor-trailer operation in city and highway conditions. Emphasis on practical applications of space management techniques, improved methods for control in difficult traffic situations, and effective operation in various conditions.

#### **Lecture Hours**

5

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Communication System Installer**

## 2023-2024 Catalog & Student Handbook

### **CSIR1002 - Telecomm. Integrated Systems**

#### **Course Title**

Telecomm. Integrated Systems

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

6

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CSIR1048 - Applied General Communication Circuits**

#### **Course Title**

Applied General Communication Circuits

#### **Academic Level**

Continuing Education

#### **Description**

The basic theory of operation and troubleshooting of communication circuits used in radio communication electronics systems.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CSIR1052 - Applied Industry Certifications**

#### **Course Title**

Applied Industry Certifications

#### **Academic Level**

Continuing Education

#### **Description**

Preparation for the certifications required by industry.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CSIR1055 - Industry Certifications**

#### **Course Title**

Industry Certifications

#### **Academic Level**

Continuing Education

#### **Description**

Preparation for the Certifications Required by Industry.

#### **Lecture Hours**

1

#### **Lab Hours**

1

#### **Semester Credit Hours**

0

### **CSIR1059 - Digital Data Communication**

#### **Course Title**

Digital Data Communication

#### **Academic Level**

Continuing Education

#### **Description**

Introduction to the theory and troubleshooting skills needed in the digital data communication field.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CSIR1355 - Industry Certifications**

#### **Course Title**

Industry Certifications

#### **Academic Level**

Undergraduate

#### **Description**

Preparation for the certifications required by industry.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - IEIR1371 - Electrical Principles and Applications (3)
  - CETT1302 - Electricity Principles (3)

### **CSIR2051 - Fiber Optic Communication System Install**

#### **Course Title**

Fiber Optic Communication System Install

#### **Academic Level**

Continuing Education

#### **Description**

Focus on installation, and repair of fiber optic communication systems including networks and peripherals. Topics include fiber optic technology, state-of-the-art networking systems, installation/repair of fiber optic systems, and testing equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **CSIR2301 - Communication Electronics Components**

#### **Course Title**

Communication Electronics Components

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to the theory of vacuum tubes and solid-state devices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - IEIR1371 - Electrical Principles and Applications (3)
  - CETT1302 - Electricity Principles (3)

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## Community Health

### **CHLT1009 - Community Ethics**

#### **Course Title**

Community Ethics

#### **Academic Level**

Continuing Education

#### **Description**

Discussion of the role of ethics as it pertains to health care and community settings including ethical decision-making.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## Computer

## 2023-2024 Catalog & Student Handbook

### **CETT1000 - Alternating Current (ac) Circuits**

#### **Course Title**

Alternating Current (ac) Circuits

#### **Academic Level**

Continuing Education

#### **Description**

Fundamentals of alternating current.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CETT1001 - Direct Current (dc) Circuits**

#### **Course Title**

Direct Current (dc) Circuits

#### **Academic Level**

Continuing Education

#### **Description**

Fundamentals of direct current (DC).

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CETT1003 - Dc Circuits**

#### **Course Title**

Dc Circuits

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CETT1029 - Solid State Devices**

#### **Course Title**

Solid State Devices

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

### **CETT1091 - Special Topics in Computer Engineering T**

#### **Course Title**

Special Topics in Computer Engineering T

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CETT1302 - Electricity Principles**

#### **Course Title**

Electricity Principles

#### **Academic Level**

Undergraduate

#### **Description**

Principles of electricity including proper use of test equipment, A/C and D/C circuits, and component theory and operations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CETT1303 - DC Circuits**

#### **Course Title**

DC Circuits

#### **Academic Level**

Undergraduate

#### **Description**

A study of the fundamentals of direct current including Ohm's law, Kirchhoff's laws and circuit analysis techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CETT1305 - AC Circuits**

#### **Course Title**

AC Circuits

#### **Academic Level**

Undergraduate

#### **Description**

A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)

### **CETT1325 - Digital Fundamentals**

#### **Course Title**

Digital Fundamentals

#### **Academic Level**

Undergraduate

#### **Description**

An entry level course in digital electronics to include numbering systems, logic gates, Boolean algebra, and combinational logic.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)

## 2023-2024 Catalog & Student Handbook

### **CETT1329 - Solid State Devices**

#### **Course Title**

Solid State Devices

#### **Academic Level**

Undergraduate

#### **Description**

A study of diodes, transistor characteristics and other semiconductor devices, including analysis of static and dynamic characteristics, biasing techniques, and thermal considerations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - CETT1305 - AC Circuits (3)
  - Complete at least 1 of the following:
    - IEIR1371 - Electrical Principles and Applications (3)
    - IEIR1304 - Alternating Current Circuits for Industrial Applications (3)

### **CETT1341 - Solid State Circuits**

#### **Course Title**

Solid State Circuits

#### **Academic Level**

Undergraduate

#### **Description**

A study of various semiconductor devices incorporated in circuits and their applications. Emphasis on circuit construction, measurements, and analysis.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSC1004 - Software App Skills Upgrade**

#### **Course Title**

Software App Skills Upgrade

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to selected application software. null October 31 2019 2:39 PM Garcia, Juan

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSC1007 - Unix Operating System I**

#### **Course Title**

Unix Operating System I

#### **Academic Level**

Continuing Education

#### **Description**

A study of the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. Topics include introductory systems management concepts.

#### **Lecture Hours**

6

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ITSC1008 - Help Desk Support for Operating Systems**

#### **Course Title**

Help Desk Support for Operating Systems

#### **Academic Level**

Continuing Education

#### **Description**

Fundamental operating system customer support.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSC1018 - Intro to Project Manag Software**

#### **Course Title**

Intro to Project Manag Software

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSC1022 - Basic Computers**

#### **Course Title**

Basic Computers

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **ITSC1025 - Personal Computer Hardware**

#### **Course Title**

Personal Computer Hardware

#### **Academic Level**

Continuing Education

#### **Description**

A study of current personal computer hardware including personal computer assembly and upgrading, setup and configuration, and troubleshooting.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSC1301 - Introduction to Computers**

#### **Course Title**

Introduction to Computers

#### **Academic Level**

Undergraduate

#### **Description**

Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSC1309 - Integrated Software Applications I** **Course Title**

Integrated Software Applications I

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to business productivity software suites using word processing, spreadsheets, databases, and/or presentation software.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITSC1315 - Project Management Software** **Course Title**

Project Management Software

#### **Academic Level**

Undergraduate

#### **Description**

Use of project management software for developing a project plan including timelines, milestones, scheduling, life cycle phases, management frameworks, skills, processes, and tools.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSC1316 - Linux Installation and Configuration**

#### **Course Title**

Linux Installation and Configuration

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application installation. Emphasizes hands-on setup, administration, and management of Linux.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - ITNW1358 - Network+ (3)
  - ITCC1314 - CCNA 1: Introduction to Networks (3)

### **ITSC1325 - Personal Computer Hardware**

#### **Course Title**

Personal Computer Hardware

#### **Academic Level**

Undergraduate

#### **Description**

Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSC1342 - Shell Programming**

#### **Course Title**

Shell Programming

#### **Academic Level**

Undergraduate

#### **Description**

Reading, writing, and debugging shell scripts. Development of scripts to automate frequently executed sequences of commands. Covers conditional logic, user interaction, loops, and menus to enhance the productivity and effectiveness of the user. Intended for programmers who are familiar with operating environments and reading and writing various shell scripts.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITSC2035 - Application Software Problem Solving**

#### **Course Title**

Application Software Problem Solving

#### **Academic Level**

Continuing Education

#### **Description**

Utilization of appropriate application software to solve advanced problems and generate customized solutions.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ITSC2321 - Integrated Software App II** **Course Title**

Integrated Software App II

#### **Academic Level**

Undergraduate

#### **Description**

Intermediate study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITSC2370 - Final Project-Systems Administration** **Course Title**

Final Project-Systems Administration

#### **Academic Level**

Undergraduate

#### **Description**

Students will design and implement a systems administration plan for specified parameters utilizing knowledge and skill sets learned in the course of instruction. The students will be given a set of desired administrative outcomes and will implement current or impending technologies to obtain the desired administrative outcomes.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSC2380 - Cooperative Education - Computer and Information Sciences, General** **Course Title**

Cooperative Education - Computer and Information Sciences, General

#### **Academic Level**

Undergraduate

#### **Description**

Career Related Activities Encountered in the Student's Area of Specialization Are Offered Through a Cooperative Agreement Between the College, Employer, and Student. Under Supervision of The College and the Employer the Student Combines Classroom Learning With Work Experience. Directly Related to a Technical Discipline, Specific Learning Objectives Guide the Student Through the Paid Work Experience. This Course May Be Repeated If Topics and Learning Outcomes Vary.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITSC2386 - Internship - Computer and Information Sciences, General** **Course Title**

Internship - Computer and Information Sciences, General

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSC2425 - Advanced Linux** **Course Title**

Advanced Linux

### **Academic Level**

Undergraduate

### **Description**

Provides instruction in advance open-source Linux operating system. Develops directory services for clients, support users remotely, and install and configure network services.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

4

### **Semester Credit Hours**

4

### **Prerequisites**

- Complete the following:
  - ITSC1316 - Linux Installation and Configuration (3)

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## Computer/Information Sciences

## 2023-2024 Catalog & Student Handbook

### **INEW2330 - Comprehensive Software Project: Planning and Design** **Course Title**

Comprehensive Software Project: Planning and Design

### **Academic Level**

Undergraduate

### **Description**

A comprehensive application of skills learned in previous courses in a simulated workplace. Covers the development, testing, and documenting of a complete software and/or hardware solution. This course may be used as a capstone course for a certificate or degree.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - ITSE2333 - Implementing a Database on Microsoft SQL Server (3)
  - Complete at least 1 of the following:
    - ITSE2353 - Advanced C# Programming (3)
    - ITSE2373 - Advanced Python (3)



## 2023-2024 Catalog & Student Handbook

### **INEW2332 - Comprehensive Software Project: Coding, Testing, and Implementation** **Course Title**

Comprehensive Software Project: Coding, Testing, and Implementation

#### **Academic Level**

Undergraduate

#### **Description**

A comprehensive application of skills learned in previous semesters in a simulated workplace. Includes coding, testing, maintenance, and documentation of a complete software and/or hardware solution. This course may be used as a capstone course for a certificate or degree.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - ITSE2333 - Implementing a Database on Microsoft SQL Server (3)
  - Complete at least 1 of the following:
    - ITSE2353 - Advanced C# Programming (3)
    - ITSE2373 - Advanced Python (3)

### **INEW2334 - Advanced Web Programming** **Course Title**

Advanced Web Programming

#### **Academic Level**

Undergraduate

#### **Description**

Web programming using industry-standard languages and data stores.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **INEW2338 - Advanced Java Programming** **Course Title**

Advanced Java Programming

### **Academic Level**

Undergraduate

### **Description**

A continuation of Java programming techniques such as servlets, and advanced graphical functions.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - ITSE2317 - Java Programming (3)

---

## Construction

### **CRPT1023 - Floor System** **Course Title**

Floor System

### **Academic Level**

Continuing Education

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CRPT1029 - Introduction to Carpentry**

#### **Course Title**

Introduction to Carpentry

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to the carpentry trade including safety, tools, equipment, terminology, and methods.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CRPT1311 - Roof Systems**

#### **Course Title**

Roof Systems

#### **Academic Level**

Undergraduate

#### **Description**

Principles of design and construction of a roof system incorporating gable, hip, valley and intersections. Emphasis given to safe work practices and the use, and maintenance of tools and equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CRPT1315 - Wall Systems**

#### **Course Title**

Wall Systems

#### **Academic Level**

Undergraduate

#### **Description**

Identification of components; construction of wall systems; safe work practices; and the use, and maintenance of tools and equipment. null null null

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CRPT1341 - Exterior Finish Systems**

#### **Course Title**

Exterior Finish Systems

#### **Academic Level**

Undergraduate

#### **Description**

Installation of exterior finish systems and components including the placement and installation of cornice, windows, doors, siding, and flashing. Emphasis on safe work practices and the use, and maintenance of tools and equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CRPT1371 - Basic Framing**

#### **Course Title**

Basic Framing

#### **Academic Level**

Undergraduate

#### **Description**

Knowledge and skills required to erect wood and light metal frame structures with emphasis on layout, sequencing, strength of materials and construction; of floors, walls (interior and exterior), and roofs. Includes safety procedures for using hand tools, power tools, equipment and structural materials.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Construction/Building Inspect

### **CBFM1303 - Boiler Maintenance**

#### **Course Title**

Boiler Maintenance

#### **Academic Level**

Undergraduate

#### **Description**

Boiler maintenance procedures with emphasis on the various components associated with boilers.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CBFM2013 - Building Maintenance Managemen**

#### **Course Title**

Building Maintenance Managemen

#### **Academic Level**

Continuing Education

#### **Description**

Management and controls required to direct operations of the engineering and maintenance department. Includes planning and scheduling, delegating responsibilities, purchasing, problem-solving, management by objectives, supervisory training, in-service training, and budget preparation.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Criminal Justice**

### **CJCR2002 - Police Suicide, Detection & Intervention**

#### **Course Title**

Police Suicide, Detection & Intervention

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CJSA1325 - Criminology** **Course Title**

Criminology

### **Academic Level**

Undergraduate

### **Description**

Current theories and empirical research pertaining to crime and criminal behavior and its causes, methods of prevention, systems of punishment, and rehabilitation.

### **Lecture Hours**

3

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **CJSA1327 - Fundamentals of Criminal Law** **Course Title**

Fundamentals of Criminal Law

### **Academic Level**

Undergraduate

### **Description**

A study of the nature of criminal law; philosophical and historical development; major definitions and concepts; classification of crime; elements of crimes and penalties using Texas statutes as illustrations; criminal responsibility.

### **Lecture Hours**

3

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CJSA1393 - Special Topics in Criminal Justice Studies**

#### **Course Title**

Special Topics in Criminal Justice Studies

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CJSA2000 - Professional Development: Criminal Justi**

#### **Course Title**

Professional Development: Criminal Justi

#### **Academic Level**

Continuing Education

#### **Description**

Intensive training in an identified area(s) to meet continuing education and/or review/update requirements associated with professional licensure or certification. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Culinary Arts/Chef Training**



## 2023-2024 Catalog & Student Handbook

### **CHEF1205 - Sanitation and Safety**

#### **Course Title**

Sanitation and Safety

#### **Academic Level**

Undergraduate

#### **Description**

A study of personal cleanliness; sanitary practices in food preparation; causes, investigation, control of illness caused by food contamination (Hazard Analysis Critical Control Points); and work place safety standards.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

### **CHEF1340 - Meat Preparation and Cooking**

#### **Course Title**

Meat Preparation and Cooking

#### **Academic Level**

Undergraduate

#### **Description**

Study of the preparation, storage, and cooking techniques for beef, pork, lamb, poultry, seafood, and game. Includes moist, dry, and combination heat preparation methods as related to both classical and modern methods of preparation of dishes.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - IFWA1427 - Food Preparation II (4)

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### **CHEF1413 - Food Service Operations/Systems**

#### **Course Title**

Food Service Operations/Systems

#### **Academic Level**

Undergraduate

#### **Description**

An overview of the information needs of food and lodging properties. Emphasis on front, back, and material management utilizing computer systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

### **CHEF1441 - American Regional Cuisine**

#### **Course Title**

American Regional Cuisine

#### **Academic Level**

Undergraduate

#### **Description**

A study of the development of regional cuisine's in the United States with emphasis on the similarities in production and service systems. Application of skills to develop, organize, and build a portfolio of recipe strategies and production systems.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - IFWA1427 - Food Preparation II (4)
  - PSTR2431 - Advanced Pastry Shop (4)

## 2023-2024 Catalog & Student Handbook

### **CHEF1445 - International Cuisine**

#### **Course Title**

International Cuisine

#### **Academic Level**

Undergraduate

#### **Description**

The study of classical cooking skills associated with the preparation and service of international and ethnic cuisines. Topics include similarities between food production systems used in the United States and other regions of the world.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - IFWA1427 - Food Preparation II (4)
  - PSTR2431 - Advanced Pastry Shop (4)

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## Data Processing

### **ITSW1002 - Microsoft Excel**

#### **Course Title**

Microsoft Excel

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ITSW1021 - Intro to Integrated Productivity Program**

#### **Course Title**

Intro to Integrated Productivity Program

#### **Academic Level**

Continuing Education

#### **Description**

Integration of word processing, database, and spreadsheets. Includes formatting, file functions, printing, screen formats, data minupulation, record selection, indexing, sorting, moving, and copying.

#### **Lecture Hours**

1

#### **Lab Hours**

1

#### **Semester Credit Hours**

0

### **ITSW1030 - Ms Outlook**

#### **Course Title**

Ms Outlook

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSW1037 - Introduction to Presentation Software**

#### **Course Title**

Introduction to Presentation Software

#### **Academic Level**

Continuing Education

#### **Description**

Introduction to computerized presentation graphics that leads the participant through planning, design, and production of business graphics and charts. Presentation files are produced utilizing multimedia software.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ITSW1307 - Introduction to Database Course Title**

Introduction to Database

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to database theory and the practical applications of a database.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITSW1310 - Introduction to Presentation Graphics Software Course Title**

Introduction to Presentation Graphics Software

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in the utilization of presentation software to produce multimedia presentations. Graphics, text, sound, animation and/or video may be used in presentation development.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSW2029 - Intermediate Spreadsheets II**

#### **Course Title**

Intermediate Spreadsheets II

#### **Academic Level**

Continuing Education

#### **Description**

Techniques for customizing the spreadsheet environment by analyzing workbook data and creating worksheets and charts.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSW2056 - Microsoft Powerpoint**

#### **Course Title**

Microsoft Powerpoint

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Dental Hygiene**

### **DHYG1002 - Nitrous Oxide Sedation Monitoring**

#### **Course Title**

Nitrous Oxide Sedation Monitoring

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **DHYG1207 - General and Dental Nutrition**

#### **Course Title**

General and Dental Nutrition

#### **Academic Level**

Undergraduate

#### **Description**

General nutrition and nutritional biochemistry emphasizing the effect nutrition has on oral health.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **DHYG1211 - Periodontology**

#### **Course Title**

Periodontology

#### **Academic Level**

Undergraduate

#### **Description**

Normal and diseased periodontium including the structural, functional, and environmental factors. Emphasis on etiology, pathology, treatment modalities, and therapeutic and preventive periodontics.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **DHYG1215 - Community Dentistry**

#### **Course Title**

Community Dentistry

#### **Academic Level**

Undergraduate

#### **Description**

The principles and concepts of community public health and dental health education emphasizing community assessment, educational planning, implementation, and evaluation including methods and materials used in teaching dental health education in various community settings.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **DHYG1227 - Preventive Dental Hygiene Care**

#### **Course Title**

Preventive Dental Hygiene Care

#### **Academic Level**

Undergraduate

#### **Description**

The role of the dental hygienist as a therapeutic oral health care provider with emphasis on concepts of disease management, health promotion, communication, and behavior modification.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2



## 2023-2024 Catalog & Student Handbook

### **DHYG1235 - Pharmacology for the Dental Hygienist**

#### **Course Title**

Pharmacology for the Dental Hygienist

#### **Academic Level**

Undergraduate

#### **Description**

Classification of drugs and their uses, actions, interactions, side effects, contraindications, with emphasis on dental applications.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

### **DHYG1239 - General and Oral Pathology**

#### **Course Title**

General and Oral Pathology

#### **Academic Level**

Undergraduate

#### **Description**

Disturbances in human body development, diseases of the body, and disease prevention measures with emphasis on the oral cavity and associated structures.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **DHYG1260 - Clinical - Dental Hygiene/Hygienist**

#### **Course Title**

Clinical - Dental Hygiene/Hygienist

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - DHYG1331 - Preclinical Dental Hygiene (3)

### **DHYG1261 - Clinical - Dental Hygiene/Hygienist**

#### **Course Title**

Clinical - Dental Hygiene/Hygienist

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - DHYG1260 - Clinical - Dental Hygiene/Hygienist (2)

## 2023-2024 Catalog & Student Handbook

### **DHYG1301 - Orofacial Anatomy, Histology & Embryology**

#### **Course Title**

Orofacial Anatomy, Histology & Embryology

#### **Academic Level**

Undergraduate

#### **Description**

The histology and embryology of oral tissues, gross anatomy of the head and neck, tooth morphology, and individual tooth identification.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DHYG1304 - Dental Radiology**

#### **Course Title**

Dental Radiology

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of oral radiography, including techniques, interpretation, quality assurance, and ethics.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DHYG1319 - Dental Materials**

#### **Course Title**

Dental Materials

#### **Academic Level**

Undergraduate

#### **Description**

Physical and chemical properties of dental materials including the application and manipulation of the various materials used in dentistry.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DHYG1331 - Preclinical Dental Hygiene**

#### **Course Title**

Preclinical Dental Hygiene

#### **Academic Level**

Undergraduate

#### **Description**

Foundational knowledge for performing clinical skills on patients with emphasis on procedures and rationale for performing dental hygiene care. Introduction to ethical principles as they apply to dental hygiene care.

#### **Lecture Hours**

1

#### **Lab Hours**

7

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DHYG2153 - Dental Hygiene Practice**

#### **Course Title**

Dental Hygiene Practice

#### **Academic Level**

Undergraduate

#### **Description**

Emphasis on the laws governing the practice of dentistry and dental hygiene, moral standards, and the ethical standards established by the dental hygiene profession. Practice settings for the dental hygienist, office operations, and preparation for employment.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **DHYG2201 - Dental Hygiene Care I**

#### **Course Title**

Dental Hygiene Care I

#### **Academic Level**

Undergraduate

#### **Description**

Dental hygiene care for the medically or dentally compromised patient including supplemental instrumentation techniques.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **DHYG2360 - Clinical - Dental Hygiene/Hygienist** **Course Title**

Clinical - Dental Hygiene/Hygienist

### **Academic Level**

Undergraduate

### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - DHYG1261 - Clinical - Dental Hygiene/Hygienist (2)

### **DHYG2361 - Clinical - Dental Hygiene/Hygienist** **Course Title**

Clinical - Dental Hygiene/Hygienist

### **Academic Level**

Undergraduate

### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - DHYG2360 - Clinical - Dental Hygiene/Hygienist (3)

## 2023-2024 Catalog & Student Handbook

### **DMTH0009 - Supplemental Math Lab I**

#### **Course Title**

Supplemental Math Lab I

#### **Academic Level**

Undergraduate

#### **Description**

This is a lab for students in NCBM 0009.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **DMTH0010 - Supplemental Math Lab II**

#### **Course Title**

Supplemental Math Lab II

#### **Academic Level**

Undergraduate

#### **Description**

This is a lab for students in NCBM 0010. Students completing this lab with a C or better have completed their TSI requirements for math.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **DMTH0100 - Introductory Algebra**

#### **Course Title**

Introductory Algebra

#### **Academic Level**

Undergraduate

#### **Description**

This course covers introductory algebra topics.

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Semester Credit Hours**

3

### **DMTH0200 - Intermediate Algebra**

#### **Course Title**

Intermediate Algebra

#### **Academic Level**

Undergraduate

#### **Description**

A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations. Students completing this course with a C or better have completed their TSI requirements for math.

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Semester Credit Hours**

3

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## **Diesel Eng Mechanic & Repairer**



## 2023-2024 Catalog & Student Handbook

### **DEMR1000 - Introduction to Shop Safety and Tools** **Course Title**

Introduction to Shop Safety and Tools

#### **Academic Level**

Continuing Education

#### **Description**

Shop safety, rules, basic shop tools, and test equipment.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **DEMR1010 - Diesel Engine Testing/Repair I** **Course Title**

Diesel Engine Testing/Repair I

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to testing and repairing diesel engines including related systems and specialized tools.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **DEMR1021 - Power Train I**

#### **Course Title**

Power Train I

#### **Academic Level**

Continuing Education

#### **Description**

Fundamental repair and theory of power trains including clutches transmissions drive shafts and differentials. Emphasis on inspection and repair.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **DEMR1023 - HVAC Troubleshooting & Repair**

#### **Course Title**

HVAC Troubleshooting & Repair

#### **Academic Level**

Continuing Education

#### **Description**

Introduction to Heating, Ventilation, and Air Conditioning Theory, Testing, and Repair. Emphasis on Refrigerant Reclamation, Safety Procedures, Specialized Tools, and Repairs.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **DEMR1027 - Tractor Trailer Ser/Repair**

#### **Course Title**

Tractor Trailer Ser/Repair

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to and familiarization with components and systems related to tractor trailer service. Emphasis in records required by the Department of Transportation.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **DEMR1225 - Small Air Cooled Engines**

#### **Course Title**

Small Air Cooled Engines

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of air cooled engines including repair and testing.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **DEMR1229 - Preventative Maintenance**

#### **Course Title**

Preventative Maintenance

#### **Academic Level**

Undergraduate

#### **Description**

An introductory course designed to provide the student with basic knowledge of proper servicing practices. Content includes record keeping and condition of major systems.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

### **DEMR1301 - Shop Safety and Procedures**

#### **Course Title**

Shop Safety and Procedures

#### **Academic Level**

Undergraduate

#### **Description**

A study of shop safety, rules, basic shop tools, and test equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DEMR1305 - Basic Electrical Systems**

#### **Course Title**

Basic Electrical Systems

#### **Academic Level**

Undergraduate

#### **Description**

Basic principles of electrical systems of diesel powered equipment with emphasis on starters, alternators, and batteries.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DEMR1316 - Basic Hydraulics**

#### **Course Title**

Basic Hydraulics

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of hydraulics including components and related systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DEMR1317 - Basic Brake Systems**

#### **Course Title**

Basic Brake Systems

#### **Academic Level**

Undergraduate

#### **Description**

Basic principles of brake systems of diesel powered equipment. Emphasis on maintenance, repairs, and troubleshooting.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DEMR1321 - Power Train I**

#### **Course Title**

Power Train I

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental repair and theory of power trains including clutches, transmissions, drive shafts, and differentials. Emphasis on inspection and repair.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DEMR1323 - Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair** **Course Title**

Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to heating, ventilation, and air conditioning theory, testing, and repair. Emphasis on refrigerant reclamation, safety procedures, specialized tools, and repairs.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DEMR1327 - Tractor Trailer Service and Repair** **Course Title**

Tractor Trailer Service and Repair

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to and familiarization with components and systems related to tractor trailer service. Emphasis on records required by the Department of Transportation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DEMR1317 - Basic Brake Systems (3)

## 2023-2024 Catalog & Student Handbook

### **DEMR1329 - Preventative Maintenance** **Course Title**

Preventative Maintenance

#### **Academic Level**

Undergraduate

#### **Description**

An introductory course designed to provide the student with basic knowledge of proper servicing practices. Content includes record keeping and condition of major systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DEMR1330 - Steering and Suspension I** **Course Title**

Steering and Suspension I

#### **Academic Level**

Undergraduate

#### **Description**

A study of design, function, maintenance, and repair of steering and suspension systems. Emphasis on troubleshooting and repair of failed components.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **DEMR1371 - Chassis I**

#### **Course Title**

Chassis I

#### **Academic Level**

Undergraduate

#### **Description**

A study of basic principles, design, function, maintenance, and repair of brakes, steering and suspension systems. Emphasis on troubleshooting and repair of failed components.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DEMR1372 - Chassis II**

#### **Course Title**

Chassis II

#### **Academic Level**

Undergraduate

#### **Description**

A study of advanced principles, design, function, maintenance, and repair of brakes, steering and suspension systems. Emphasis on troubleshooting and repair of failed components.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DEMR1380 - Cooperative Education - Diesel Mechanics Technology/Technician** **Course Title**

Cooperative Education - Diesel Mechanics Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

This course is the technical elective that will be going away Fall of 2023. It has a minimum requirement of 30 hours per week for 15 weeks

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DEMR1410 - Diesel Engine Testing and Repair I** **Course Title**

Diesel Engine Testing and Repair I

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to testing and repairing diesel engines including related systems and specialized tools.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **DEMR1416 - Basic Hydraulics**

#### **Course Title**

Basic Hydraulics

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of hydraulics including components and related systems

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

### **DEMR1421 - Power Train I**

#### **Course Title**

Power Train I

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to Fundamentals, Repair, and Theory of Power Trains Including Clutches, Transmissions, Drive Shafts, and Differentials. Emphasis on Inspection and Repair.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **DEMR1447 - Power Train II**

#### **Course Title**

Power Train II

#### **Academic Level**

Undergraduate

#### **Description**

Continuation of fundamentals and theory of power train systems. Emphasis on disassembly, inspection, and repair of power train components.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete at least 3 credits from the following:
  - DEMR1321 - Power Train I (3)
  - DEMR1421 - Power Train I (4)

### **DEMR1680 - Cooperative Education - Diesel Mechanics Technology/Technician**

#### **Course Title**

Cooperative Education - Diesel Mechanics Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

This course is the technical elective that will be going away Fall of 2023. It has a minimum requirement of 30 hours per week for 15 weeks

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

6

#### **Semester Credit Hours**

6

## 2023-2024 Catalog & Student Handbook

### **DEMR2012 - Diesel Engine Testing and Repair II**

#### **Course Title**

Diesel Engine Testing and Repair II

#### **Academic Level**

Continuing Education

#### **Description**

Continuation of Diesel Engine Testing and Repair I Coverage of testing and repairing diesel engines including related systems and specialized tools.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **DEMR2031 - Advanced Brake Systems**

#### **Course Title**

Advanced Brake Systems

#### **Academic Level**

Continuing Education

#### **Description**

An advanced brake system course for diesel powered equipment. Advanced concepts and schematics including anti-lock, air, pneumatic, and hydraulic brake systems and related components.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **DEMR2312 - Diesel Engine Testing and Repair II**

#### **Course Title**

Diesel Engine Testing and Repair II

#### **Academic Level**

Undergraduate

#### **Description**

Continuation of Diesel Engine Testing and Repair I. Coverage of testing and repairing diesel engines including related systems and specialized tools.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DEMR2332 - Electronic Controls**

#### **Course Title**

Electronic Controls

#### **Academic Level**

Undergraduate

#### **Description**

Advanced skills in diagnostic and programming techniques of electronic control systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DEMR1305 - Basic Electrical Systems (3)
  - DEMR2412 - Diesel Engine Testing and Repair II (4)

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### **DEMR2334 - Advanced Diesel Tune-Up and Troubleshooting**

#### **Course Title**

Advanced Diesel Tune-Up and Troubleshooting

#### **Academic Level**

Undergraduate

#### **Description**

Advanced concepts and skills required for tune-up and troubleshooting procedures of diesel engines. Emphasis on the science of diagnostics with a common sense approach.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - DEMR2412 - Diesel Engine Testing and Repair II (4)
  - Complete at least 1 of the following:
    - DEMR2312 - Diesel Engine Testing and Repair II (3)
    - DEMR2412 - Diesel Engine Testing and Repair II (4)

### **DEMR2335 - Advanced Hydraulics**

#### **Course Title**

Advanced Hydraulics

#### **Academic Level**

Undergraduate

#### **Description**

Advanced study of hydraulic systems and components including diagnostics and testing of hydraulic systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - DEMR1316 - Basic Hydraulics (3)
  - DEMR1416 - Basic Hydraulics (4)

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### **DEMR2339 - Advanced Electrical Systems** **Course Title**

Advanced Electrical Systems

#### **Academic Level**

Undergraduate

#### **Description**

A continuation of basic electrical systems to include various accessories and electronic systems. Emphasis on diagnosis, testing, and repair using the various tools and procedures for current electrical and electronic systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 3 credits from the following:
  - DEMR2332 - Electronic Controls (3)

### **DEMR2344 - Automatic Power Shift and Hydrostatic Transmissions II** **Course Title**

Automatic Power Shift and Hydrostatic Transmissions II

#### **Academic Level**

Undergraduate

#### **Description**

Extended study of the operation, maintenance, and repair of automatic power shift hydrostatic transmissions.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - DEMR1321 - Power Train I (3)
  - DEMR2312 - Diesel Engine Testing and Repair II (3)
  - DEMR2412 - Diesel Engine Testing and Repair II (4)



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### **DEMR2348 - Failure Analysis**

#### **Course Title**

Failure Analysis

#### **Academic Level**

Undergraduate

#### **Description**

An advanced course designed for analysis of typical part failures on equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DEMR2412 - Diesel Engine Testing and Repair II**

#### **Course Title**

Diesel Engine Testing and Repair II

#### **Academic Level**

Undergraduate

#### **Description**

Continuation of Diesel Engine Testing and Repair I. Coverage of testing and repairing diesel engines including related systems and specialized tools.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - DEMR1410 - Diesel Engine Testing and Repair I (4)

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## **Dietetics/Human Nutritional**

## 2023-2024 Catalog & Student Handbook

### **FDNS1305 - Nutrition**

#### **Course Title**

Nutrition

#### **Academic Level**

Undergraduate

#### **Description**

A study of nutrients including functions, food sources, digestion, absorption and metabolism with application to normal and preventive nutrition needs. Includes nutrient intake analysis, energy expenditure evaluation, and diet planning.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Drafting

### **DFTG1000 - Specialized Computer Aided Drafting Cad**

#### **Course Title**

Specialized Computer Aided Drafting Cad

#### **Academic Level**

Continuing Education

#### **Description**

A supplemental course to Basic Computer-Aided Drafting using an alternative computer-aided drafting (CAD) software.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **DFTG1013 - Drafting for Specific Occupat** **Course Title**

Drafting for Specific Occupat

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **DFTG1022 - Basic Blueprint Reading** **Course Title**

Basic Blueprint Reading

#### **Academic Level**

Continuing Education

#### **Description**

Emphasis on accurate/efficient interpretation of symbols/graphic language required to produce working drawings

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **DFTG1023 - Blueprint Reading for Sp Occup** **Course Title**

Blueprint Reading for Sp Occup

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **DFTG1310 - Specialized Basic Computer Aided Drafting (CAD)**

#### **Course Title**

Specialized Basic Computer Aided Drafting (CAD)

#### **Academic Level**

Undergraduate

#### **Description**

A supplemental course to Basic Computer Aided Drafting using an alternative computer-aided drafting (CAD) software to create detail and working drawings.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DFTG1313 - Drafting for Specific Occupations**

#### **Course Title**

Drafting for Specific Occupations

#### **Academic Level**

Undergraduate

#### **Description**

Discussion of theory and practice with drafting methods and the terminology required to prepare working drawings in specific or various occupational fields.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DFTG1317 - Architectural Drafting - Residential** **Course Title**

Architectural Drafting - Residential

### **Academic Level**

Undergraduate

### **Description**

Architectural drafting procedures, practices, terms, and symbols. Preparation of detailed working drawings for residential structures. Emphasis on light frame construction methods.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - ARCE1321 - Architectural Illustration (3)

### **DFTG1325 - Blueprint Reading and Sketching** **Course Title**

Blueprint Reading and Sketching

### **Academic Level**

Undergraduate

### **Description**

An introduction to reading and interpreting working drawings for fabrication processes and associated trades. Use of sketching techniques to create pictorial and multiple-view drawings.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DFTG1329 - Electro-Mechanical Drafting**

#### **Course Title**

Electro-Mechanical Drafting

#### **Academic Level**

Undergraduate

#### **Description**

A basic course including layout and design of electro-mechanical equipment from engineering notes and sketches.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:

### **DFTG1330 - Civil Drafting 1**

#### **Course Title**

Civil Drafting 1

#### **Academic Level**

Undergraduate

#### **Description**

Preparation of civil drawings including drafting methods and principles used in civil engineering.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:

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### **DFTG1333 - Mechanical Drafting**

#### **Course Title**

Mechanical Drafting

#### **Academic Level**

Undergraduate

#### **Description**

Study of mechanical drawings using dimensioning and tolerances, sectioning techniques, orthographic projection, and pictorial drawings.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:

### **DFTG1341 - Intermediate Technical Animation and Rendering**

#### **Course Title**

Intermediate Technical Animation and Rendering

#### **Academic Level**

Undergraduate

#### **Description**

3-D modeling and rendering techniques including lighting, staging, camera, and special effects. Emphasizes 3-D modeling building blocks using primitives to create simple and complex architectural/mechanical models.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DFTG1345 - Parametric Modeling and Design**

#### **Course Title**

Parametric Modeling and Design

#### **Academic Level**

Undergraduate

#### **Description**

Parametric-based design software for 3D design and drafting.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DFTG1357 - Specialized Intermediate Computer-Aided Drafting (CAD)**

#### **Course Title**

Specialized Intermediate Computer-Aided Drafting (CAD)

#### **Academic Level**

Undergraduate

#### **Description**

A continuation of practices and techniques used in Specialized Basic Computer-Aided Drafting. Emphasizes advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, interfacing two-dimensional (2D) and/or three-dimensional (3D) environments and extracting data.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **DFTG1358 - Electrical/Electronics Drafting**

#### **Course Title**

Electrical/Electronics Drafting

#### **Academic Level**

Undergraduate

#### **Description**

Electrical and electronic drawings stressing modern representation used for block diagrams, schematic diagrams, logic diagrams, wiring/assembly drawings, printed circuit board layouts, motor control diagrams, power distribution diagrams, and electrical one-line diagrams.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG1329 - Electro-Mechanical Drafting (3)

### **DFTG1380 - Coop-Drafting**

#### **Course Title**

Coop-Drafting

#### **Academic Level**

Undergraduate

#### **Description**

Career Related Activities Encountered in the Student's Area of Specialization Through a Cooperative Agreement Between the College, Employer, and Student. Under Supervision of the College And the Employer, the Student Combines Classroom Learning With Work Experience. Directly Related to a Technical Discipline, Specific Learning Objectives Guide the Student Through the Paid Work Experience. This Course May Be Repeated If Topics and Learning Outcomes Vary.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DFTG1392 - Special Topics in Architectural Drafting and ArchitecturalCAD/CADD** **Course Title**

Special Topics in Architectural Drafting and ArchitecturalCAD/CADD

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG2328 - Architectural Drafting - Commercial (3)

### **DFTG1393 - Special Topics in Civil Drafting Civil Engineering CAD/CADD** **Course Title**

Special Topics in Civil Drafting Civil Engineering CAD/CADD

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG2321 - Topographical Drafting (3)

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### **DFTG1395 - Special Topics in Mechanical Drafting and Mechanical Drafting Cad/Cadd** **Course Title**

Special Topics in Mechanical Drafting and Mechanical Drafting Cad/Cadd

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG2335 - Advanced Technologies in Mechanical Design and Drafting (3)

### **DFTG2050 - Online Geometric Dimensioning Tolerancin** **Course Title**

Online Geometric Dimensioning Tolerancin

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **DFTG2302 - Machine Drafting**

#### **Course Title**

Machine Drafting

#### **Academic Level**

Undergraduate

#### **Description**

Production of detail and assembly drawings of machines, threads, gears, utilizing tolerances, limit dimensioning, and surface finishes.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG1333 - Mechanical Drafting (3)

### **DFTG2306 - Machine Design**

#### **Course Title**

Machine Design

#### **Academic Level**

Undergraduate

#### **Description**

Theory and practice of design. Projects in problem-solving, including press fit, bolted and welded joints, and transmission components.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG2335 - Advanced Technologies in Mechanical Design and Drafting (3)

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### **DFTG2312 - Technical Illustration and Presentation**

#### **Course Title**

Technical Illustration and Presentation

#### **Academic Level**

Undergraduate

#### **Description**

Pictorial drawing including isometrics, obliques, perspectives, charts, and graphs. Emphasis on rendering and using different media.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG2328 - Architectural Drafting - Commercial (3)

### **DFTG2321 - Topographical Drafting**

#### **Course Title**

Topographical Drafting

#### **Academic Level**

Undergraduate

#### **Description**

Plotting of surveyor's field notes. Includes drawing elevations, contour lines, plan and profiles, and laying out traverses.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG1330 - Civil Drafting 1 (3)

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### **DFTG2323 - Pipe Drafting** **Course Title**

Pipe Drafting

### **Academic Level**

Undergraduate

### **Description**

A study of pipe fittings, symbols, specifications and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:

### **DFTG2328 - Architectural Drafting - Commercial** **Course Title**

Architectural Drafting - Commercial

### **Academic Level**

Undergraduate

### **Description**

Architectural drafting procedures, practices, governing codes, terms and symbols, including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - DFTG1317 - Architectural Drafting - Residential (3)

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### **DFTG2330 - Civil Drafting** **Course Title**

Civil Drafting

### **Academic Level**

Undergraduate

### **Description**

An in-depth study of drafting methods and principles used in civil engineering.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **DFTG2331 - Adv Techn-Architect Design & Drafting Design and Drafting** **Course Title**

Adv Techn-Architect Design & Drafting Design and Drafting

### **Academic Level**

Undergraduate

### **Description**

Use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows and specific design requirements for construction in residential/commercial and industrial architecture.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - DFTG2328 - Architectural Drafting - Commercial (3)

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### **DFTG2332 - Advanced Computer-Aided Drafting** **Course Title**

Advanced Computer-Aided Drafting

### **Academic Level**

Undergraduate

### **Description**

Application of advanced CAD techniques.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - DFTG2340 - Solid Modeling/Design (3)

### **DFTG2335 - Advanced Technologies in Mechanical Design and Drafting** **Course Title**

Advanced Technologies in Mechanical Design and Drafting

### **Academic Level**

Undergraduate

### **Description**

Use parametric-based software for mechanical design for advanced modeling and analysis.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - DFTG2302 - Machine Drafting (3)



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### **DFTG2340 - Solid Modeling/Design**

#### **Course Title**

Solid Modeling/Design

#### **Academic Level**

Undergraduate

#### **Description**

A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG2302 - Machine Drafting (3)

### **DFTG2350 - Geometric Dimensioning and Tolerancing**

#### **Course Title**

Geometric Dimensioning and Tolerancing

#### **Academic Level**

Undergraduate

#### **Description**

Geometric dimensioning and tolerancing, according to standards, application of various geometric dimensions and tolerances to production drawings.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG2302 - Machine Drafting (3)

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### **DFTG2357 - Advanced Technologies in Pipe Design and Drafting**

#### **Course Title**

Advanced Technologies in Pipe Design and Drafting

#### **Academic Level**

Undergraduate

#### **Description**

Advanced design and production techniques using specialized process plant based design software.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - DFTG1329 - Electro-Mechanical Drafting (3)

### **DFTG2380 - Cooperative Education Drafting and Design Techogy/Technican**

#### **Course Title**

Cooperative Education Drafting and Design Techogy/Technican

#### **Academic Level**

Undergraduate

#### **Description**

Career Related Activities Encountered in the Student's Area of Specialization Are Offered Through a Cooperative Agreement Between the College, the Employer, and Student. Under Supervision Of the College and the Employer, the Student Combines Classroom Learning With Work Experience. Directly Related to a Technical Discipline, Specific Learning Objectives Guide the Student Through the Paid Work Experience. This Course May Be Repeated If Topics and Learning Outcomes Vary.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DFTG2381 - Cooperative Education Drafting and Design Techolgy/Tech.**

#### **Course Title**

Cooperative Education Drafting and Design Techolgy/Tech.

#### **Academic Level**

Undergraduate

#### **Description**

Career Related Activities Encountered in the Student's Area of Specialization Offered Through a Individualized Agreement among the College, Employer, and Student. Under Supervision of The College and the Employer, the Student Combines Classroom Learning With Work Experience. Includes a Lecture Component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DFTG2386 - Internship - Drafting and Design Technology/Technician, General**

#### **Course Title**

Internship - Drafting and Design Technology/Technician, General

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

9.6 Hours a week and will vary slightly denpending on what the company offering the internship needs. 144 hours total for the semester.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:

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### **DFTG2680 - Cooperative Education**

#### **Course Title**

Cooperative Education

#### **Academic Level**

Undergraduate

#### **Description**

Drafting and Design Technology/Technician, General Career Related Activities Encountered in the Student's Area of Specialization Offered Through Individualized Agreement among the College, Employer, And Student. Under Supervision of the College and the Employer, The Student Combines Classroom Learning With Work Experience. Includes a Lecture component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

6

#### **Semester Credit Hours**

6

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## **Drug/Alcohol Abuse Counseling**

### **DAAC1304 - Pharmacology of Addiction**

#### **Course Title**

Pharmacology of Addiction

#### **Academic Level**

Undergraduate

#### **Description**

Emphasizes pharmacological effects of addiction, tolerance, dependence, cross addiction, drug interaction, withdrawal, and recovery. Describes the psychological and physiological effects of substance use and behaviors.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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### **DAAC1305 - Co-Occurring Disorders**

#### **Course Title**

Co-Occurring Disorders

#### **Academic Level**

Undergraduate

#### **Description**

Provides students with an overview of co-occurring psychiatric and substance use disorders and their impact on the individual, family, and community. Includes an integrated approach to address the issues accompanying the illness.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DAAC1309 - Assessment of Substance-Related and Addictive Disorders**

#### **Course Title**

Assessment of Substance-Related and Addictive Disorders

#### **Academic Level**

Undergraduate

#### **Description**

Exploration of procedures and tools used to identify substance-related and addictive disorders and assess a client's problems, strengths, deficits, and needs.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

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### **DAAC1311 - Counseling Theories**

#### **Course Title**

Counseling Theories

#### **Academic Level**

Undergraduate

#### **Description**

An examination of major theories and current treatment modalities used in the field of counseling.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DAAC1317 - Basic Counseling Skills**

#### **Course Title**

Basic Counseling Skills

#### **Academic Level**

Undergraduate

#### **Description**

An overview and application of the basic counseling skills.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DAAC1319 - Substance-Related and Addictive Disorders**

#### **Course Title**

Substance-Related and Addictive Disorders

#### **Academic Level**

Undergraduate

#### **Description**

An overview of causes and consequences of substance-related and addictive disorders, the major drug classifications, and the counselor's code of ethics.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DAAC1391 - Spec Topics - Alcohol/Drug Abuse Counsel**

#### **Course Title**

Spec Topics - Alcohol/Drug Abuse Counsel

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DAAC2301 - Therapeutic Communities in a Criminal Justice Setting**

#### **Course Title**

Therapeutic Communities in a Criminal Justice Setting

#### **Academic Level**

Undergraduate

#### **Description**

A study of therapeutic communities as an approach to rehabilitation of incarcerated substance users.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DAAC2306 - Substance Abuse Prevention I**

#### **Course Title**

Substance Abuse Prevention I

#### **Academic Level**

Undergraduate

#### **Description**

Examination of substance use disorder prevention.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **DAAC2307 - Addicted Family Intervention**

#### **Course Title**

Addicted Family Intervention

#### **Academic Level**

Undergraduate

#### **Description**

Examination of family systems focusing on the effects of addiction and recovery.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DAAC2341 - Counseling Alcohol and Other Drug Addictions**

#### **Course Title**

Counseling Alcohol and Other Drug Addictions

#### **Academic Level**

Undergraduate

#### **Description**

Advanced examination of knowledge, skills, attitudes, techniques, confidentiality and ethical guidelines applied in the counseling, treatment, prevention, and recovery of substance use disorders.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DAAC2343 - Current Issues**

#### **Course Title**

Current Issues

#### **Academic Level**

Undergraduate

#### **Description**

Examination of current issues related to substance use and addictive disorders.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **DAAC2354 - Dynamics of Group Counseling**

#### **Course Title**

Dynamics of Group Counseling

#### **Academic Level**

Undergraduate

#### **Description**

Exploration of group counseling skills, techniques, stages of group development, and confidentiality and ethics.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **DAAC2366 - Practicum (or Field Experience) - Substance Abuse/Addiction Counseling** **Course Title**

Practicum (or Field Experience) - Substance Abuse/Addiction Counseling

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Early Childhood Education

### **TECA1318 - Wellness of the Young Child** **Course Title**

Wellness of the Young Child

#### **Academic Level**

Undergraduate

#### **Description**

A study of the factors that impact the well- being of the young child including healthy behavior, food, nutrition, fitness, and safety practices. Focuses on local and national standards and legal implications of relevant policies and regulations. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and coincide with the National Assessment of Educational Progress position statement related to developmentally appropriate practices for children from birth to age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. Course includes a minimum of 16 hours of field experiences.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **TECA1354 - Child Growth & Development**

#### **Course Title**

Child Growth & Development

#### **Academic Level**

Undergraduate

#### **Description**

A study of the physical, emotional, social, language, and cognitive factors impacting growth and development of children through adolescence.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Economics

### **ECON1301 - Introduction to Economics**

#### **Course Title**

Introduction to Economics

#### **Academic Level**

Undergraduate

#### **Description**

A survey of microeconomic and macroeconomic principles for non-business majors. Microeconomic topics will include supply and demand, consumer behavior, price and output decisions by firms under various market structures, factor markets, market failures, international trade, and exchange rates. Macroeconomic topics will include national income, unemployment, inflation, business cycles, aggregate supply and demand, monetary and fiscal policy, and economic growth.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ECON2301 - Principles of Macroeconomics**

#### **Course Title**

Principles of Macroeconomics

#### **Academic Level**

Undergraduate

#### **Description**

An analysis of the economy as a whole including measurement and determination of Aggregate Demand and Aggregate Supply, national income, inflation, and unemployment. Other topics include international trade, economic growth, business cycles, and fiscal policy and monetary policy.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ECON2302 - Principles of Microeconomics**

#### **Course Title**

Principles of Microeconomics

#### **Academic Level**

Undergraduate

#### **Description**

Analysis of the behavior of individual economic agents, including consumer behavior and demand, producer behavior and supply, price and output decisions by firms under various market structures, factor markets, market failures, and international trade.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Electrical

## 2023-2024 Catalog & Student Handbook

### **EECT1005 - Basic Industrial Electricity**

#### **Course Title**

Basic Industrial Electricity

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EECT1041 - Electric Motors**

#### **Course Title**

Electric Motors

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Electrical & Power Transmission**

### **ELPT1000 - Basic Electrical Wiring**

#### **Course Title**

Basic Electrical Wiring

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ELPT1001 - Electromechanical Basics**

#### **Course Title**

Electromechanical Basics

#### **Academic Level**

Continuing Education

#### **Description**

Includes minimum requirements for approval of electrical installation specified by the National Electrical Code (NEC). Examination of all aspects of electrical installation from the standpoint of safety for personnel and equipment.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **ELPT1002 - Introduction to Electrical Controls**

#### **Course Title**

Introduction to Electrical Controls

#### **Academic Level**

Continuing Education

#### **Description**

General principles of electrical controls and their components in the electrical power industry. Includes reading electrical diagrams and identifying industrial switches and pilot devices. Introduction to hardwiring and troubleshooting of industrial control relays and timers.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ELPT1003 - Introduction to Programmable Logic Controllers**

#### **Course Title**

Introduction to Programmable Logic Controllers

#### **Academic Level**

Continuing Education

#### **Description**

Basic hardware and software applications for industrial Programmable Logic Controllers (PLC). Includes power supplies, discrete Input/Output (IO) modules, programming devices, processors, basic logic elements, timers, and counters.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **ELPT1011 - Basic Electrical Theory**

#### **Course Title**

Basic Electrical Theory

#### **Academic Level**

Continuing Education

#### **Description**

Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.

#### **Lecture Hours**

5

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ELPT1040 - Master Electrician Exam Review**

#### **Course Title**

Master Electrician Exam Review

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **ELPT1041 - Motor Control**

#### **Course Title**

Motor Control

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ELPT1051 - Electrical Machines**

#### **Course Title**

Electrical Machines

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ELPT1091 - Special Topics in Electrical and Power Transmission Installer, General**

#### **Course Title**

Special Topics in Electrical and Power Transmission Installer, General

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ELPT1215 - Electrical Calculations I**

#### **Course Title**

Electrical Calculations I

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to mathematical applications utilized to solve problems in the electrical field. Topics include fractions, decimals, percentages, simple equations, ratio and proportion, unit conversions, and applied geometry.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **ELPT1221 - Introduction to Electrical Safety and Tools**

#### **Course Title**

Introduction to Electrical Safety and Tools

#### **Academic Level**

Undergraduate

#### **Description**

Safety rules and regulations. Includes the selection, inspection, use, and maintenance of common tools for electricians.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **ELPT1225 - National Electrical Code I**

#### **Course Title**

National Electrical Code I

#### **Academic Level**

Undergraduate

#### **Description**

An introductory study of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring design, protection, methods, and materials; equipment for general use; and basic calculations.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **ELPT1311 - Basic Electrical Theory**

#### **Course Title**

Basic Electrical Theory

#### **Academic Level**

Undergraduate

#### **Description**

Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELPT1319 - Fundamentals of Electricity I**

#### **Course Title**

Fundamentals of Electricity I

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to basic direct current (DC) theory including electron theory and direct current applications.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELPT1320 - Fundamentals of Electricity II**

#### **Course Title**

Fundamentals of Electricity II

#### **Academic Level**

Undergraduate

#### **Description**

Introduces alternating current (AC). Includes AC voltage, frequency, mechanical and electrical degrees, waveforms, resistors, capacitors, and inductors.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELPT1321 - Introduction to Electrical Safety and Tools**

#### **Course Title**

Introduction to Electrical Safety and Tools

#### **Academic Level**

Undergraduate

#### **Description**

Safety rules and regulations. Includes the selection, inspection, use, and maintenance of common tools for electricians.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELPT1325 - National Electrical Code I**

#### **Course Title**

National Electrical Code I

#### **Academic Level**

Undergraduate

#### **Description**

An introductory study of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring design, protection, methods, and materials; equipment for general use; and basic calculations.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELPT1329 - Residential Wiring**

#### **Course Title**

Residential Wiring

#### **Academic Level**

Undergraduate

#### **Description**

Wiring methods for single family and multi-family dwellings. Includes load calculations, service entrance sizing, proper grounding techniques, and associated safety procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELPT1340 - Master Electrician Exam Review I**

#### **Course Title**

Master Electrician Exam Review I

#### **Academic Level**

Undergraduate

#### **Description**

Electrical theory, code calculations, and interpretations applicable to becoming a Master Electrician. Emphasizes residential, commercial, and industrial installations using the current edition of the National Electric Code (NEC) and local ordinances.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELPT1341 - Motor Control**

#### **Course Title**

Motor Control

#### **Academic Level**

Undergraduate

#### **Description**

Operating principles of solid-state and conventional controls along with their practical applications. Includes braking, jogging, plugging, safety interlocks, wiring, and schematic diagram interpretations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - AACT1371 - Electronics Fundamentals in Automation (3)
  - ELPT1311 - Basic Electrical Theory (3)
  - CETT1303 - DC Circuits (3)
  - IEIR1371 - Electrical Principles and Applications (3)

### **ELPT1345 - Commercial Wiring**

#### **Course Title**

Commercial Wiring

#### **Academic Level**

Undergraduate

#### **Description**

Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELPT1351 - Electrical Machines**

#### **Course Title**

Electrical Machines

#### **Academic Level**

Undergraduate

#### **Description**

Direct current (DC) motors, single-phase and polyphase alternating current (AC) motors, generators, and alternators. Emphasis on construction, characteristics, efficiencies, starting, and speed control.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ELPT1341 - Motor Control (3)

### **ELPT1357 - Industrial Wiring**

#### **Course Title**

Industrial Wiring

#### **Academic Level**

Undergraduate

#### **Description**

Wiring methods used for industrial installations. Includes motor circuits, raceway and bus way installations, proper grounding techniques, and associated safety procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - ELPT1329 - Residential Wiring (3)
  - ELPT1345 - Commercial Wiring (3)



## 2023-2024 Catalog & Student Handbook

### **ELPT1364 - Practicum - Electrical&power Trans Insta Electrical and Power Transmission Installer Course Title**

Practicum - Electrical&power Trans Insta Electrical and Power Transmission Installer

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELPT1380 - Cooperative Education - Electrical and Power Transmission Installation/Installer, General Course Title**

Cooperative Education - Electrical and Power Transmission Installation/Installer, General

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

20 Hours per week = 320 total 8am-12pm or 1pm to 5pm daily for 20 hours per weekly

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - AUMT1310 - Automotive Brake Systems (3)

#### **Corequisites**

- Complete the following:
  - AUMT1310 - Automotive Brake Systems (3)

## 2023-2024 Catalog & Student Handbook

### **ELPT1680 - Cooperative Education - Electrical and Power Transmission Installation/Installer, General Course Title**

Cooperative Education - Electrical and Power Transmission Installation/Installer, General

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

6

#### **Semester Credit Hours**

6

### **ELPT1681 - Cooperative Education - Electrical and Power Transmission Installation/ Installer, General Course Title**

Cooperative Education - Electrical and Power Transmission Installation/ Installer, General

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

40 hours per week = 640 total 8 to 5 daily for 40 hours weekly

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

6

#### **Semester Credit Hours**

6

## 2023-2024 Catalog & Student Handbook

### **ELPT2001 - Journeyman Electrician Exam Re Course Title**

Journeyman Electrician Exam Re

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ELPT2019 - Programmable Logic Controllers Course Title**

Programmable Logic Controllers

#### **Academic Level**

Continuing Education

#### **Description**

FUNDAMENTAL CONCEPTS OF PROGRAMMABLE LOGIC CONTROLLERS, PRINCIPLES OF OPERATION, NUMBERING SYSTEMS, LOGIC GATES, AND BOOLEAN EXPRESSIONS AS APPLIED TO ELECTRICAL CONTROLS/

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ELPT2305 - Motors and Transformers**

#### **Course Title**

Motors and Transformers

#### **Academic Level**

Undergraduate

#### **Description**

Operation of single- and three-phase motors and transformers. Includes transformer banking, power factor correction, and protective devices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELPT2319 - Programmable Logic Controllers I**

#### **Course Title**

Programmable Logic Controllers I

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental concepts of programmable logic controllers, principles of operation, and numbering systems as applied to electrical controls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ELPT1341 - Motor Control (3)

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### **ELPT2323 - Transformers**

#### **Course Title**

Transformers

#### **Academic Level**

Undergraduate

#### **Description**

Transformer types, construction, connections, protection, grounding, and associated safety procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ELPT2335 - Electrical Theory and Devices (3)

### **ELPT2331 - AC/DC Drives**

#### **Course Title**

AC/DC Drives

#### **Academic Level**

Undergraduate

#### **Description**

Installation and maintenance of alternating current (AC) and direct current (DC) variable speed drives with emphasis on application, operating characteristics, and troubleshooting techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELPT2335 - Electrical Theory and Devices**

#### **Course Title**

Electrical Theory and Devices

#### **Academic Level**

Undergraduate

#### **Description**

Electrical and electronic measuring devices and their applications to the use of electrical power. Includes calculating and balancing single-phase and three-phase systems.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - CETT1305 - AC Circuits (3)
  - MATH1316 - Plane Trigonometry (3)

### **ELPT2337 - Electrical Planning and Estimating**

#### **Course Title**

Electrical Planning and Estimating

#### **Academic Level**

Undergraduate

#### **Description**

Planning and estimating for residential, commercial, and industrial wiring systems. Includes a variety of electrical techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELPT2339 - Electrical Power Distribution**

#### **Course Title**

Electrical Power Distribution

#### **Academic Level**

Undergraduate

#### **Description**

Design, operation, and technical details of modern power distribution systems including generating equipment, transmission lines, plant distribution, and protective devices. Includes calculations of fault current, system load analysis, rates, and power economics.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELPT2343 - Electrical Systems Design**

#### **Course Title**

Electrical Systems Design

#### **Academic Level**

Undergraduate

#### **Description**

Electrical design of commercial and/or industrial projects including building layout, types of equipment, placement, sizing of electrical equipment, and all electrical calculations according to the requirements of the National Electrical Code (NEC).

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - DFTG1313 - Drafting for Specific Occupations (3)
  - Complete at least 1 of the following:
    - EEIR1309 - National Electrical Code (3)
    - ELPT2339 - Electrical Power Distribution (3)

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### **ELPT2347 - Electrical Testing and Maintenance**

#### **Course Title**

Electrical Testing and Maintenance

#### **Academic Level**

Undergraduate

#### **Description**

Proper and safe use of electrical power equipment test devices and the interpretation of test results. Includes protective relay testing and calibration, direct current (DC) testing, insulation power factor testing, and medium voltage switchgear.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELPT2355 - Programmable Logic Controllers II**

#### **Course Title**

Programmable Logic Controllers II

#### **Academic Level**

Undergraduate

#### **Description**

Advanced concepts in programmable logic controllers and their applications and interfacing to industrial controls.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Electromechanical Technician**



## 2023-2024 Catalog & Student Handbook

### **ELMT1001 - Programmable Logic Controllers**

#### **Course Title**

Programmable Logic Controllers

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to programmable logic controllers as used in industrial environments including basic concepts, programming, applications, troubleshooting of ladder logic, and interfacing of equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

### **ELMT1003 - Programmable Logic Controllers**

#### **Course Title**

Programmable Logic Controllers

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ELMT1091 - Special Topics in Electromechanical Technology/Technician**

#### **Course Title**

Special Topics in Electromechanical Technology/Technician

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

7

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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### **ELMT1301 - Programmable Logic Controllers**

#### **Course Title**

Programmable Logic Controllers

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to programmable logic controllers as used in industrial environments including basic concepts, programming, applications, troubleshooting of ladder logic, and interfacing of equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1325 - Digital Fundamentals (3)

### **ELMT1305 - Basic Fluid Power**

#### **Course Title**

Basic Fluid Power

#### **Academic Level**

Undergraduate

#### **Description**

Basic fluid power course covering pneumatic and hydraulic systems, fluid power symbols, operating theory, components, and basic electrical and manual controls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELMT1373 - Pumps and Compressors Control**

#### **Course Title**

Pumps and Compressors Control

#### **Academic Level**

Undergraduate

#### **Description**

This course explores study of the theory and operations of various types of pumps and compressors. Topics include mechanical circuit, electrical circuit with emphasis in 3 phase control, mechanical safety devices, flow control devices and pressure control devices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)

### **ELMT1374 - Introduction to Electromechanical System**

#### **Course Title**

Introduction to Electromechanical System

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to electro-mechanical systems, with emphasis safety and office documents.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELMT1391 - Special Topics in Electromechanical Technology/Technician** **Course Title**

Special Topics in Electromechanical Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

#### **Lecture Hours**

1

#### **Lab Hours**

1

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELMT1405 - Basic Fluid Power** **Course Title**

Basic Fluid Power

#### **Academic Level**

Undergraduate

#### **Description**

Basic fluid power course covering pneumatic and hydraulic systems, fluid power symbols, operating theory, components, and basic electrical and manual controls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **ELMT1491 - Special Topics in Electromechanical Technology/Technician** **Course Title**

Special Topics in Electromechanical Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

This course is designed to familiarize the student with concepts in electro-mechanical technology specific to wind turbines.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ELMT2239 - Advanced Programmable Logic Controllers (2)

### **ELMT2039 - Advanced Prog Logic Controller** **Course Title**

Advanced Prog Logic Controller

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ELMT2239 - Advanced Programmable Logic Controllers**

#### **Course Title**

Advanced Programmable Logic Controllers

#### **Academic Level**

Undergraduate

#### **Description**

Advanced applications of programmable logic controllers as used in industrial environments including concepts of programming, industrial applications, troubleshooting ladder logic, and interfacing to equipment.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - ELMT1301 - Programmable Logic Controllers (3)

### **ELMT2333 - Industrial Electronics**

#### **Course Title**

Industrial Electronics

#### **Academic Level**

Undergraduate

#### **Description**

Devices, circuits, and systems primarily used in automated manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic, and computer equipment. Includes presentation of programming schemes.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELMT2335 - Certified Electronics Technician Training** **Course Title**

Certified Electronics Technician Training

#### **Academic Level**

Undergraduate

#### **Description**

Review of electronics concepts and principles in preparation for sitting for a certification examination administered by an outside organization or agency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELMT2339 - Advanced Programmable Logic Controllers** **Course Title**

Advanced Programmable Logic Controllers

#### **Academic Level**

Undergraduate

#### **Description**

Advanced applications of programmable logic controllers as used in industrial environments including concepts of programming, industrial applications, troubleshooting ladder logic, and interfacing to equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ELMT2341 - Electromechanical Systems**

#### **Course Title**

Electromechanical Systems

#### **Academic Level**

Undergraduate

#### **Description**

Application of electromechanical systems. Emphasizes programmable control devices and solid state systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ELMT1374 - Introduction to Electromechanical System (3)

### **ELMT2371 - Industrial Control Power Devic**

#### **Course Title**

Industrial Control Power Devic

#### **Academic Level**

Undergraduate

#### **Description**

This course explores theoretical concepts in power devices control. Emphasis in 3 phase control, system design, protection control devices, wiring and troubleshooting. In-depth coverage of power devices applications.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1305 - AC Circuits (3)



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### **ELMT2372 - Process Control Systems**

#### **Course Title**

Process Control Systems

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental concepts of instrumentation process control. Course instruct students to program process control equipment, change controller parameter and analyze monitoring data.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ELMT1373 - Pumps and Compressors Control (3)

### **ELMT2373 - Communication Protocols**

#### **Course Title**

Communication Protocols

#### **Academic Level**

Undergraduate

#### **Description**

An introductory course to communications protocols in order to address industrial needs for connecting devices as they apply to industry. Industrial and traditional communication working together with emerging technologies.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1325 - Digital Fundamentals (3)

## 2023-2024 Catalog & Student Handbook

### **ELMT2380 - Cooperative Education - Electromechanical Technology/Electromechanical Engineering Technology** **Course Title**

Cooperative Education - Electromechanical Technology/Electromechanical Engineering Technology

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Students are required to work a minimum of 16 hours a week. They must work at least 240 hrs during the semester.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ELMT2480 - Cooperative Education - Electromechanical Technology/Electromechanical Engineering Technology** **Course Title**

Cooperative Education - Electromechanical Technology/Electromechanical Engineering Technology

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ELMT2239 - Advanced Programmable Logic Controllers (2)

## Electronics

### **EEIR1309 - National Electrical Code** **Course Title**

National Electrical Code

### **Academic Level**

Undergraduate

### **Description**

Interpretation of the National Electrical Code for residential, commercial and industrial wiring. Emphasis on designing, constructing, and troubleshooting electrical systems.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - CETT1305 - AC Circuits (3)
  - ELPT1341 - Motor Control (3)

### **EEIR1371 - Electrical Principles and Applications** **Course Title**

Electrical Principles and Applications

### **Academic Level**

Undergraduate

### **Description**

Major topics include safety; the engineering subset of metric prefixes; engineering notation; electronic abbreviations; schematic symbols; resistor color codes; wire size and composition; Ohm's Law, Watt's Law, and Kirchhoff's Laws; analysis of simple direct current and alternating current circuitry; and basic electrical devices including direct current motors, transformers, and passive filters. Laboratory sessions will stress use of test equipment including the digital multimeter and oscilloscope, construction of simple circuits, and troubleshooting techniques to determine faults in simple circuits.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **EEIR2388 - Internship - Industrial Electronics Technology/Technician** **Course Title**

Internship - Industrial Electronics Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **IEIR1302 - Introduction to Direct Current Circuits** **Course Title**

Introduction to Direct Current Circuits

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of Direct Current Including Ohm's Law. Emphasis on Methods of Analyzing Series, Parallel, and Combination Circuits Including Measurement Devices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **IEIR1304 - Alternating Current Circuits for Industrial Applications**

#### **Course Title**

Alternating Current Circuits for Industrial Applications

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of Alternating Current Including Series and Parallel Circuits, Phasors, and Capacitive and Inductive Networks. Discussion of Circuit Analysis and Measurement

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **IEIR1371 - Electrical Principles and Applications**

#### **Course Title**

Electrical Principles and Applications

#### **Academic Level**

Undergraduate

#### **Description**

Major topics include safety; the engineering subset of metric prefixes; engineering notation; electronic abbreviations; schematic symbols; resistor color codes; wire size and composition; Ohm's Law, Watt's Law, and Kirchhoff's Laws; analysis of simple direct current and alternating current circuitry; and basic electrical devices including direct current motors, transformers, and passive filters. Laboratory sessions will stress use of test equipment including the digital multimeter and oscilloscope, construction of simple circuits, and troubleshooting techniques to determine faults in simple circuits.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITNW1000 - Network Technologies-Novell 5**

#### **Course Title**

Network Technologies-Novell 5

#### **Academic Level**

Continuing Education

#### **Description**

Basic computer networking terminology and concepts, contemporary network services, transmission media, and protocols.

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITNW1058 - Network+**

#### **Course Title**

Network+

#### **Academic Level**

Continuing Education

#### **Description**

Prepares individuals for a career as a Network Engineer in the Information Technology support industry. Includes the various responsibilities and tasks required for service engineer to successfully perform in a specific environment. Prepares individuals to pass the Computing Technology Industry Association (CompTia) Network+ certification exam.

#### **Lecture Hours**

6

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ITNW1059 - World Wide Web**

#### **Course Title**

World Wide Web

#### **Academic Level**

Continuing Education

#### **Description**

This course will focus on the use of the World Wide Web (WWW) and the creation of a home page. Web browsers and Hypertext Markup Language (HTML) are discussed.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITNW1308 - Implementing and Supporting Client Operating Systems**

#### **Course Title**

Implementing and Supporting Client Operating Systems

#### **Academic Level**

Undergraduate

#### **Description**

The fundamentals of managing and configuring network clients.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITNW1309 - Fundamentals of Cloud Computing**

#### **Course Title**

Fundamentals of Cloud Computing

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to Cloud computing from a business and technical perspective, including Cloud concepts, services, architecture, system integration, connectivity, data center migration, administration, security, compliance and technical support. Coverage includes preparation for industry certifications. Topics may adapt to changes in industry practices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITNW1313 - Computer Virtualization**

#### **Course Title**

Computer Virtualization

#### **Academic Level**

Undergraduate

#### **Description**

Implement and support virtualization of clients of servers in a networked computing environment. This course explores installation, configuration, and management of computer virtualization workstation and servers.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **ITNW1325 - Fundamentals of Networking Technologies**

#### **Course Title**

Fundamentals of Networking Technologies

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITNW1345 - Implementing Network Directory Services**

#### **Course Title**

Implementing Network Directory Services

#### **Academic Level**

Undergraduate

#### **Description**

In-depth coverage of the skills necessary to install, configure, and administer Network Directory service.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITNW1354 - Implementing and Supporting Servers**

#### **Course Title**

Implementing and Supporting Servers

#### **Academic Level**

Undergraduate

#### **Description**

Implement, administer, and troubleshoot information systems that incorporate servers in a networked computing environment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITNW1358 - Network+**

#### **Course Title**

Network+

#### **Academic Level**

Undergraduate

#### **Description**

Assists individuals in preparing for the Computing Technology Industry Association (CompTIA) Network+ certification exam and career as a network professional.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITNW1380 - Coop-Bus Sys Nwk &tel**

#### **Course Title**

Coop-Bus Sys Nwk &tel

#### **Academic Level**

Undergraduate

#### **Description**

Career Related Activities Encountered in the Student's Area of Specialization Are Offered Through a Cooperative Agreement Between the College, Employer, and Student. Under Supervision of The College and the Employer, the Student Combines Classroom Learning With Work Experience. Directly Related to a Technical Discipline, Specific Learning Objectives Guide the Student Through the Paid Work Experience. This Course May Be Repeated If Topics and Learning Outcomes Vary.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITNW1391 - Special Topics in Information Sciences and Systems**

#### **Course Title**

Special Topics in Information Sciences and Systems

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITNW1436 - Cloud Deployment & Infrastructure Management** **Course Title**

Cloud Deployment & Infrastructure Management

#### **Academic Level**

Undergraduate

#### **Description**

Focus on Cloud infrastructure, deployment, security models, and key considerations in migrating to Cloud computing. Includes the technologies and processes required to build on-premise and Cloud environments, including computation, storage, networking, virtualization, business continuity, security, and management.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

### **ITNW1680 - Coop-Bus Sys Net&tel** **Course Title**

Coop-Bus Sys Net&tel

#### **Academic Level**

Undergraduate

#### **Description**

Career Related Activities Encountered in the Student's Area of Specialization Are Offered Through a Cooperative Agreement Between the College, Employer, and Student. Under Supervision of The College and the Employer, the Student Combines Classroom Learning With Work Experience. Directly Related to a Technical Discipline, Specific Learning Objectives Guide the Student Through the Paid Work Experience. This Course May Be Repeated If Topics and Learning Outcomes Vary.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

6

#### **Semester Credit Hours**

6

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### **ITNW2312 - Routers**

#### **Course Title**

Routers

#### **Academic Level**

Undergraduate

#### **Description**

Router configuration for local area networks and wide area networks. Includes Internet Protocol (IP) addressing techniques and intermediate routing protocols.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITNW1325 - Fundamentals of Networking Technologies (3)

### **ITNW2321 - Networking with TCP/IP**

#### **Course Title**

Networking with TCP/IP

#### **Academic Level**

Undergraduate

#### **Description**

Set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on networking operating systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITNW1325 - Fundamentals of Networking Technologies (3)

## 2023-2024 Catalog & Student Handbook

### **ITNW2335 - Network Troubleshooting and Support** **Course Title**

Network Troubleshooting and Support

#### **Academic Level**

Undergraduate

#### **Description**

Troubleshoot and support networks with emphasis on solving real world problems in a hands-on environment. Topics include troubleshooting and research techniques, available resources, and network management hard/software.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITNW2350 - Enterprise Network** **Course Title**

Enterprise Network

#### **Academic Level**

Undergraduate

#### **Description**

A case study in Convergence Technologies requiring a network engineer to study a problem and design a network solution for an enterprise network.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSY2301 - Firewalls and Network Security (3)

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### **ITNW2352 - Administering SQL Server**

#### **Course Title**

Administering SQL Server

#### **Academic Level**

Undergraduate

#### **Description**

Administering SQL Server is a skills development course in the installation, configuration, administration, and troubleshooting of SQL Servers client/server database management system version.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITNW2354 - Internet/Intranet Server**

#### **Course Title**

Internet/Intranet Server

#### **Academic Level**

Undergraduate

#### **Description**

Advanced concepts in the designing, installing, and administration of an Internet/Intranet server.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITNW1345 - Implementing Network Directory Services (3)
  - ITSC1316 - Linux Installation and Configuration (3)

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### **ITNW2355 - Server Virtualization**

#### **Course Title**

Server Virtualization

#### **Academic Level**

Undergraduate

#### **Description**

An in-depth study of the installation, configuration, management and troubleshooting of a virtualized server environment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - ITNW1345 - Implementing Network Directory Services (3)
  - ITNW1354 - Implementing and Supporting Servers (3)

### **ITNW2356 - Designing a Network Directory Infrastructure**

#### **Course Title**

Designing a Network Directory Infrastructure

#### **Academic Level**

Undergraduate

#### **Description**

Design, implement, and support a network directory infrastructure in a multi-domain environment. null null

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **ITNW2376 - Cloud Deployment & Infrastructure Management** **Course Title**

Cloud Deployment & Infrastructure Management

#### **Academic Level**

Undergraduate

#### **Description**

Deployment and management of scalable data centers, public and private cloud infrastructures, co-location strategies, energy consumption calculation, and disaster recovery planning using open source and commercial software.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITNW2380 - Cooperative Education - Computer Systems Networking and Telecommunications** **Course Title**

Cooperative Education - Computer Systems Networking and Telecommunications

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Students are required to complete a total of 320 hrs per semester, 1 hour online and 19 hours per week on-site. Agreement between Employer and Student required prior to enrolling in course.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITNW2427 - Advanced Cloud Concepts**

#### **Course Title**

Advanced Cloud Concepts

#### **Academic Level**

Undergraduate

#### **Description**

Focus on enterprise Cloud architecture, with advanced topics including multi-Cloud platforms inclusive of computing, networking, storage, monitoring and database.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ITNW1436 - Cloud Deployment & Infrastructure Management (4)

### **ITNW2429 - Application Development for The Cloud**

#### **Course Title**

Application Development for The Cloud

#### **Academic Level**

Undergraduate

#### **Description**

A practical study of Cloud computing architecture and service. Includes designing and developing Cloud based applications, web services, micro services, and APIs; programming for the Cloud using API calls; and building and deploying server-side applications for the Cloud.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ITNW1436 - Cloud Deployment & Infrastructure Management (4)

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### **ITSE1001 - Web Design Tools**

#### **Course Title**

Web Design Tools

#### **Academic Level**

Continuing Education

#### **Description**

Designing and publishing Web documents according to World Wide Web Consortium (W3C) standards. Includes graphic design issues and exploration of tools available for creating and editing Web documents.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSE1002 - Intro to Computer Programming**

#### **Course Title**

Intro to Computer Programming

#### **Academic Level**

Continuing Education

#### **Description**

Introduction to computer programming with emphasis on the fundamentals of design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

#### **Lecture Hours**

8

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSE1007 - Intro to C++ Programming**

#### **Course Title**

Intro to C++ Programming

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ITSE1045 - Introduction to Oracle Sql** **Course Title**

Introduction to Oracle Sql

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to the design and creation of relational databases using Oracle. Topics include storing, retrieving, updating, and displaying data using Structured Query Language (SQL).

#### **Lecture Hours**

8

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSE1091 - St in Computer Programming** **Course Title**

St in Computer Programming

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

7

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ITSE1094 - Special Topics in Computer Science**

#### **Course Title**

Special Topics in Computer Science

#### **Academic Level**

Continuing Education

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

6

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSE1301 - Web Design Tools**

#### **Course Title**

Web Design Tools

#### **Academic Level**

Undergraduate

#### **Description**

Designing and publishing Web documents according to World Wide Web Consortium (W3C) standards. Emphasis on optimization of graphics and images and exploration of tools available for creating and editing Web documents.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSE1302 - Computer Programming**

#### **Course Title**

Computer Programming

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to computer programming including design, development, testing, implementation, and documentation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITSE1303 - Introduction to MySQL**

#### **Course Title**

Introduction to MySQL

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to fundamentals of SQL and relational databases.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSE1306 - PHP Programming**

#### **Course Title**

PHP Programming

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to PHP including the design of web-based applications, arrays, strings, regular expressions, file input/output, e-mail and database interfaces, stream and network programming, debugging, and security.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE2302 - Intermediate Web Programming (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - ITSE1303 - Introduction to MySQL (3)

### **ITSE1307 - Introduction to C++ Programming**

#### **Course Title**

Introduction to C++ Programming

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to computer programming using C++. Emphasis on the fundamentals of object-oriented design with development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSE1311 - Beginning Web Programming**

#### **Course Title**

Beginning Web Programming

#### **Academic Level**

Undergraduate

#### **Description**

Skills development in web programming including mark-up and scripting languages.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITSE1329 - Programming Logic and Design**

#### **Course Title**

Programming Logic and Design

#### **Academic Level**

Undergraduate

#### **Description**

Problem-solving applying structured techniques and representation of algorithms using design tools. Includes testing, evaluation, and documentation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **ITSE1330 - Introduction to C# Programming**

#### **Course Title**

Introduction to C# Programming

#### **Academic Level**

Undergraduate

#### **Description**

A study of C# syntax including data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INEW2338 - Advanced Java Programming (3)

### **ITSE1332 - Introduction to Visual Basic.NET Programming**

#### **Course Title**

Introduction to Visual Basic.NET Programming

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to Visual Basic.NET (VB.NET) including data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSE1333 - Mobile Applications Development**

#### **Course Title**

Mobile Applications Development

#### **Academic Level**

Undergraduate

#### **Description**

An overview of different mobile platforms and their development environments.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE2317 - Java Programming (3)

### **ITSE1350 - System Analysis and Design**

#### **Course Title**

System Analysis and Design

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSE1373 - Intro to Python**

#### **Course Title**

Intro to Python

#### **Academic Level**

Undergraduate

#### **Description**

This course will introduce Python Programming

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- - INEW2338 - Advanced Java Programming (3)

### **ITSE1391 - Graphics Systems Development**

#### **Course Title**

Graphics Systems Development

#### **Academic Level**

Undergraduate

#### **Description**

Topics address the development of client websites in a group format. Includes site design and development from conception to production.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSE1394 - Special Topics in Computer Science**

#### **Course Title**

Special Topics in Computer Science

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITSE2031 - Advanced C++programming**

#### **Course Title**

Advanced C++programming

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ITSE2054 - Advanced Oracle PL/Sql**

#### **Course Title**

Advanced Oracle PL/Sql

#### **Academic Level**

Continuing Education

#### **Description**

A continuation of Oracle SQL. Topics include hierarchical queries, set based queries, correlated subqueries, scripting, and scripting generation.

#### **Lecture Hours**

6

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ITSE2302 - Intermediate Web Programming**

#### **Course Title**

Intermediate Web Programming

#### **Academic Level**

Undergraduate

#### **Description**

Server-side and client-side techniques for Web development.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE1311 - Beginning Web Programming (3)

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### **ITSE2309 - Database Programming**

#### **Course Title**

Database Programming

#### **Academic Level**

Undergraduate

#### **Description**

Database development using database programming techniques emphasizing database structures, modeling, and database access.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITSE2313 - Web Authoring**

#### **Course Title**

Web Authoring

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in designing and developing web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - IMED1316 - Web Design I (3)

## 2023-2024 Catalog & Student Handbook

### **ITSE2317 - Java Programming**

#### **Course Title**

Java Programming

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to object-oriented Java programming including the fundamental syntax and semantics of Java for applications and web applets.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE1302 - Computer Programming (3)

### **ITSE2331 - Advanced C++ Programming**

#### **Course Title**

Advanced C++ Programming

#### **Academic Level**

Undergraduate

#### **Description**

Further application of C++ programming techniques including file access, abstract data structures, class inheritance, and other advanced techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITSE2333 - Implementing a Database on Microsoft SQL Server** **Course Title**

Implementing a Database on Microsoft SQL Server

#### **Academic Level**

Undergraduate

#### **Description**

Skills development in the implementation of a database solution using Microsoft SQL Server client/server database management system.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE2309 - Database Programming (3)

### **ITSE2343 - Advanced Mobile Programming** **Course Title**

Advanced Mobile Programming

#### **Academic Level**

Undergraduate

#### **Description**

Programming for mobile devices including file access methods, data structures, modular programming, program testing and documentation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE1333 - Mobile Applications Development (3)



## 2023-2024 Catalog & Student Handbook

### **ITSE2353 - Advanced C# Programming**

#### **Course Title**

Advanced C# Programming

#### **Academic Level**

Undergraduate

#### **Description**

Continuation of C# programming using advanced features of the .NET Framework Class Library.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE1330 - Introduction to C# Programming (3)

### **ITSE2359 - Advanced Computer Programming**

#### **Course Title**

Advanced Computer Programming

#### **Academic Level**

Undergraduate

#### **Description**

Advanced programming techniques including file access methods, data structures, modular programming, program testing and documentation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - ITSE2333 - Implementing a Database on Microsoft SQL Server (3)
  - Complete at least 1 of the following:
    - ITSE2353 - Advanced C# Programming (3)
    - ITSE2373 - Advanced Python (3)

## **ITSE2373 - Advanced Python** **Course Title**

Advanced Python

## **Academic Level**

Undergraduate

## **Description**

This course will introduce advanced concepts of Python programming. Students will use python in conjunction with a cloud based database system to build programs for the CCloud.

## **Lecture Hours**

2

## **Lab Hours**

4

## **Credits**

3

## **Semester Credit Hours**

3

## **Prerequisites**

- Complete the following:
  - Course Not Found

## 2023-2024 Catalog & Student Handbook

### **ITSE2380 - Cooperative Education - Computer Programming/Programmer, General Course Title**

Cooperative Education - Computer Programming/Programmer, General

#### **Academic Level**

Undergraduate

#### **Description**

Career Related Activities Encountered in the Student's Area of Specialization Are Offered Through a Cooperative Agreement Between the College, the Employer, and Student. Under Supervision Of the College and the Employer, the Student Combines Classroom Learning With Work Experience. Directly Related to a Technical Discipline, Specific Learning Objectives Guide the Student Through the Paid Work Experience. This Course May Be Repeated If Topics and Learning Outcomes Vary.

We have moved to the internship course in place of the COOP for CPT. ITSE 2386.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - ITSE2333 - Implementing a Database on Microsoft SQL Server (3)
  - Complete at least 1 of the following:
    - ITSE2353 - Advanced C# Programming (3)
    - ITSE2373 - Advanced Python (3)

## 2023-2024 Catalog & Student Handbook

### **ITSE2386 - Internship - Computer Programming/Programmer, General** **Course Title**

Internship - Computer Programming/Programmer, General

### **Academic Level**

Undergraduate

### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

Students are required to complete 144 hrs total in the semester. It is recommended that a student completes 10 hours a week. The position and company must be pre-approved before a student signs up for the internship class. Employer reviews and hour logs are required.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - ITSE2333 - Implementing a Database on Microsoft SQL Server (3)
  - Complete at least 1 of the following:
    - ITSE2353 - Advanced C# Programming (3)
    - ITSE2373 - Advanced Python (3)

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## **Emergency Medical Technology**

## 2023-2024 Catalog & Student Handbook

### **EMSP1008 - Emergency Vehicle Operations**

#### **Course Title**

Emergency Vehicle Operations

#### **Academic Level**

Continuing Education

#### **Description**

Instruction, demonstration, and driving range practice to prepare drivers of emergency vehicles to operate their vehicles safely in the emergency and non-emergency mode.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EMSP1019 - Cpr Basic Life Support**

#### **Course Title**

Cpr Basic Life Support

#### **Academic Level**

Continuing Education

#### **Description**

Instruction in lifesaving skills of respiratory (choking and near-drowning) and cardiac emergencies involving adults, children, and infants. Must meet requirements of certifying agency. Additional topics covered will include basic first aid certification training.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EMSP1020 - Cpr Basic Life Support - Adult**

#### **Course Title**

Cpr Basic Life Support - Adult

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **EMSP1043 - Emergency Med Intermediate** **Course Title**

Emergency Med Intermediate

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EMSP1049 - Pre Hospital Life Support** **Course Title**

Pre Hospital Life Support

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EMSP1067 - EMT Practicum Paramedic Part1** **Course Title**

EMT Practicum Paramedic Part1

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **EMSP1068 - EMS Practicum Paramedic-II**

#### **Course Title**

EMS Practicum Paramedic-II

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EMSP1261 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic)**

#### **Course Title**

Clinical - Emergency Medical Technology/Technician (EMT Paramedic)

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **EMSP1355 - Trauma Management**

#### **Course Title**

Trauma Management

#### **Academic Level**

Undergraduate

#### **Description**

Knowledge and skills in the assessment and management of patients with traumatic injuries.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

### **EMSP1356 - Patient Assessment and Airway Management**

#### **Course Title**

Patient Assessment and Airway Management

#### **Academic Level**

Undergraduate

#### **Description**

Knowledge and skills required to perform patient assessment, airway management, and artificial ventilation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **EMSP1438 - Introduction to Advanced Practice**

#### **Course Title**

Introduction to Advanced Practice

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental elements associated with emergency medical services to include preparatory practices, pathophysiology, medication administration, and related topics.

#### **Lecture Hours**

3

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

### **EMSP1501 - Emergency Medical Technician**

#### **Course Title**

Emergency Medical Technician

#### **Academic Level**

Undergraduate

#### **Description**

Preparation for certification as an Emergency Medical Technician (EMT).

#### **Lecture Hours**

3

#### **Lab Hours**

8

#### **Credits**

5

#### **Semester Credit Hours**

5

## 2023-2024 Catalog & Student Handbook

### **EMSP2000 - Methods of Teaching- Emergency Med Train** **Course Title**

Methods of Teaching- Emergency Med Train

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EMSP2037 - Emergency Procedures** **Course Title**

Emergency Procedures

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EMSP2143 - Assessment Based Management** **Course Title**

Assessment Based Management

#### **Academic Level**

Undergraduate

#### **Description**

A summarative experience covering comprehensive, assessment-based patient care management for the paramedic level.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **EMSP2161 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic)** **Course Title**

Clinical - Emergency Medical Technology/Technician (EMT Paramedic)

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **EMSP2162 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic)** **Course Title**

Clinical - Emergency Medical Technology/Technician (EMT Paramedic)

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **EMSP2163 - Clinical - Emergency Medical Technology/Technician (EMT Paramedic)** **Course Title**

Clinical - Emergency Medical Technology/Technician (EMT Paramedic)

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **EMSP2167 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic)** **Course Title**

Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic)

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **EMSP2168 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic)** **Course Title**

Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic)

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **EMSP2169 - Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic)** **Course Title**

Practicum (or Field Experience) - Emergency Medical Technology/Technician (EMT Paramedic)

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **EMSP2205 - EMS Operations**

#### **Course Title**

EMS Operations

#### **Academic Level**

Undergraduate

#### **Description**

Knowledge and skills to safely manage multi-casualty incidents and rescue situations; utilize air medical resources; identify hazardous materials and other specialized incidents.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

### **EMSP2206 - Emergency Pharmacology**

#### **Course Title**

Emergency Pharmacology

#### **Academic Level**

Undergraduate

#### **Description**

A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages.

#### **Lecture Hours**

2

#### **Lab Hours**

1

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **EMSP2237 - Emergency Procedures**

#### **Course Title**

Emergency Procedures

#### **Academic Level**

Undergraduate

#### **Description**

Application of emergency medical procedures. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

0

#### **Lab Hours**

6

#### **Credits**

2

#### **Semester Credit Hours**

2

### **EMSP2262 - Clinical - Emergency Medical Technology/Technician (emt Paramedic)**

#### **Course Title**

Clinical - Emergency Medical Technology/Technician (emt Paramedic)

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **EMSP2330 - Special Populations**

#### **Course Title**

Special Populations

#### **Academic Level**

Undergraduate

#### **Description**

Knowledge and skills necessary to assess and manage ill or injured patients in diverse populations to include neonatology, pediatrics, geriatrics, and other related topics.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

### **EMSP2434 - Medical Emergencies**

#### **Course Title**

Medical Emergencies

#### **Academic Level**

Undergraduate

#### **Description**

Knowledge and skills in the assessment and management of patients with medical emergencies, including medical overview, neurology, gastroenterology, immunology, pulmonology, urology, hematology, endocrinology, toxicology, and other related topics.

#### **Lecture Hours**

3

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4



## 2023-2024 Catalog & Student Handbook

### **EMSP2444 - Cardiology**

#### **Course Title**

Cardiology

#### **Academic Level**

Undergraduate

#### **Description**

Assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

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## Energy

### **ENER1050 - Overview of Energy Industry**

#### **Course Title**

Overview of Energy Industry

#### **Academic Level**

Continuing Education

#### **Description**

Introduction to the major sectors of the energy industry. Includes a comparison of energy industry careers.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ENER1430 - Basic Mechanical Skills for Energy**

#### **Course Title**

Basic Mechanical Skills for Energy

#### **Academic Level**

Undergraduate

#### **Description**

Basic mechanical skills using hand and power tools in an industrial environment. Topics include tool use and maintenance, lubrication, measuring, threads and fasteners, bench works, basic mechanical drawings, and basic shop calculations (English and metric). Also addresses rigging procedures to include chain falls, jacks, cable, fulcrum, port-a-power, and come-alongs.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **ENER2325 - SCADA and Networking**

#### **Course Title**

SCADA and Networking

#### **Academic Level**

Undergraduate

#### **Description**

Topics in Supervisory Control and Data Acquisition (SCADA) systems, Industrial Ethernet communications systems as they apply to industry.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1325 - Digital Fundamentals (3)

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### **ENTC1091 - Top Search Engine**

#### **Course Title**

Top Search Engine

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ENTC1349 - Reliability and Maintainability**

#### **Course Title**

Reliability and Maintainability

#### **Academic Level**

Undergraduate

#### **Description**

Equipment reliability and maintainability. Includes development and assessment of maintenance programs.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ENTC1371 - Engineering Computer Graphics I**

#### **Course Title**

Engineering Computer Graphics I

#### **Academic Level**

Undergraduate

#### **Description**

This course covers the fundamental concepts associated with engineering computer aided design graphics; CAD. Emphasis will be placed on both dimensional analysis and design for manufacturing ability of 3D models. Solid Edge Modeling Software will be utilized.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ENTC2310 - Machine Design**

#### **Course Title**

Machine Design

#### **Academic Level**

Undergraduate

#### **Description**

Design considerations for machinery. Includes selection of mechanical components and machine construction principles.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MCHN1326 - Introduction to Computer-Aided Manufacturing (CAM) (3)
  - MCHN1371 - Engineering Computer Graphics I (3)

## 2023-2024 Catalog & Student Handbook

### **ENGL1301 - Composition I**

#### **Course Title**

Composition I

#### **Academic Level**

Undergraduate

#### **Description**

Intensive study of and practice in writing processes, from invention and researching to drafting, revising, and editing, both individually and collaboratively. Emphasis on effective rhetorical choices, including audience, purpose, arrangement, and style. Focus on writing the academic essay as a vehicle for learning, communicating, and critical analysis.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ENGL1302 - Composition II**

#### **Course Title**

Composition II

#### **Academic Level**

Undergraduate

#### **Description**

Intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual, and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ENGL1301 - Composition I (3)

## 2023-2024 Catalog & Student Handbook

### **ENGL2311 - Technical & Business Writing**

#### **Course Title**

Technical & Business Writing

#### **Academic Level**

Undergraduate

#### **Description**

Intensive study of and practice in professional settings. Focus on the types of documents necessary to make decisions and take action on the job, such as proposals, reports, instructions, policies and procedures, e-mail messages, letters, and descriptions of products and services. Practice individual and collaborative processes involved in the creation of ethical and efficient documents

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ENGL2314 - Technical & Business Writing I**

#### **Course Title**

Technical & Business Writing I

#### **Academic Level**

Undergraduate

#### **Description**

Intensive study of and practice in professional settings. Focus on the types of documents necessary to make decisions and take action on the job, such as proposals, reports, instructions, policies and procedures, e-mail messages, letters, and descriptions of products and services. Practice individual and collaborative processes involved in the creation of ethical and efficient documents.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ENGL2321 - British Literature**

#### **Course Title**

British Literature

#### **Academic Level**

Undergraduate

#### **Description**

A survey of the development of British literature from the Anglo-Saxon period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ENGL2322 - British Literature I**

#### **Course Title**

British Literature I

#### **Academic Level**

Undergraduate

#### **Description**

A survey of the development of British literature from the Anglo-Saxon period to the Eighteenth Century. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ENGL2323 - British Literature II**

#### **Course Title**

British Literature II

#### **Academic Level**

Undergraduate

#### **Description**

A survey of the development of British literature from the Romantic period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ENGL2326 - American Literature (single-Semester Course)**

#### **Course Title**

American Literature (single-Semester Course)

#### **Academic Level**

Undergraduate

#### **Description**

A survey of American literature from the period of exploration and settlement to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **ENGL2331 - World Literature**

#### **Course Title**

World Literature

#### **Academic Level**

Undergraduate

#### **Description**

A survey of world literature from the ancient world to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ENGL2341 - Forms of Literature**

#### **Course Title**

Forms of Literature

#### **Academic Level**

Undergraduate

#### **Description**

The study of one or more literary genres including, but not limited to, poetry, fiction, drama, and film.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Environmental & Pollution Control**

## 2023-2024 Catalog & Student Handbook

### **EPCT1001 - Hazwoper**

#### **Course Title**

Hazwoper

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EPCT1022 - OnlineHazardousCommunication**

#### **Course Title**

OnlineHazardousCommunication

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EPCT1053 - Hazardous Materials Technician**

#### **Course Title**

Hazardous Materials Technician

#### **Academic Level**

Continuing Education

#### **Description**

Technical instruction in the storage and handling of hazardous materials; Occupational Safety and Health Administration (OSHA) regulations; notification procedures associated with emergency response plans; labeling; manifesting; placarding; spill containment; and proper use of personal protective equipment and instrumentation. Meets federal regulations.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **EPCT1054 - Asbestos Worker**

#### **Course Title**

Asbestos Worker

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EPCT1056 - Asbestos Worker Refresher**

#### **Course Title**

Asbestos Worker Refresher

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EPCT1057 - Asbestos Contractor & Supervisor**

#### **Course Title**

Asbestos Contractor & Supervisor

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **EPCT1059 - Hazwoper Refresher - Osha 29CFR-1910.120**

#### **Course Title**

Hazwoper Refresher - Osha 29CFR-1910.120

#### **Academic Level**

Continuing Education

#### **Description**

A refresher course covering the requirements for Hazardous Waste Operations and Emergency Response as found in OSHA 29CFR-1910.120.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EPCT1091 - Mms T-2 Training**

#### **Course Title**

Mms T-2 Training

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

7

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **EPCT1205 - Environmental Regulations Overview**

#### **Course Title**

Environmental Regulations Overview

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to the history of the environmental movement, including basic requirements for compliance with the environmental regulations.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **EPCT1243 - Treatment, Remediation, and Disposal Techniques**

#### **Course Title**

Treatment, Remediation, and Disposal Techniques

#### **Academic Level**

Undergraduate

#### **Description**

A study of the skills required in treatment, remediation, and disposal processes of solid waste, hazardous materials, and hazardous waste. Emphasizes the technologies applicable in the field.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **EPCT1301 - Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics Course Title**

Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics

#### **Academic Level**

Undergraduate

#### **Description**

Minimum certification requirements in the Code of Federal Regulations (CFR) for a hazardous waste site worker as found in 29 CFR-1910.120 and 40 CFR-264.16.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

### **EPCT1307 - Introduction to Environmental Safety and Health Course Title**

Introduction to Environmental Safety and Health

#### **Academic Level**

Undergraduate

#### **Description**

A historic overview of environmental safety and health. Emphasis on the use of occupational safety and health codes.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **EPCT1344 - Environmental Sampling and Analysis**

#### **Course Title**

Environmental Sampling and Analysis

#### **Academic Level**

Undergraduate

#### **Description**

Sampling protocol, procedures, quality control, preservation technology, and field analysis. Emphasis on analysis commonly performed by the field technician.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

### **EPCT2015 - Water Laboratory**

#### **Course Title**

Water Laboratory

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EPCT2050 - Wastewater Treatment**

#### **Course Title**

Wastewater Treatment

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **EPCT2055 - Water Rules and Regulations**

#### **Course Title**

Water Rules and Regulations

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EPCT2331 - Industrial Hygiene Applications**

#### **Course Title**

Industrial Hygiene Applications

#### **Academic Level**

Undergraduate

#### **Description**

A study of the industrial environment and its relation to worker's health. This course provides training in anticipation, recognition, evaluation, and controlling health hazards-- particularly chemical, physical, biological, and ergonomic factors existing in the workplace and having injurious effects on workers. The course also introduces training in instrumentation used in monitoring and measuring health hazards in the workplace and covers current issues in industrial hygiene.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **EPCT2337 - Site Assessment**

#### **Course Title**

Site Assessment

#### **Academic Level**

Undergraduate

#### **Description**

Research techniques required to perform site assessment. Emphasis on the American Society of Testing Materials (ASTM) and Comprehensive Environmental Response Compensation Liability Act (CERCLA) Super Fund Standards.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Environmental Health

### **PTAC1302 - Introduction to Process Technology**

#### **Course Title**

Introduction to Process Technology

#### **Academic Level**

Undergraduate

#### **Description**

An introduction overview of the processing industries.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PTAC1308 - Safety, Health, and Environment I**

#### **Course Title**

Safety, Health, and Environment I

#### **Academic Level**

Undergraduate

#### **Description**

An overview of safety, health, and environmental issues in the performance of all job tasks.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PTAC1310 - Process Technology I - Equipment**

#### **Course Title**

Process Technology I - Equipment

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to the use of common processing equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PTAC1332 - Process Instrumentation I**

#### **Course Title**

Process Instrumentation I

#### **Academic Level**

Undergraduate

#### **Description**

Study of the instruments and control systems used in the process industry including terminology, process variables, symbology, control loops, and basic troubleshooting.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PTAC1410 - Process Technology I - Equipment**

#### **Course Title**

Process Technology I - Equipment

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in the use of common process equipment.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - PTAC1332 - Process Instrumentation I (3)

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### **PTAC1454 - Industrial Processes**

#### **Course Title**

Industrial Processes

#### **Academic Level**

Undergraduate

#### **Description**

The study of the common types of industrial processes.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **PTAC2314 - Principles of Quality**

#### **Course Title**

Principles of Quality

#### **Academic Level**

Undergraduate

#### **Description**

Study of the background and application of quality concepts. Topics include team skills, quality tools, statistics, economics and continuous improvement.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PTAC2336 - Process Instrumentation II**

#### **Course Title**

Process Instrumentation II

#### **Academic Level**

Undergraduate

#### **Description**

Continued study of the instruments and control systems used in the process industries including terminology, process variables, symbology, control loops, and troubleshooting.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PTAC2346 - Process Troubleshooting**

#### **Course Title**

Process Troubleshooting

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in the different types of troubleshooting techniques, procedures, and methods used to solve process problems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PTAC2386 - Internship - Process Technology/Technician** **Course Title**

Internship - Process Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PTAC2387 - Internship - Process Technology/Technician** **Course Title**

Internship - Process Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PTAC2420 - Process Technology II - Systems**

#### **Course Title**

Process Technology II - Systems

#### **Academic Level**

Undergraduate

#### **Description**

A study of various process systems including related scientific principles.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - PTAC1410 - Process Technology I - Equipment (4)

### **PTAC2438 - Process Technology III - Operations**

#### **Course Title**

Process Technology III - Operations

#### **Academic Level**

Undergraduate

#### **Description**

This course emphasizes activities associated with the hands-on operations of process equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **PTAC2446 - Process Troubleshooting**

#### **Course Title**

Process Troubleshooting

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in the different types of troubleshooting techniques, procedures, and methods used to solve process problems. Topics Include Application of Data Collection and Analysis, Cause-Effect Relationships, and Reasoning.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

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## **Food & Beverage/Restaurant Management**

### **RSTO1301 - Beverage Management**

#### **Course Title**

Beverage Management

#### **Academic Level**

Undergraduate

#### **Description**

A study of the beverage service of the hospitality industry including spirits, wines, beers, and non alcoholic beverages. Topics include purchasing, resource control, legislation, marketing, physical plant requirements, staffing, service, and the selection of wines to enhance foods.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **RSTO1304 - Dining Room Service**

#### **Course Title**

Dining Room Service

#### **Academic Level**

Undergraduate

#### **Description**

Introduces the principles, concepts, and systems of professional table service. Topics include dining room organization, scheduling, and management of food service personnel.

#### **Lecture Hours**

1

#### **Lab Hours**

7

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CHEF1205 - Sanitation and Safety (2)
  - IFWA1205 - Food Service Equipment and Planning (2)
  - IFWA1401 - Food Preparation I (4)

### **RSTO1313 - Hospitality Supervision**

#### **Course Title**

Hospitality Supervision

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of recruiting, selection, and training of food service and hospitality personnel. Topics include job descriptions, schedules, work improvement, motivation, applicable personnel laws and regulations. Emphasis on leadership development.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **RSTO1380 - Cooperative Education - Restaurant, Culinary, and Catering Management/Manager** **Course Title**

Cooperative Education - Restaurant, Culinary, and Catering Management/Manager

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **RSTO1680 - Cooperative Education - Restaurant, Culinary, and Catering Management/Manager** **Course Title**

Cooperative Education - Restaurant, Culinary, and Catering Management/Manager

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

6

#### **Semester Credit Hours**

6

## 2023-2024 Catalog & Student Handbook

### **RSTO2301 - Principles of Food & Beverage Controls**

#### **Course Title**

Principles of Food & Beverage Controls

#### **Academic Level**

Undergraduate

#### **Description**

A study of financial principles and controls of food service operation including review of operation policies and procedures. Topics include financial budgeting and cost analysis emphasizing food and beverage labor costs, operational analysis, and international and regulatory reporting procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **RSTO2407 - Catering**

#### **Course Title**

Catering

#### **Academic Level**

Undergraduate

#### **Description**

Principles, techniques, and applications for both on-premises, off-premises, and group marketing of catering operations including food preparation, holding, and transporting techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **RSTO2505 - Management of Food Production and Service**

#### **Course Title**

Management of Food Production and Service

#### **Academic Level**

Undergraduate

#### **Description**

A study of quantity cookery and management problems pertaining to commercial and institutional food service, merchandising and variety in menu planning, and customer food preferences. Includes laboratory experiences in quantity food preparation and service.

#### **Lecture Hours**

2

#### **Lab Hours**

9

#### **Credits**

5

#### **Semester Credit Hours**

5

#### **Prerequisites**

- Complete the following:
  - CHEF1441 - American Regional Cuisine (4)
  - CHEF1445 - International Cuisine (4)
  - PSTR2431 - Advanced Pastry Shop (4)
  - RSTO1313 - Hospitality Supervision (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - RSTO1313 - Hospitality Supervision (3)

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## **Geography**

## 2023-2024 Catalog & Student Handbook

### **GEOG1302 - Human Geography**

#### **Course Title**

Human Geography

#### **Academic Level**

Undergraduate

#### **Description**

This course introduces students to fundamental concepts, skills, and practices of human geography. Place, space, and scale serve as a framework for understanding patterns of human experience. Topics for discussion may include globalization, population and migration, culture, diffusion, political and economic systems, language, religion, gender, and ethnicity.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **GEOG1303 - World Regional Geography**

#### **Course Title**

World Regional Geography

#### **Academic Level**

Undergraduate

#### **Description**

This course is an introduction to the world's major regions seen through their defining physical, social, cultural, political, and economic features. These regions are examined in terms of their physical and human characteristics and their interactions. The course emphasizes relations among regions on issues such as trade, economic development, conflict, and the role of regions in the globalization process.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Geology**

## 2023-2024 Catalog & Student Handbook

### **GEOL1403 - Physical Geology**

#### **Course Title**

Physical Geology

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to the study of the materials and processes that have modified and shaped the surface and interior of Earth over time. These processes are described by theories based on experimental data and geologic data gathered from field observations. Laboratory activities will cover methods used to collect and analyze earth science data.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

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## **Government**

### **GOVT2305 - Federal Government (Federal constitution & topics)**

#### **Course Title**

Federal Government (Federal constitution & topics)

#### **Academic Level**

Undergraduate

#### **Description**

Origin and development of the U.S. Constitution, structure and powers of the national government including the legislative, executive, and judicial branches, federalism, political participation, the national election process, public policy, civil liberties and civil rights.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **GOVT2306 - Texas Government (Texas constitution & topics)**

#### **Course Title**

Texas Government (Texas constitution & topics)

#### **Academic Level**

Undergraduate

#### **Description**

Origin and development of the Texas constitution, structure and powers of state and local government, federalism and inter-governmental relations, political participation, the election process, public policy, and the political culture of Texas.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Graphic Design, Comm Art & III

### **ARTC1302 - Digital Imaging I**

#### **Course Title**

Digital Imaging I

#### **Academic Level**

Undergraduate

#### **Description**

Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image-acquisitions.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ARTC1305 - Basic Graphic Design**

#### **Course Title**

Basic Graphic Design

#### **Academic Level**

Undergraduate

#### **Description**

Graphic design with emphasis on the visual communication process. Topics include basic terminology and graphic design principles.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ARTC1310 - Design Concepts**

#### **Course Title**

Design Concepts

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental techniques in conceptualizing. Includes all procedures from initial research to creating strategies to finalize a solution.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - GRPH1359 - Vector Graphics for Production (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - ARTC2313 - Digital Publishing II (3)



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### **ARTC1313 - Digital Publishing I**

#### **Course Title**

Digital Publishing I

#### **Academic Level**

Undergraduate

#### **Description**

The fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1302 - Digital Imaging I (3)

### **ARTC1317 - Design Communication I**

#### **Course Title**

Design Communication I

#### **Academic Level**

Undergraduate

#### **Description**

Study of design development relating to graphic design terminology, tools and media, and layout and design concepts. Topics include integration of type, images and other design elements, and developing computer skills in industry standard computer programs.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ARTC1327 - Typography** **Course Title**

Typography

### **Academic Level**

Undergraduate

### **Description**

A study of letterforms and typographic concepts as elements of graphic communication. Emphasis on developing a current, practical typographic knowledge based on industry standards.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **ARTC1349 - Art Direction I** **Course Title**

Art Direction I

### **Academic Level**

Undergraduate

### **Description**

Creation of projects in art direction for advertising graphic campaigns for products, services, or ideas. Topics include all campaign procedures from initial research and creative strategy to final execution and presentation of a comprehensive project.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - ARTC1327 - Typography (3)
  - GRPH1359 - Vector Graphics for Production (3)

## 2023-2024 Catalog & Student Handbook

### **ARTC1353 - Computer Illustration**

#### **Course Title**

Computer Illustration

#### **Academic Level**

Undergraduate

#### **Description**

Use of the tools and transformation options of an industry-standard vector drawing program to create complex illustrations or drawings.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ARTC1359 - Visual Design for New Media**

#### **Course Title**

Visual Design for New Media

#### **Academic Level**

Undergraduate

#### **Description**

Visual design elements as they relate to new media. Emphasizes aesthetics and visual problem solving such as typographic issues, color management, hierarchy of information, image optimization, and effective layout.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1349 - Art Direction I (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - ARTC2313 - Digital Publishing II (3)

## 2023-2024 Catalog & Student Handbook

### **ARTC2005 - Digital Imaging II**

#### **Course Title**

Digital Imaging II

#### **Academic Level**

Continuing Education

#### **Description**

Principles of digital image processing and digital painting. Emphasis on raster-based imaging and the creative aspects of electronic illustration for commercial or fine art applications.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **ARTC2305 - Digital Imaging II**

#### **Course Title**

Digital Imaging II

#### **Academic Level**

Undergraduate

#### **Description**

Principles of digital image processing and digital painting. Emphasis on raster-based imaging and the creative aspects of electronic illustration for commercial or fine art applications.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1302 - Digital Imaging I (3)

## 2023-2024 Catalog & Student Handbook

### **ARTC2313 - Digital Publishing II**

#### **Course Title**

Digital Publishing II

#### **Academic Level**

Undergraduate

#### **Description**

Includes layout procedures from thumbnails and roughs to final comprehensive and print output. Emphasis on design principles for the creation of advertising and publishing materials, and techniques for efficient planning and documenting projects.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1313 - Digital Publishing I (3)

### **ARTC2317 - Typographic Design**

#### **Course Title**

Typographic Design

#### **Academic Level**

Undergraduate

#### **Description**

Exploration of typographic design including computer generated letterforms as elements of design. Includes theory and techniques of traditional, contemporary, and experimental typography.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ARTC2333 - Publication Design**

#### **Course Title**

Publication Design

#### **Academic Level**

Undergraduate

#### **Description**

Development of skills and advanced knowledge of publishing software, with emphasis on the maintenance of visual continuity in documents for publication.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1359 - Visual Design for New Media (3)

### **ARTC2335 - Portfolio Development for Graphic Design**

#### **Course Title**

Portfolio Development for Graphic Design

#### **Academic Level**

Undergraduate

#### **Description**

Preparation of a portfolio comprised of completed graphic design projects. Evaluation and demonstration of portfolio presentation methods based on the student's specific area of study.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ARTC2340 - Computer Illustration II**

#### **Course Title**

Computer Illustration II

#### **Academic Level**

Undergraduate

#### **Description**

Advanced use of software applications and/or various media with emphasis on output procedures, the resolution of complex design issues, and concept development.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ARTC2347 - Design Communication II**

#### **Course Title**

Design Communication II

#### **Academic Level**

Undergraduate

#### **Description**

An advanced study of the design process and art direction. Emphasis on form and content through the selection, creation, and integration of typographic, photographic, illustrative, and design elements.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1317 - Design Communication I (3)

## 2023-2024 Catalog & Student Handbook

### **ARTC2348 - Digital Publishing III**

#### **Course Title**

Digital Publishing III

#### **Academic Level**

Undergraduate

#### **Description**

A project based page layout course from concept to completion addressing design problems, preflight of files, color separations, and trapping techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC2313 - Digital Publishing II (3)

### **ARTC2349 - Art Direction II**

#### **Course Title**

Art Direction II

#### **Academic Level**

Undergraduate

#### **Description**

Mastery of advanced art direction projects with emphasis on selected topics in advertising campaigns. Includes written, oral, and visual skills.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1349 - Art Direction I (3)
  - ARTC2313 - Digital Publishing II (3)



## 2023-2024 Catalog & Student Handbook

### **ARTC2388 - Internship - Commercial and Advertising Art** **Course Title**

Internship - Commercial and Advertising Art

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ARTC2449 - Art Direction II** **Course Title**

Art Direction II

#### **Academic Level**

Undergraduate

#### **Description**

Mastery of advanced art direction projects with emphasis on selected topics in advertising campaigns. Includes written, oral, and visual skills.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **GRPH1002 - Introduction to Desktop Publishing** **Course Title**

Introduction to Desktop Publishing

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **GRPH1359 - Vector Graphics for Production** **Course Title**

Vector Graphics for Production

#### **Academic Level**

Undergraduate

#### **Description**

A study and use of vector graphics for production.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **GRPH2309 - Digital Pre-Press**

#### **Course Title**

Digital Pre-Press

#### **Academic Level**

Undergraduate

#### **Description**

Theory and techniques for pre-press preparation using industry standard software for final file output. Topics include the procedures and problems involved in computer file preparation ranging from trapping, color separations, and resolutions to printing basics and service bureaus.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Health Info

### **MDCA1054 - Medical Assisting Credentialing Exam Re**

#### **Course Title**

Medical Assisting Credentialing Exam Re

#### **Academic Level**

Continuing Education

#### **Description**

A preparation for one of the National Commission for Certifying Agencies (NCCA) recognized Credentialing exams.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **MDCA1302 - Human Disease/Pathophysiology**

#### **Course Title**

Human Disease/Pathophysiology

#### **Academic Level**

Undergraduate

#### **Description**

A study of anatomy and physiology with emphasis on human pathophysiology, including etiology, prognosis, medical treatment, signs and symptoms of common diseases of all body systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MDCA1313 - Medical Terminology**

#### **Course Title**

Medical Terminology

#### **Academic Level**

Undergraduate

#### **Description**

A study and practical application of a medical vocabulary system. Includes structure, recognition, analysis, definition, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Health Information**

## 2023-2024 Catalog & Student Handbook

### **HITT1005 - Medical Terminology I**

#### **Course Title**

Medical Terminology I

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **HITT1009 - Hipaa Compliance**

#### **Course Title**

Hipaa Compliance

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **HITT1041 - Coding and Classification Syst**

#### **Course Title**

Coding and Classification Syst

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

6

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **HITT1204 - IT for Health Professions**

#### **Course Title**

IT for Health Professions

#### **Academic Level**

Undergraduate

#### **Description**

For students without an IT background, provides a basic overview of computer architecture, data organization, representation and structure, structure of programming, networking, and data communication. Includes basic terminology of computing.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **HITT1253 - Legal and Ethical Aspects of Health Information**

#### **Course Title**

Legal and Ethical Aspects of Health Information

#### **Academic Level**

Undergraduate

#### **Description**

Concepts of privacy, security, confidentiality, ethics, healthcare legislation, and regulations relating to the maintenance and use of health information.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **HITT1255 - Health Care Statistics**

#### **Course Title**

Health Care Statistics

#### **Academic Level**

Undergraduate

#### **Description**

Principles of health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

### **HITT1301 - Health Data Content and Structure**

#### **Course Title**

Health Data Content and Structure

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health related information including content of health record, documentation requirements, registries, indices, licensing, regulatory agencies, forms, and screens.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HITT1305 - Medical Terminology I**

#### **Course Title**

Medical Terminology I

#### **Academic Level**

Undergraduate

#### **Description**

Study of medical terms through word origin and structure. Introduction to abbreviations and symbols, surgical and diagnostic procedures, and medical specialties.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HITT1311 - Health Information Systems**

#### **Course Title**

Health Information Systems

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to health IT standards, health-related data structures, software applications, and enterprise architecture in health care and public health.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **HITT1341 - Coding and Classification Systems**

#### **Course Title**

Coding and Classification Systems

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of coding rules, conventions, and guidelines using clinical classification systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HITT1342 - Ambulatory Coding**

#### **Course Title**

Ambulatory Coding

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of ambulatory coding rules, conventions, and guidelines.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HITT1345 - Health Care Delivery Systems**

#### **Course Title**

Health Care Delivery Systems

#### **Academic Level**

Undergraduate

#### **Description**

Examination of delivery systems including organization, financing, accreditation, licensure, and regulatory agencies.

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HITT2000 - Electronic Health Records**

#### **Course Title**

Electronic Health Records

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **HITT2035 - Coding & Reimbursement Method**

#### **Course Title**

Coding & Reimbursement Method

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **HITT2166 - Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician Course Title**

Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **HITT2249 - RHIT Competency Review Course Title**

RHIT Competency Review

#### **Academic Level**

Undergraduate

#### **Description**

Review Health Information Technology (HIT) competencies, skills, and knowledge.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **HITT2266 - Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician Course Title**

Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **HITT2335 - Coding and Reimbursement Methodologies Course Title**

Coding and Reimbursement Methodologies

#### **Academic Level**

Undergraduate

#### **Description**

Advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding prospective payment systems and methods of reimbursement.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HITT1341 - Coding and Classification Systems (3)

## 2023-2024 Catalog & Student Handbook

### **HITT2339 - Health Information Organization and Supervision** **Course Title**

Health Information Organization and Supervision

#### **Academic Level**

Undergraduate

#### **Description**

Principles of organization and supervision of human, financial, and physical resources.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HITT2346 - Advanced Medical Coding** **Course Title**

Advanced Medical Coding

#### **Academic Level**

Undergraduate

#### **Description**

Advanced concepts of ICD and CPT coding rules, conventions, and guidelines in complex case studies. Investigation of government regulations and changes in health care reporting.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HITT1341 - Coding and Classification Systems (3)
  - HITT1342 - Ambulatory Coding (3)

## 2023-2024 Catalog & Student Handbook

### **HITT2360 - Clinical - Health Information/Medical Records Technology/Technician Course Title**

Clinical - Health Information/Medical Records Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HITT2366 - Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician Course Title**

Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HITT2443 - Quality Assessment and Performance Improvement** **Course Title**

Quality Assessment and Performance Improvement

### **Academic Level**

Undergraduate

### **Description**

Study of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, compilation and presentation of data in statistical formats, quality management and performance improvement functions, utilization management, risk management, and medical staff data quality issues, and approaches to assessing patient safety issues and implementation of quality management and reporting through electronic systems. Approaches to assessing patient safety issues and implementation of quality management and reporting through electronic systems.

### **Lecture Hours**

2

### **Lab Hours**

6

### **Credits**

4

### **Semester Credit Hours**

4

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## Health Professions/Related Science

### **HPRS1004 - Basic Health Profession Skills** **Course Title**

Basic Health Profession Skills

### **Academic Level**

Continuing Education

### **Description**

A study of the concepts that serve as the foundation for health profession courses, including client care and safety issues, basic client monitoring, and health documentation methods.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **HPRS1007 - Natural Health and Healing**

#### **Course Title**

Natural Health and Healing

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **HPRS1206 - Essentials of Medical Terminology**

#### **Course Title**

Essentials of Medical Terminology

#### **Academic Level**

Undergraduate

#### **Description**

A study of medical terminology, word origin, structure, and application.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

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## Heating Air Cond/Ref

### **HART1000 - Air Condition & Refrigerator Duct Installa**

#### **Course Title**

Air Condition & Refrigerator Duct Installa

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

7

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **HART1010 - Shop Practice & Tools** **Course Title**

Shop Practice & Tools

### **Academic Level**

Continuing Education

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **HART1093 - Online Principles SolarTherma** **Course Title**

Online Principles SolarTherma

### **Academic Level**

Continuing Education

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **HART1094 - Air Conditioning, and Refrigeration Mecha** **Course Title**

Air Conditioning, and Refrigeration Mecha

### **Academic Level**

Continuing Education

### **Description**

Special Topics in Heating, Air conditioning, and Refrigeration Mechanic and Repa

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **HART1256 - EPA Recovery Certification Preparation** **Course Title**

EPA Recovery Certification Preparation

#### **Academic Level**

Undergraduate

#### **Description**

Certification training for HVAC refrigerant recovery and recycling. Instruction will provide a review of EPA guidelines for refrigerant recovery and recycling during the installation, service, and repair of all HVAC and refrigerant systems.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **HART1300 - H.V.A.C Duct Fabrication** **Course Title**

H.V.A.C Duct Fabrication

#### **Academic Level**

Undergraduate

#### **Description**

Layout and fabrication of HVAC duct systems using common tools and equipment of the trade.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HART1301 - Basic Electricity for HVAC**

#### **Course Title**

Basic Electricity for HVAC

#### **Academic Level**

Undergraduate

#### **Description**

Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HART1303 - Air Conditioning Control Principles**

#### **Course Title**

Air Conditioning Control Principles

#### **Academic Level**

Undergraduate

#### **Description**

A basic study of HVAC and refrigeration controls; troubleshooting of control components; emphasis on use of wiring diagrams to analyze high and low voltage circuits; a review of Ohm's law as applied to air conditioning controls and circuits.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART1301 - Basic Electricity for HVAC (3)
  - HART1307 - Refrigeration Principles (3)
  - HART1345 - Gas and Electric Heating (3)

## 2023-2024 Catalog & Student Handbook

### **HART1307 - Refrigeration Principles**

#### **Course Title**

Refrigeration Principles

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components, and safety.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HART1310 - HVAC Shop Practices and Tools**

#### **Course Title**

HVAC Shop Practices and Tools

#### **Academic Level**

Undergraduate

#### **Description**

Tools and instruments used in the HVAC industry. Includes proper application, use and care of these tools, and tubing and piping practices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HART1341 - Residential Air Conditioning**

#### **Course Title**

Residential Air Conditioning

#### **Academic Level**

Undergraduate

#### **Description**

A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART1301 - Basic Electricity for HVAC (3)
  - HART1307 - Refrigeration Principles (3)

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### **HART1345 - Gas and Electric Heating**

#### **Course Title**

Gas and Electric Heating

#### **Academic Level**

Undergraduate

#### **Description**

Study of the procedures and principles used in servicing heating systems including gas fired furnaces and electric heating systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART1301 - Basic Electricity for HVAC (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - HART1301 - Basic Electricity for HVAC (3)

### **HART1351 - Energy Management**

#### **Course Title**

Energy Management

#### **Academic Level**

Undergraduate

#### **Description**

Study of basic heat transfer theory; sensible and latent heat loads; building envelope construction; insulation, lighting, and fenestration types; and conduct energy audit procedures. The course also develops energy audit recommendations based on local utility rates, building use, and construction. Laboratory activities include developing energy audit reports, installing energy saving devices, and measuring energy consumption.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HART1356 - EPA Recovery Certification Preparation** **Course Title**

EPA Recovery Certification Preparation

### **Academic Level**

Undergraduate

### **Description**

Certification training for HVAC refrigerant recovery, recycle, and reclaim. Instruction will provide a review of EPA guidelines for refrigerant recovery and recycling during the installation, service, and repair of all HVAC and refrigeration systems.

### **Lecture Hours**

2

### **Lab Hours**

2

### **Credits**

3

### **Semester Credit Hours**

3

### **HART2041 - Commercial Air Conditioning** **Course Title**

Commercial Air Conditioning

### **Academic Level**

Continuing Education

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **HART2301 - Air Conditioning & Refrigeration Codes**

#### **Course Title**

Air Conditioning & Refrigeration Codes

#### **Academic Level**

Undergraduate

#### **Description**

HVAC standards and concepts with emphasis on the understanding, and documentation of the codes and regulations required for the state mechanical contractors license and local codes.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HART2302 - Commercial Air Conditioning System Design**

#### **Course Title**

Commercial Air Conditioning System Design

#### **Academic Level**

Undergraduate

#### **Description**

Advanced study in essential elements of commercial air conditioning contracting including duct systems design; equipment selection using manufacturers' data; and preparation of shop drawings and submittals.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **HART2331 - Advanced Electricity for HVAC**

#### **Course Title**

Advanced Electricity for HVAC

#### **Academic Level**

Undergraduate

#### **Description**

Advanced electrical instruction and skill building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in motors and power distribution motors, motor controls, and application of solid state devices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART1303 - Air Conditioning Control Principles (3)

### **HART2334 - Advanced Air Conditioning Controls**

#### **Course Title**

Advanced Air Conditioning Controls

#### **Academic Level**

Undergraduate

#### **Description**

Theory and application of electrical control devices, electromechanical controls, and/or pneumatic controls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART2336 - Air Conditioning Troubleshooting (3)

## 2023-2024 Catalog & Student Handbook

### **HART2336 - Air Conditioning Troubleshooting**

#### **Course Title**

Air Conditioning Troubleshooting

#### **Academic Level**

Undergraduate

#### **Description**

An advanced course in application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems including conducting performance tests.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART1303 - Air Conditioning Control Principles (3)
  - HART1345 - Gas and Electric Heating (3)
  - HART1341 - Residential Air Conditioning (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - HART1341 - Residential Air Conditioning (3)

### **HART2338 - Air Conditioning Installation and Startup**

#### **Course Title**

Air Conditioning Installation and Startup

#### **Academic Level**

Undergraduate

#### **Description**

A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HART2341 - Commercial Air Conditioning**

#### **Course Title**

Commercial Air Conditioning

#### **Academic Level**

Undergraduate

#### **Description**

A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART1303 - Air Conditioning Control Principles (3)
  - HART1341 - Residential Air Conditioning (3)

### **HART2342 - Commercial Refrigeration**

#### **Course Title**

Commercial Refrigeration

#### **Academic Level**

Undergraduate

#### **Description**

Theory and practical application in the maintenance of commercial refrigeration; medium, and low temperature applications and ice machines.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART1307 - Refrigeration Principles (3)

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### **HART2343 - Industrial Air Conditioning** **Course Title**

Industrial Air Conditioning

### **Academic Level**

Undergraduate

### **Description**

A study of components, accessories, applications, and installation of air conditioning systems above 25 tons capacity.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - HART2336 - Air Conditioning Troubleshooting (3)

### **HART2345 - Residential Air Conditioning Systems Design** **Course Title**

Residential Air Conditioning Systems Design

### **Academic Level**

Undergraduate

### **Description**

Study of the properties of air and results of cooling, heating, humidifying or dehumidifying; heat gain and heat loss calculations including equipment selection and balancing the air system.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - HART2336 - Air Conditioning Troubleshooting (3)

## 2023-2024 Catalog & Student Handbook

### **HART2349 - Heat Pumps**

#### **Course Title**

Heat Pumps

#### **Academic Level**

Undergraduate

#### **Description**

A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART1303 - Air Conditioning Control Principles (3)
  - HART1341 - Residential Air Conditioning (3)

### **HART2350 - HVAC Zone Controls**

#### **Course Title**

HVAC Zone Controls

#### **Academic Level**

Undergraduate

#### **Description**

Theory and application of HVAC residential Zone control devices, electromechanical controls, and/or pneumatic controls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART2336 - Air Conditioning Troubleshooting (3)

## 2023-2024 Catalog & Student Handbook

### **HART2357 - Specialized Commercial Refrigeration**

#### **Course Title**

Specialized Commercial Refrigeration

#### **Academic Level**

Undergraduate

#### **Description**

An advanced course covering the components, accessories, and service of specialized refrigeration units, such as ice machines, soft-serve machines, cryogenics, and cascade systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART2336 - Air Conditioning Troubleshooting (3)

### **HART2358 - Testing, Adjusting, and Balancing HVAC Systems**

#### **Course Title**

Testing, Adjusting, and Balancing HVAC Systems

#### **Academic Level**

Undergraduate

#### **Description**

A study in the process of checking and adjusting all the building environmental systems to produce the design objectives. Emphasis on efficiency and energy savings.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HART2331 - Advanced Electricity for HVAC (3)

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### **HART2380 - Cooperative Education HVAC**

#### **Course Title**

Cooperative Education HVAC

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Heating, Air Cond, Ventilation

### **RBPT1370 - Building Envelope Inspection**

#### **Course Title**

Building Envelope Inspection

#### **Academic Level**

Undergraduate

#### **Description**

Outlines procedures for improving the comfort, durability and energy efficiency of residential homes shell or envelope. Emphasis on air leakage and sealing measures, insulation types, proper installation of doors and windows, moisture fundamentals, indoor pollutants, and health and safety issues encountered when making energy improvements.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **RBPT2325 - Energy Rating Systems for Homes**

#### **Course Title**

Energy Rating Systems for Homes

#### **Academic Level**

Undergraduate

#### **Description**

Use of computer software and rating criteria to evaluate and score homes using residential energy rating systems. Emphasizes gathering data from building plans, manufacturers' specifications, and onsite testing.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **RBPT2335 - Residential Environmental Quality**

#### **Course Title**

Residential Environmental Quality

#### **Academic Level**

Undergraduate

#### **Description**

Methods for improving the indoor and outdoor environmental quality associated with homes. Emphasizes identifying materials, building practices, and human behavior both inside and outside the home that impact environmental quality. Includes best-practice strategies.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **RBPT2350 - Residential Retrofit Strategies**

#### **Course Title**

Residential Retrofit Strategies

#### **Academic Level**

Undergraduate

#### **Description**

Evaluation of existing homes and retrofit strategies to improve energy efficiency and environmental quality. Includes retrofitting a home for onsite power generation. Covers using a whole-house approach to evaluate the effects of comfort, safety, indoor environmental quality, financial incentives, cost effectiveness, environmental impact, energy efficiency, and the movement of heat, moisture, and air through the building enclosure.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **RBPT2359 - Residential Building Performance Consulting**

#### **Course Title**

Residential Building Performance Consulting

#### **Academic Level**

Undergraduate

#### **Description**

A summary of the skills needed to be a residential building performance specialist. Emphasizes onsite building testing, use of evaluation software and rating criteria, production of reports, and presentation of recommendations to improve residential building performance.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Heavy Equipment Maintenance & Repair**

## 2023-2024 Catalog & Student Handbook

### **HEMR1091 - Crane Operator Rigging Cert**

#### **Course Title**

Crane Operator Rigging Cert

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **HEMR1304 - Natural Gas Compression**

#### **Course Title**

Natural Gas Compression

#### **Academic Level**

Undergraduate

#### **Description**

An introductory course in the principles of the operation of gas compressors and natural gas engines.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HEMR1401 - Tracks and Undercarriages**

#### **Course Title**

Tracks and Undercarriages

#### **Academic Level**

Undergraduate

#### **Description**

Concepts in operation and maintenance of final drive track systems and undercarriages used on track and wheel type equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

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## History for Transfer

### **HIST1301 - United States History I**

#### **Course Title**

United States History I

#### **Academic Level**

Undergraduate

#### **Description**

A survey of the social, political, economic, cultural, and intellectual history of the United States from the pre-Columbian era to the Civil War/Reconstruction period. United States History I includes the study of pre-Columbian, colonial, revolutionary, early national, slavery and sectionalism, and the Civil War/Reconstruction eras. Themes that may be addressed in United States History I include: American settlement and diversity, American culture, religion, civil and human rights, technological change, economic change, immigration and migration, and creation of the federal government.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HIST1302 - United States History II**

#### **Course Title**

United States History II

#### **Academic Level**

Undergraduate

#### **Description**

A survey of the social, political, economic, cultural, and intellectual history of the United States from the Civil War/Reconstruction era to the present. United States History II examines industrialization, immigration, world wars, the Great Depression, Cold War and post-Cold War eras. Themes that may be addressed in United States History II include: American culture, religion, civil and human rights, technological change, economic change, immigration and migration, urbanization and suburbanization, the expansion of the federal government, and the study of U.S. foreign policy.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HIST2312 - Western Civilization II**

#### **Course Title**

Western Civilization II

#### **Academic Level**

Undergraduate

#### **Description**

A survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from the 17th century to the modern era. Themes that should be addressed in Western Civilization II include absolutism and constitutionalism, growth of nation states, the Enlightenment, revolutions, classical liberalism, industrialization, imperialism, global conflict, the Cold War, and globalism.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HIST2321 - World Civilizations I**

#### **Course Title**

World Civilizations I

#### **Academic Level**

Undergraduate

#### **Description**

A survey of the social, political, economic, cultural, religious, and intellectual history of the world from the emergence of human cultures through the 15th century. The course examines major cultural regions of the world in Africa, the Americas, Asia, Europe, and Oceania and their global interactions over time. Themes include the emergence of early societies, the rise of civilizations, the development of political and legal systems, religion and philosophy, economic systems and trans-regional networks of exchange. The course emphasizes the development, interaction and impact of global exchange.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Horticulture

### **HORT1401 - Horticulture (lecture + Lab)**

#### **Course Title**

Horticulture (lecture + Lab)

#### **Academic Level**

Undergraduate

#### **Description**

Structure, growth, and development of horticultural plants. Examination of environmental effects, basic principles of reproduction, production methods ranging from outdoor to controlled climates, nutrition, and pest management. Laboratory activities will reinforce the structure, growth, and development of horticultural plants.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

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## Horticulture Serv Operations

## 2023-2024 Catalog & Student Handbook

### **HALT1038 - Irrigation Water Management**

#### **Course Title**

Irrigation Water Management

#### **Academic Level**

Continuing Education

#### **Description**

Application of the science of soil-water plant relations and climatic conditions to develop effective scheduling and management of irrigation water systems for residential, commercial, industrial, park, and golf courses. Water conservation issues, water policies and codes and other related matters will be discussed.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **HALT2007 - Horticultural Food Crops**

#### **Course Title**

Horticultural Food Crops

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Human Resources Management**

### **HRPO1091 - Sp Topic in Human Resources Management**

#### **Course Title**

Sp Topic in Human Resources Management

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **HRPO2301 - Human Resources Management** **Course Title**

Human Resources Management

### **Academic Level**

Undergraduate

### **Description**

Behavioral and legal approaches to the management of human resources in organizations.

### **Lecture Hours**

2

### **Lab Hours**

2

### **Credits**

3

### **Semester Credit Hours**

3

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## Humanities

### **HUMA1301 - Introduction to Humanities I** **Course Title**

Introduction to Humanities I

### **Academic Level**

Undergraduate

### **Description**

This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create.

### **Lecture Hours**

3

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HUMA2319 - American Minority Studies**

#### **Course Title**

American Minority Studies

#### **Academic Level**

Undergraduate

#### **Description**

This interdisciplinary survey examines the diverse cultural, artistic, economic, historical, political, and social aspects of American minority communities. Topics may include race/ethnicity, gender, socioeconomic class, sexual orientation, national origin, age, disability, and religion.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HUMA2323 - World Cultures**

#### **Course Title**

World Cultures

#### **Academic Level**

Undergraduate

#### **Description**

This course is a general study of diverse world cultures. Topics include cultural practices, social structures, religions, arts, and languages.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Hydraulics



## 2023-2024 Catalog & Student Handbook

### **HYDR1045 - Hydraulics and Pneumatics**

#### **Course Title**

Hydraulics and Pneumatics

#### **Academic Level**

Continuing Education

#### **Description**

Discussion of the fundamentals of hydraulics and pneumatics, components of each system, and the operations, maintenance, and analysis of each system.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

### **HYDR1301 - Rigging and Conveying Systems**

#### **Course Title**

Rigging and Conveying Systems

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to directing and moving heavy objects, selecting the appropriate rigging equipment, in conjunction with the suitable hardware and lifting devices with an emphasis on inspection, care, and maintenance of rigging equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **HYDR1305 - Basic Hydraulics**

#### **Course Title**

Basic Hydraulics

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of hydraulics including types of hydraulic pumps, cylinders, valves, motors, and related systems. Introduction to hydraulic schematic symbols as related to components.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **HYDR1345 - Hydraulics and Pneumatics**

#### **Course Title**

Hydraulics and Pneumatics

#### **Academic Level**

Undergraduate

#### **Description**

Discussion of the fundamentals of hydraulics and pneumatics, components of each system, and the operations, maintenance, and analysis of each system.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Implement & Support Microsoft**

## 2023-2024 Catalog & Student Handbook

### **ITMT2003 - Administering a Microsoft Sql Server Dat Course Title**

Administering a Microsoft Sql Server Dat

#### **Academic Level**

Continuing Education

#### **Description**

In-depth coverage of the knowledge and skills required to install, configure, administer, and troubleshoot the client-server database management system of Microsoft SQL Server databases.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## Industrial

### **INDS1010 - Leed Green Associae Course Title**

Leed Green Associae

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **INDS1300 - Interior Design Drafting Appl** **Course Title**

Interior Design Drafting Appl

### **Academic Level**

Undergraduate

### **Description**

Computer-aided drafting (CAD) as a tool for interior design, illustration, drafting, and design development

### **Lecture Hours**

2

### **Lab Hours**

2

### **Credits**

3

### **Semester Credit Hours**

3

### **INDS1301 - Basic Elements of Design** **Course Title**

Basic Elements of Design

### **Academic Level**

Undergraduate

### **Description**

A study of basic design concepts with projects in shape, line, value, texture, pattern, spatial illusion, and form.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **INDS1319 - Technical Drawing for Interior Designers**

#### **Course Title**

Technical Drawing for Interior Designers

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to reading and preparing technical instruction drawing for interior design, including plans, elevation, detail, schedules, dimensions, and lettering.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Industrial/Manufacturing Tech

### **INMT1000 - 5-S Training**

#### **Course Title**

5-S Training

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **INMT1003 - Industrial Maintenance Technology, Basic** **Course Title**

Industrial Maintenance Technology, Basic

### **Academic Level**

Continuing Education

### **Description**

An introduction to preventive maintenance of equipment associated with general industrial production. Instruction in diagnosing and repairing hydraulic, pneumatic and mechanical systems related to industrial equipment.

### **Lecture Hours**

3

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **INMT1005 - Introduction to Industrial Maintenance** **Course Title**

Introduction to Industrial Maintenance

### **Academic Level**

Continuing Education

### **Description**

Basic mechanical skills and repair techniques common to most fields of industrial maintenance. Topics include precision measuring instruments and general safety rules common in industry, including lock-out/tag-out.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **INMT1091 - Special Topics in Manufacturing Technology/Technician** **Course Title**

Special Topics in Manufacturing Technology/Technician

### **Academic Level**

Continuing Education

### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### **Lecture Hours**

0

### **Lab Hours**

1

### **Semester Credit Hours**

0

### **INMT1305 - Introduction to Industrial Maintenance** **Course Title**

Introduction to Industrial Maintenance

### **Academic Level**

Undergraduate

### **Description**

Basic mechanical skills and repair techniques common to most fields of industrial maintenance. Topics include precision measuring instruments and general safety rules common in industry, including lock-out/tag-out.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **INMT1317 - Industrial Automation**

#### **Course Title**

Industrial Automation

#### **Academic Level**

Undergraduate

#### **Description**

Applications of industrial automation systems including identification of system requirements, equipment integration, motors, controllers, and sensors. Coverage of set-up, maintenance, and testing of the automated system.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)
  - CETT1305 - AC Circuits (3)

### **INMT1319 - Manufacturing Processes**

#### **Course Title**

Manufacturing Processes

#### **Academic Level**

Undergraduate

#### **Description**

Exploration of a variety of methods used in manufacturing. Theory and application of processes including but not limited to metal forming, welding, machining, heat treating, plating, assembly procedures, and process control considerations, casting and injection molding.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **INMT1355 - Industrial Power Plant Systems**

#### **Course Title**

Industrial Power Plant Systems

#### **Academic Level**

Undergraduate

#### **Description**

Study the principles of operation and maintenance of industrial power plants. Emphasis placed on component replacement, tune-up, and field adjustments of engine systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INMT1305 - Introduction to Industrial Maintenance (3)

## 2023-2024 Catalog & Student Handbook

### **INMT1371 - Industrial Manufacturing PLC Installation**

#### **Course Title**

Industrial Manufacturing PLC Installation

#### **Academic Level**

Undergraduate

#### **Description**

A study into Programmable Logic Controllers (PLC's). Topics will include the installation of various PLC units, wiring requirements, proper shielding techniques, wiring of input and output components, troubleshooting PLC input's and output's, ladder logic design, programming, program installation, and program utilization for troubleshooting industrial systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ELPT1341 - Motor Control (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - ELPT1341 - Motor Control (3)

### **INMT1372 - Introduction to Industrial Electricity**

#### **Course Title**

Introduction to Industrial Electricity

#### **Academic Level**

Undergraduate

#### **Description**

An introductory study into industrial electrical circuits. Topics will include electrical power generation, ohm's law for DC and AC circuits, the relationship between ohm's law and industrial circuits, voltage drop calculation across various loads, basic operations of electrical meters used for testing industrial circuits (to include VOM, Megohm meter, and amp meter), and designing basic industrial circuits.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **INMT1373 - Print Reading for Industrial Equipment Technician** **Course Title**

Print Reading for Industrial Equipment Technician

#### **Academic Level**

Undergraduate

#### **Description**

An introduction into prints and schematics used in industry to assemble, install, troubleshoot, and repair industrial equipment. Topics will include blue print reading for machining parts, facility prints for equipment installation, introduction to hydraulic symbols and schematic design, introduction to pneumatic symbols and schematic design, and introduction to electrical symbols and schematic design.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **INMT1374 - Industrial and Manufacturing Wiring Applications** **Course Title**

Industrial and Manufacturing Wiring Applications

#### **Academic Level**

Undergraduate

#### **Description**

A study into the Industrial and Manufacturing wiring applications. Topics to include the use of Ohms Law and the NEC Codes to calculate circuit protection requirements. Determination of wire sizes required for installation of industrial motors and various other industrial and commercial building equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- INMT 1374 Prerequisite(s):ELPT 1311 or INMT 1372

## 2023-2024 Catalog & Student Handbook

### **INMT1375 - Industrial and Manufacturing Wiring Applications**

#### **Course Title**

Industrial and Manufacturing Wiring Applications

#### **Academic Level**

Undergraduate

#### **Description**

A study into the Industrial and Manufacturing wiring applications. Topics to include the use of Ohms Law and the NEC Codes to calculate circuit protection requirements. Determination of wire sizes required for installation of industrial motors and various other industrial and commercial building equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- INMT 1375 Prerequisite(s):ELPT 1311 or INMT 1372

### **INMT2003 - Pumps, Compressors & Mechanical Drives**

#### **Course Title**

Pumps, Compressors & Mechanical Drives

#### **Academic Level**

Continuing Education

#### **Description**

A study of the theory and operations of various types of pumps and compressors. Topics include mechanical power transmission systems including gears, v-belts, and chain drives.

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **INMT2045 - Industrial Troubleshooting**

#### **Course Title**

Industrial Troubleshooting

#### **Academic Level**

Continuing Education

#### **Description**

An advanced study of the techniques used in troubleshooting various types of industrial equipment to include mechanical, electrical, hydraulic, and pneumatic systems and their control devices. Emphasis will be placed on the use of schematics and diagrams in conjunction with proper troubleshooting procedures.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **INMT2301 - Machinery Installation**

#### **Course Title**

Machinery Installation

#### **Academic Level**

Undergraduate

#### **Description**

Students utilize skills acquired in previous studies. Machinery foundation, locations, installation, and alignment activities are practiced and tested. Emphasis is on the various methods of shaft alignment including laser shaft alignment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INMT1305 - Introduction to Industrial Maintenance (3)

## 2023-2024 Catalog & Student Handbook

### **INMT2303 - Pumps, Compressors & Mechanical Drives**

#### **Course Title**

Pumps, Compressors & Mechanical Drives

#### **Academic Level**

Undergraduate

#### **Description**

A study of the theory and operations of various types of pumps and compressors. Topics include mechanical power transmission systems including gears, v-belts, and chain drives.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INMT1305 - Introduction to Industrial Maintenance (3)

### **INMT2345 - Industrial Troubleshooting**

#### **Course Title**

Industrial Troubleshooting

#### **Academic Level**

Undergraduate

#### **Description**

An advanced study of the techniques used in troubleshooting various types of industrial equipment to include mechanical, electrical, hydraulic, and pneumatic systems and their control devices. Emphasis will be placed on the use of schematics and diagrams in conjunction with proper troubleshooting procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ELPT1341 - Motor Control (3)

## Info Tech Digital Forensics

### **ITDF1300 - Introduction to Digital Forensics**

#### **Course Title**

Introduction to Digital Forensics

#### **Academic Level**

Undergraduate

#### **Description**

A study of the application of digital forensic technology to collect, analyze, document, and present information while maintaining a documented chain of custody. Overview of ethics, crime, and other legal guidelines/regulations/laws. Includes overview of tools used for forensic analysis of digital devices in investigations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITDF1305 - Digital Data Storage Forensics**

#### **Course Title**

Digital Data Storage Forensics

#### **Academic Level**

Undergraduate

#### **Description**

Exploration, examination, and assessment of the characteristics and details of digital storage media used in computers systems and small-scale digital devices. Includes experimenting with various tools to reinforce identification of evidentiary data.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITDF1390 - Special Topics in Computer & Information Systems Security/Information Assurance Course Title**

Special Topics in Computer & Information Systems Security/Information Assurance

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITDF2320 - Digital Forensics Collection Course Title**

Digital Forensics Collection

#### **Academic Level**

Undergraduate

#### **Description**

A study of acquiring digital evidence from devices, networks and logs while preserving the evidentiary chain. Includes the legal aspects of the search and seizure of computers and related equipment/information.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **ITDF2325 - Digital Forensics Tools**

#### **Course Title**

Digital Forensics Tools

#### **Academic Level**

Undergraduate

#### **Description**

Skills-based course in the applications of forensic analysis software. Tools used in this course may include EnCase, ILook, Forensic Tool Kit, write blockers, StegAlyzerSS, "X-Ways", ProDiscover Basic, and others.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITDF2330 - Digital Forensics Analysis**

#### **Course Title**

Digital Forensics Analysis

#### **Academic Level**

Undergraduate

#### **Description**

Digital forensic analysis, report preparation, and evidence presentation. Emphasizes balancing legal and technical aspects of cases where digital forensics is employed.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ITDF2335 - Comprehensive Digital Forensics Project**

#### **Course Title**

Comprehensive Digital Forensics Project

#### **Academic Level**

Undergraduate

#### **Description**

Comprehensive application of skills learned in previous digital forensics courses in a simulated crime scene or workplace investigation. Includes collection, analysis, and presentation of digital data and evidence in a problem-based case study format. This course is used as a capstone course for a certificate or degree.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **ITDF2420 - Digital Forensics Collection**

#### **Course Title**

Digital Forensics Collection

#### **Academic Level**

Undergraduate

#### **Description**

A study of acquiring digital evidence from devices, networks and logs while preserving the evidentiary chain. Includes the legal aspects of the search and seizure of computers and related equipment/information.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **ITDF2425 - Digital Forensics Tools**

#### **Course Title**

Digital Forensics Tools

#### **Academic Level**

Undergraduate

#### **Description**

Skills-based course in the applications of forensic analysis software and hardware tools.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ITDF2420 - Digital Forensics Collection (4)

### **ITDF2430 - Digital Forensics Analysis**

#### **Course Title**

Digital Forensics Analysis

#### **Academic Level**

Undergraduate

#### **Description**

Digital forensic analysis, report preparation, and evidence presentation. Emphasizes balancing legal and technical aspects of cases where digital forensics is employed.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ITDF2425 - Digital Forensics Tools (4)

## 2023-2024 Catalog & Student Handbook

### **ITDF2435 - Comprehensive Digital Forensics Project**

#### **Course Title**

Comprehensive Digital Forensics Project

#### **Academic Level**

Undergraduate

#### **Description**

Comprehensive application of skills learned in previous digital forensics courses in a simulated crime scene or workplace investigation. Includes collection, analysis, and presentation of digital data and evidence in a problem-based case study format.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - ITDF2430 - Digital Forensics Analysis (4)

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## Information Technology Security

### **ITSY1091 - Sp.Topics in Information Tech**

#### **Course Title**

Sp.Topics in Information Tech

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **ITSY1342 - Information Technology Security**

#### **Course Title**

Information Technology Security

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - ITNW1345 - Implementing Network Directory Services (3)
  - ITNW1354 - Implementing and Supporting Servers (3)

### **ITSY1374 - Secure Linux Administration**

#### **Course Title**

Secure Linux Administration

#### **Academic Level**

Undergraduate

#### **Description**

Configure and manage security on Linux systems, to include Linux installation, basic administration, utilities and commands, upgrading system, networking, and application installation; Management and securing network services and hardening of the system OS to mitigate security risks; Introduction to common Linux-based open source security tools used to assess security vulnerabilities, analyze malware, and conduct penetration testing.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITNW1354 - Implementing and Supporting Servers (3)

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### **ITSY1375 - Security Scripting**

#### **Course Title**

Security Scripting

#### **Academic Level**

Undergraduate

#### **Description**

Utilize scripting languages to create scripts that could be used for security assessments, data analysis(data manipulation; textual manipulation), and automating administrative security tasks.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSY1374 - Secure Linux Administration (3)

### **ITSY2301 - Firewalls and Network Security**

#### **Course Title**

Firewalls and Network Security

#### **Academic Level**

Undergraduate

#### **Description**

Identify elements of firewall design, types of security threats and responses to security attacks. Use Best Practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITNW2312 - Routers (3)

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### **ITSY2330 - Intrusion Detection**

#### **Course Title**

Intrusion Detection

#### **Academic Level**

Undergraduate

#### **Description**

Identify elements of firewall design, types of security threats and responses to security attacks. Use Best Practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITNW2321 - Networking with TCP/IP (3)

### **ITSY2343 - Computer System Forensics**

#### **Course Title**

Computer System Forensics

#### **Academic Level**

Undergraduate

#### **Description**

In-depth study of system forensics including methodologies used for analysis of computer security breaches. Gather and evaluate evidence to perform postmortem analysis of a security breach.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITDF1300 - Introduction to Digital Forensics (3)

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### **ITSY2359 - Security Assessment and Auditing**

#### **Course Title**

Security Assessment and Auditing

#### **Academic Level**

Undergraduate

#### **Description**

Capstone experience for the security curriculum. Synthesizes technical material covered in prior courses to monitor, audit, analyze, and revise computer and network security systems to ensure appropriate levels of protection are in place to assure regulatory compliance.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSY1342 - Information Technology Security (3)
  - ITSY2301 - Firewalls and Network Security (3)
  - ITSY1374 - Secure Linux Administration (3)

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## **Institutional Food Workers/Adm**

### **IFWA1050 - Processors & Manuf. CORE HACCC**

#### **Course Title**

Processors & Manuf. CORE HACCC

#### **Academic Level**

Continuing Education

#### **Description**

Common food safety and sanitation practices that should be utilized in food establishments. Topics include keys to providing safe food, food safety hazards, standards for the food safety handler, purchasing and receiving safe food, storing food safely, keeping food safe during preparation and service, proper cleaning and sanitizing, and developing an Integrated Pest Management (IPM) program.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **IFWA1091 - Special Topics in Institutional Food Wor** **Course Title**

Special Topics in Institutional Food Wor

### **Academic Level**

Continuing Education

### **Description**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **IFWA1205 - Food Service Equipment and Planning** **Course Title**

Food Service Equipment and Planning

### **Academic Level**

Undergraduate

### **Description**

A study of various types of food service equipment and the planning of equipment layout for product flow and efficient operation.

### **Lecture Hours**

1

### **Lab Hours**

3

### **Credits**

2

### **Semester Credit Hours**

2

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### **IFWA1217 - Food Production and Planning**

#### **Course Title**

Food Production and Planning

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in basic mathematical operations and study of their applications in the food service industry. Topics include percentages, weights and measures, ratio and proportion, weights and measures conversions, determination of portion costs for menu items and complete menus, portion control, and the increase and decrease of standard recipes.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

### **IFWA1218 - Nutrition for the Food Service Professional**

#### **Course Title**

Nutrition for the Food Service Professional

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to nutrition including nutrients, digestion and metabolism, menu planning, recipe modification, dietary guidelines and restrictions, diet and disease, and healthy cooking techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

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### **IFWA1318 - Nutrition for the Food Service Prof Professional** **Course Title**

Nutrition for the Food Service Prof Professional

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to nutrition including nutrients, digestion and metabolism, menu planning, recipe modification, dietary guidelines and restrictions, diet and disease, and healthy cooking techniques.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **IFWA1401 - Food Preparation I** **Course Title**

Food Preparation I

#### **Academic Level**

Undergraduate

#### **Description**

A study of the fundamental principles of food preparation and cookery. Emphasis on basic techniques of preparing soups, salads, dressings, sandwiches, beverages, vegetables, and cheese and egg cookery.

#### **Lecture Hours**

2

#### **Lab Hours**

8

#### **Credits**

4

#### **Semester Credit Hours**

4

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### **IFWA1427 - Food Preparation II**

#### **Course Title**

Food Preparation II

#### **Academic Level**

Undergraduate

#### **Description**

Continuation of the fundamental principles of food preparation. Emphasis on preparation of food items such as meats, poultry and fish.

#### **Lecture Hours**

2

#### **Lab Hours**

8

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - CHEF1205 - Sanitation and Safety (2)
  - IFWA1205 - Food Service Equipment and Planning (2)
  - IFWA1401 - Food Preparation I (4)

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## Instructional Media Technology

### **IMED1002 - Web Page Creation I**

#### **Course Title**

Web Page Creation I

#### **Academic Level**

Continuing Education

#### **Description**

Web page creation with graphic elements. Includes use of Web authoring software and study of websites and browsers.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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### **IMED1040 - Web Site Creation II**

#### **Course Title**

Web Site Creation II

#### **Academic Level**

Continuing Education

#### **Description**

Publishing, design, and layout techniques for Websites. Utilizes techniques in animation, tables, and forms. Also includes application of tools for creating and editing a Website.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **IMED1316 - Web Design I**

#### **Course Title**

Web Design I

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in web design and related graphic design issues including mark-up languages, web sites, and browsers.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - ARTC1302 - Digital Imaging I (3)
  - ITSE1311 - Beginning Web Programming (3)
  - IMED1371 - Ui/Ux Design (3)

#### **Corequisites**

- Completed or concurrently enrolled in at least 1 of the following:
  - ARTC1302 - Digital Imaging I (3)
  - ITSE1311 - Beginning Web Programming (3)
  - IMED1371 - Ui/Ux Design (3)

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### **IMED1341 - Interface Design**

#### **Course Title**

Interface Design

#### **Academic Level**

Undergraduate

#### **Description**

Interface design process including selecting interfaces that are relative to a project's content and delivery system. Emphasis on aesthetic issues such as iconography, screen composition, colors, and typography.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **IMED1345 - Interactive Digital Media I**

#### **Course Title**

Interactive Digital Media I

#### **Academic Level**

Undergraduate

#### **Description**

Exploration of the use of graphics and sound to create interactive digital media applications and/or animations using industry standard authoring software.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - IMED1341 - Interface Design (3)

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### **IMED1371 - Ui/Ux Design**

#### **Course Title**

Ui/Ux Design

#### **Academic Level**

Undergraduate

#### **Description**

Application of user experience and user interface design within the context of web design. Instruction in user interface design with an emphasis on the visual, interactive elements of a website including buttons, icons, spacing, typography, color schemes, and responsive design.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **IMED2309 - Internet Commerce**

#### **Course Title**

Internet Commerce

#### **Academic Level**

Undergraduate

#### **Description**

An overview of the Internet as a marketing and sales tool with emphasis on developing a prototype for electronic commerce.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE1306 - PHP Programming (3)

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### **IMED2311 - Portfolio Development**

#### **Course Title**

Portfolio Development

#### **Academic Level**

Undergraduate

#### **Description**

Preparation and enhancement of portfolio to meet professional standards, development of presentation skills, and improvement of job-seeking techniques.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE2313 - Web Authoring (3)
  - IMED2309 - Internet Commerce (3)
  - IMED2315 - Web Design II (3)

### **IMED2313 - Project Analysis and Design**

#### **Course Title**

Project Analysis and Design

#### **Academic Level**

Undergraduate

#### **Description**

Application of the planning and production processes for digital media projects. Emphasis on copyright and other legal issues, content design and production management.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **IMED2315 - Web Design II**

#### **Course Title**

Web Design II

#### **Academic Level**

Undergraduate

#### **Description**

A study of mark-up language and advanced layout techniques for creating web pages. Emphasis on identifying the target audience and producing web sites, according to accessibility standards, cultural appearance, and legal issues.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE1311 - Beginning Web Programming (3)

### **IMED2345 - Interactive Digital Media II**

#### **Course Title**

Interactive Digital Media II

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in the use of scripting languages to create interactive digital media applications.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ITSE2302 - Intermediate Web Programming (3)

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### **IMED2349 - Internet Server Management** **Course Title**

Internet Server Management

#### **Academic Level**

Undergraduate

#### **Description**

Web server software installation, configuration, and maintenance. Includes scripting and website optimization.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **IMED2351 - Digital Media Programming** **Course Title**

Digital Media Programming

#### **Academic Level**

Undergraduate

#### **Description**

Advanced topics in digital media programming including custom scripts for data tracking. Emphasis on developing digital media programs customized to the client's needs.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:

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### **IMED2359 - Interactive Web Elements**

#### **Course Title**

Interactive Web Elements

#### **Academic Level**

Undergraduate

#### **Description**

Production of projects using current web development tools that may incorporate dynamic data, web graphics, animation, video and audio streaming.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - IMED1341 - Interface Design (3)

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### **IMED2388 - Internship - Digital Communication and Media/Multimedia** **Course Title**

Internship - Digital Communication and Media/Multimedia

### **Academic Level**

Undergraduate

### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

Students are required to complete 144 hrs total in the semester. It is recommended that a student completes 10 hours a week. The position and company must be pre-approved before a student signs up for the internship class. Employer reviews and hour logs are required.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - ITSE2313 - Web Authoring (3)
  - IMED2309 - Internet Commerce (3)
  - IMED2315 - Web Design II (3)

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## **Instrumentation, Technician**

### **INTC1005 - Introduction to Instrumentation Intro to Instrumentation** **Course Title**

Introduction to Instrumentation Intro to Instrumentation

### **Academic Level**

Continuing Education

### **Description**

A survey of the instrumentation field and the professional requirements of the instrumentation technician.

### **Lecture Hours**

0

### **Lab Hours**

3

### **Semester Credit Hours**

0

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### **INTC1305 - Introduction to Instrumentation**

#### **Course Title**

Introduction to Instrumentation

#### **Academic Level**

Undergraduate

#### **Description**

A survey of the instrumentation field and the professional requirements of the instrumentation technician.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - CETT1303 - DC Circuits (3)

### **INTC1312 - Instrumentation and Safety**

#### **Course Title**

Instrumentation and Safety

#### **Academic Level**

Undergraduate

#### **Description**

An overview of industries employing instrument technicians. Includes instrument safety techniques and practices as applied to the instrumentation field.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **INTC1341 - Principles of Automatic Control**

#### **Course Title**

Principles of Automatic Control

#### **Academic Level**

Undergraduate

#### **Description**

Basic measurements, automatic control systems and design, closed loop systems, controllers, feedback, control modes, and control configurations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **INTC1343 - Application of Industrial Automatic Controls**

#### **Course Title**

Application of Industrial Automatic Controls

#### **Academic Level**

Undergraduate

#### **Description**

Automatic process control including measuring devices, analog and digital instrumentation, signal transmitters, recorders, alarms, controllers, control valves, and process and instrument diagrams. Includes connection and troubleshooting of loops.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **INTC1348 - Analytical Instrumentation**

#### **Course Title**

Analytical Instrumentation

#### **Academic Level**

Undergraduate

#### **Description**

Analytical instruments emphasizing utilization in process applications. Includes, but not limited to, chromatography, pH, conductivity, and spectrophotometric instruments.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INTC1341 - Principles of Automatic Control (3)

### **INTC1350 - Digital Measurement and Controls**

#### **Course Title**

Digital Measurement and Controls

#### **Academic Level**

Undergraduate

#### **Description**

Basic measurement control instrumentation. Includes movement of digital data through common systems employing parallel and serial transfers.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC1301 - Programmable Logic Controllers (3)

## 2023-2024 Catalog & Student Handbook

### **INTC1355 - Unit Operations**

#### **Course Title**

Unit Operations

#### **Academic Level**

Undergraduate

#### **Description**

Automatic control requirements of industrial processes. Includes control systems, control loop tuning, and analysis.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INTC1341 - Principles of Automatic Control (3)

### **INTC1356 - Instrumentation Calibration**

#### **Course Title**

Instrumentation Calibration

#### **Academic Level**

Undergraduate

#### **Description**

Techniques for configuring and calibrating transmitters, controllers, recorders, valves, and valve positioners.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INTC1355 - Unit Operations (3)



## 2023-2024 Catalog & Student Handbook

### **INTC1357 - AC/DC Motor Control**

#### **Course Title**

AC/DC Motor Control

#### **Academic Level**

Undergraduate

#### **Description**

A study of electric motors and motor control devices common to a modern industrial environment. A presentation of motor characteristics with emphasis on starting, speed control, and stopping systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **INTC1358 - Flow and Measurement Calibration**

#### **Course Title**

Flow and Measurement Calibration

#### **Academic Level**

Undergraduate

#### **Description**

Practical methods of flow measurements and flow integration. Emphasizes primary flow element selection and calculations in accordance with American Gas Association (AGA) and American Petroleum Institute (API) standards.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **INTC1370 - Power Supply** **Course Title**

Power Supply

### **Academic Level**

Undergraduate

### **Description**

A study of automatic process control including measuring devices, analog and digital instrumentation, signal transmitters, recorders, alarms, controllers, control valves, and process and instrument drawings. Includes connection and troubleshooting of loops.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **INTC1380 - Coop Ed-Instrumentation Tech.** **Course Title**

Coop Ed-Instrumentation Tech.

### **Academic Level**

Undergraduate

### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

### **Lecture Hours**

1

### **Lab Hours**

0

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **INTC1391 - Spec Topics in Instrumentation Technolog**

#### **Course Title**

Spec Topics in Instrumentation Technolog

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **INTC2030 - Instrumentation Troubleshooting**

#### **Course Title**

Instrumentation Troubleshooting

#### **Academic Level**

Continuing Education

#### **Description**

An in-depth coverage of the techniques of troubleshooting in a complex instrumented environment. Laboratory exercises require troubleshooting upsets in chemical processes.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **INTC2310 - Principles of Industrial Measurements II**

#### **Course Title**

Principles of Industrial Measurements II

#### **Academic Level**

Undergraduate

#### **Description**

Additional principles of measurement. Includes devices used to measure process variables and basic control functions.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INTC1355 - Unit Operations (3)

### **INTC2330 - Instrumentation Systems Troubleshooting**

#### **Course Title**

Instrumentation Systems Troubleshooting

#### **Academic Level**

Undergraduate

#### **Description**

Techniques for troubleshooting instrumentation systems in a process environment. Includes troubleshooting upsets in processes.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INTC1343 - Application of Industrial Automatic Controls (3)

## 2023-2024 Catalog & Student Handbook

### **INTC2333 - Instrumentation Systems Installation**

#### **Course Title**

Instrumentation Systems Installation

#### **Academic Level**

Undergraduate

#### **Description**

Synthesis, application, and integration of instrument installation components. Includes a comprehensive final project.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - INTC1355 - Unit Operations (3)

### **INTC2336 - Distributed Control and Programmable Logic**

#### **Course Title**

Distributed Control and Programmable Logic

#### **Academic Level**

Undergraduate

#### **Description**

An overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. Functions of digital systems in a process control environment.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC1301 - Programmable Logic Controllers (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - RBTC1301 - Programmable Logic Controllers (3)

## 2023-2024 Catalog & Student Handbook

### **INTC2339 - Instrument and Control Review** **Course Title**

Instrument and Control Review

### **Academic Level**

Undergraduate

### **Description**

An overview of instrument and control technology in preparation for industry employment and national testing.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - INTC1343 - Application of Industrial Automatic Controls (3)

### **INTC2350 - Fieldbus Process Control Systems** **Course Title**

Fieldbus Process Control Systems

### **Academic Level**

Undergraduate

### **Description**

A comprehensive view of fieldbus systems using theory, applications, and hands-on experiences.

### **Lecture Hours**

1

### **Lab Hours**

5

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - INTC2333 - Instrumentation Systems Installation (3)

## 2023-2024 Catalog & Student Handbook

### **INRW0009 - Supplemental Reading/Writing Lab I**

#### **Course Title**

Supplemental Reading/Writing Lab I

#### **Academic Level**

Undergraduate

#### **Description**

This is a lab for students in NCBI 0009.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **INRW0010 - Supplemental Reading/Writing Lab II**

#### **Course Title**

Supplemental Reading/Writing Lab II

#### **Academic Level**

Undergraduate

#### **Description**

This is a lab for students in NCBI 0010. Students completing this lab with a C or better have completed their TSI requirements for reading and writing.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **INRW0100 - Integrated Reading/Writing I** **Course Title**

Integrated Reading/Writing I

### **Academic Level**

Undergraduate

### **Description**

This course covers introductory integrated reading and writing topics.

### **Lecture Hours**

3

### **Lab Hours**

1

### **Semester Credit Hours**

3

### **INRW0200 - Integrated Reading/Writing II** **Course Title**

Integrated Reading/Writing II

### **Academic Level**

Undergraduate

### **Description**

Integration of critical reading and academic writing skills. Students completing this course with a C or better have completed their TSI requirements for reading and writing.

### **Lecture Hours**

3

### **Lab Hours**

1

### **Semester Credit Hours**

3

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## **Intro to Computing**



## 2023-2024 Catalog & Student Handbook

### **COSC1336 - Programming Fundamentals I**

#### **Course Title**

Programming Fundamentals I

#### **Academic Level**

Undergraduate

#### **Description**

Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy.

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Credits**

3

#### **Semester Credit Hours**

3

### **COSC1337 - Programming Fundamentals II**

#### **Course Title**

Programming Fundamentals II

#### **Academic Level**

Undergraduate

#### **Description**

This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software. (This course is included in the Field of Study Curriculum for Computer Science.)

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - COSC1336 - Programming Fundamentals I (3)

## 2023-2024 Catalog & Student Handbook

### **COSC2325 - Computer Organization**

#### **Course Title**

Computer Organization

#### **Academic Level**

Undergraduate

#### **Description**

The organization of computer systems is introduced using assembly language. Topics include basic concepts of computer architecture and organization, memory hierarchy, data types, computer arithmetic, control structures, interrupt handling, instruction sets, performance metrics, and the mechanics of testing and debugging computer systems. Embedded systems and device interfacing are introduced.

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - COSC1336 - Programming Fundamentals I (3)

### **COSC2336 - Programming Fundamentals III**

#### **Course Title**

Programming Fundamentals III

#### **Academic Level**

Undergraduate

#### **Description**

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. Prerequisite: COSC 1337/1437. (This course is included in the Field of Study Curriculum for Computer Science.)

#### **Lecture Hours**

3

#### **Lab Hours**

1

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - COSC1337 - Programming Fundamentals II (3)

## Introduction to Construction

### **CNBT1011 - Const Methods & Materials** **Course Title**

Const Methods & Materials

### **Academic Level**

Continuing Education

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **CNBT1016 - Construction Technology I** **Course Title**

Construction Technology I

### **Academic Level**

Continuing Education

### **Description**

Introduction to site preparation foundations, form work, safety, tools, and equipment.

### **Lecture Hours**

0

### **Lab Hours**

4

### **Credits**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CNBT1300 - Residential and Light Commercial Blueprint Reading** **Course Title**

Residential and Light Commercial Blueprint Reading

#### **Academic Level**

Undergraduate

#### **Description**

Introductory blueprint reading for residential and light commercial construction.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CNBT1302 - Mechanical, Electrical & Plumbing Systems in Construction I** **Course Title**

Mechanical, Electrical & Plumbing Systems in Construction I

#### **Academic Level**

Undergraduate

#### **Description**

A presentation of the basic mechanical, plumbing, and electrical components in construction and their relationship to residential and light commercial buildings.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CNBT1311 - Construction Methods and Materials I**

#### **Course Title**

Construction Methods and Materials I

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to construction materials and methods and their applications.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CNBT1313 - Concrete I**

#### **Course Title**

Concrete I

#### **Academic Level**

Undergraduate

#### **Description**

Various techniques for concrete utilization in residential and light commercial construction.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CNBT1315 - Field Engineering I**

#### **Course Title**

Field Engineering I

#### **Academic Level**

Undergraduate

#### **Description**

Surveying equipment, sketches, proper field note taking, methods of staking, layout of building site, and horizontal and vertical controls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CNBT1316 - Construction Technology I**

#### **Course Title**

Construction Technology I

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to site preparation, foundations, form work, safety, tools, and equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CNBT1342 - Building Codes and Inspections**

#### **Course Title**

Building Codes and Inspections

#### **Academic Level**

Undergraduate

#### **Description**

Building codes and standards applicable to building construction and inspection processes.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CNBT1346 - Construction Estimating I**

#### **Course Title**

Construction Estimating I

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of estimating materials and labor costs in construction.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CNBT1350 - Construction Technology II**

#### **Course Title**

Construction Technology II

#### **Academic Level**

Undergraduate

#### **Description**

Framing in residential and light commercial construction. Includes safety, tools, and equipment used in floor, wall, ceiling, and roof framing methods and systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CNBT1359 - Project Scheduling**

#### **Course Title**

Project Scheduling

#### **Academic Level**

Undergraduate

#### **Description**

A study of conventional scheduling using critical-path-method; precedence and arrow networks; bar charts; monthly reports; and fast track scheduling.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **CNBT1450 - Construction Technology II**

#### **Course Title**

Construction Technology II

#### **Academic Level**

Undergraduate

#### **Description**

Demonstrate safety practices and procedures; use of tools and equipment associated with framing in construction; estimate material requirements from blueprints; and demonstrate methods used in framing.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - CNBT1316 - Construction Technology I (3)

### **CNBT1453 - Construction Technology III**

#### **Course Title**

Construction Technology III

#### **Academic Level**

Undergraduate

#### **Description**

Exterior Trim and finish for residential and light commercial construction.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - CNBT1316 - Construction Technology I (3)

## 2023-2024 Catalog & Student Handbook

### **CNBT1680 - Cooperative Education - Construction Engineering Technology/Technician** **Course Title**

Cooperative Education - Construction Engineering Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

This course is the technical elective for the BCT.CRF.CER1 with a minimum requirement of 40 hours per week for 15 weeks

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

6

#### **Semester Credit Hours**

6

### **CNBT2014 - Leed Green Associate Exam Prep** **Course Title**

Leed Green Associate Exam Prep

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CNBT2310 - Commercial/Industrial Blueprint Reading 2-4-3**

#### **Course Title**

Commercial/Industrial Blueprint Reading 2-4-3

#### **Academic Level**

Undergraduate

#### **Description**

Blueprint reading for commercial/industrial construction.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CNBT2317 - Green Building**

#### **Course Title**

Green Building

#### **Academic Level**

Undergraduate

#### **Description**

Methods and materials used for buildings that conserve energy, water, and human resources.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CNBT2337 - Construction Estimating II**

#### **Course Title**

Construction Estimating II

#### **Academic Level**

Undergraduate

#### **Description**

Advanced estimating concepts using computer software for construction and crafts.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CNBT2339 - Construction Technology IV**

#### **Course Title**

Construction Technology IV

#### **Academic Level**

Undergraduate

#### **Description**

Interior finish for residential and light commercial construction.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CNBT2342 - Construction Management I**

#### **Course Title**

Construction Management I

#### **Academic Level**

Undergraduate

#### **Description**

Management skills on the job site. Topics include written and oral communications, leadership and motivation, problem solving, and decision making.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **CNBT2344 - Construction Management II**

#### **Course Title**

Construction Management II

#### **Academic Level**

Undergraduate

#### **Description**

A management course in contract documents, safety, planning, scheduling, production control, law and labor issues. Topics include contracts, planning, cost and production peripheral documents, and cost and work analysis.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **CNBT2439 - Construction Technology IV**

#### **Course Title**

Construction Technology IV

#### **Academic Level**

Undergraduate

#### **Description**

Interior finish for residential and light commercial construction.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - CNBT1316 - Construction Technology I (3)

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## Jailer

### **CJLE1010 - Texas Alcoholic Beverage Code**

#### **Course Title**

Texas Alcoholic Beverage Code

#### **Academic Level**

Continuing Education

#### **Description**

Overview of the Texas Alcoholic Beverage Code and the Texas Alcoholic Beverage Commission.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CJLE1011 - Basic Firearms**

#### **Course Title**

Basic Firearms

#### **Academic Level**

Continuing Education

#### **Description**

Firearm safety, cleaning and care techniques, proper shooting principles, and firearm proficiency.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CJLE1023 - Firearms**

#### **Course Title**

Firearms

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CJLE1026 - Basic Crime Prevention**

#### **Course Title**

Basic Crime Prevention

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CJLE1041 - Sexual Assault Investigation**

#### **Course Title**

Sexual Assault Investigation

#### **Academic Level**

Continuing Education

#### **Description**

General principles of conducting a sexual assault investigation including proper evidence handling.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CJLE1042 - Legislative Update**

#### **Course Title**

Legislative Update

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CJLE1048 - Current Issues in Arrest, Sear**

#### **Course Title**

Current Issues in Arrest, Sear

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **CJLE1052 - Border Violence, Mx. Drug Cartels, Gangs**

#### **Course Title**

Border Violence, Mx. Drug Cartels, Gangs

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CJLE1059 - Intermediate Spanish for Law E**

#### **Course Title**

Intermediate Spanish for Law E

#### **Academic Level**

Continuing Education

#### **Description**

Practical Spanish communication skills for law enforcement. Meets the requirements as established by the Texas Commission on Law Enforcement (TCLEOSE) Course 2110.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CJLE2000 - Professional Development: Criminal Justi**

#### **Course Title**

Professional Development: Criminal Justi

#### **Academic Level**

Continuing Education

#### **Description**

Intensive training in an identified area(s) to meet continuing education and/or review/update requirements associated with professional licensure or certification. This course is designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

**CJLE2002 - Arrest, Search and Seizure**  
**Course Title**

Arrest, Search and Seizure

**Academic Level**

Continuing Education

**Lecture Hours**

0

**Lab Hours**

0

**Semester Credit Hours**

0

**CJLE2006 - Advance Crime Prevention**  
**Course Title**

Advance Crime Prevention

**Academic Level**

Continuing Education

**Lecture Hours**

0

**Lab Hours**

0

**Semester Credit Hours**

0

**CJLE2007 - Crime Prevention**  
**Course Title**

Crime Prevention

**Academic Level**

Continuing Education

**Lecture Hours**

2

**Lab Hours**

0

**Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CJLE2018 - Intermediate Criminal Investigation**

#### **Course Title**

Intermediate Criminal Investigation

#### **Academic Level**

Continuing Education

#### **Description**

New investigative techniques and current information on arrest, search, seizure, and processing and collecting evidence.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CJLE2025 - Crisis Communications**

#### **Course Title**

Crisis Communications

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **CJLE2042 - Trffc. Law Enfor.&Accid.Invest**

#### **Course Title**

Trffc. Law Enfor.&Accid.Invest

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

5

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **CJLE2049 - Basic Instructor** **Course Title**

Basic Instructor

### **Academic Level**

Continuing Education

### **Description**

The adult learning process and the differences between adult and child learning. Includes the role of the instructor, the three domains of learning, and their impact on the learning process. Meets the Texas Commission on Law Enforcement (TCLEOSE) requirements.

### **Lecture Hours**

2

### **Lab Hours**

0

### **Semester Credit Hours**

0

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## Laser Optics

### **LOTT1001 - Introduction to Fiber Optics** **Course Title**

Introduction to Fiber Optics

### **Academic Level**

Continuing Education

### **Lecture Hours**

6

### **Lab Hours**

0

### **Semester Credit Hours**

0

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## Law

## 2023-2024 Catalog & Student Handbook

### **LAWT1301 - Copyright and Ethical Issues**

#### **Course Title**

Copyright and Ethical Issues

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to basic copyright law and related ethical issues as they apply to creation and use of copyrighted material. Emphasis on practical application of copyright law through case studies.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Lineworker-Electrical Tran Systems

### **LNWK1211 - Climbing Skills**

#### **Course Title**

Climbing Skills

#### **Academic Level**

Undergraduate

#### **Description**

Theory and application of pole climbing. Includes safety, climbing techniques, tool inspection, poles inspection, personal protective equipment, and fall protection.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **LNWK1231 - Transformer Connections**

#### **Course Title**

Transformer Connections

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to basic transformer connections and theory (including basic alternating current (AC) theory) and their direct application to single phase and three phase transformers. Students will study and practice basic transformer connections and fundamentals.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **LNWK1241 - Distribution Operations**

#### **Course Title**

Distribution Operations

#### **Academic Level**

Undergraduate

#### **Description**

A study of the theoretical and practical operation of electric utility distribution systems. Topics include customer service voltages, capacitors, and coordination of protection equipment.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - LNWK1311 - Climbing Skills (3)

## 2023-2024 Catalog & Student Handbook

### **LNWK1301 - Orientation and Line Skill Fundamentals**

#### **Course Title**

Orientation and Line Skill Fundamentals

#### **Academic Level**

Undergraduate

#### **Description**

Examination of utility company operations. Topics include company structure, safety and distribution standards handbook, lineman's tools, vocabulary, and work procedures. Discussion of basic electrical systems including the history of power generation and distribution with emphasis on generating plants and substations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **LNWK1311 - Climbing Skills**

#### **Course Title**

Climbing Skills

#### **Academic Level**

Undergraduate

#### **Description**

Theory and application of pole climbing. Includes safety, climbing techniques, tool inspection, poles inspection, personal protective equipment, and fall protection.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **LNWK1331 - Transformer Connections**

#### **Course Title**

Transformer Connections

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to basic transformer connections and theory (including basic alternating current (AC) theory) and their direct application to single phase and three phase transformers. Students will study and practice basic transformer connections and fundamentals.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - LNWK1311 - Climbing Skills (3)

### **LNWK1370 - Rigging for Electrical Lineworker**

#### **Course Title**

Rigging for Electrical Lineworker

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to rigging and hoisting in the line industry. Includes selecting proper rigging equipment; rope knots and splices; slings and hitches; signaling.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **LNWK1391 - Special Topics in Lineworker Course Title**

Special Topics in Lineworker

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - LNWK1311 - Climbing Skills (3)

### **LNWK1470 - Electrical Safety, Tools and Calculations Course Title**

Electrical Safety, Tools and Calculations

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to electrical safety and use of tools; includes selection, use, and maintenance of tools; calculations used in line worker's Industry.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - LNWK1311 - Climbing Skills (3)

## 2023-2024 Catalog & Student Handbook

### **LNWK2024 - Troubleshooting Distribution Systems**

#### **Course Title**

Troubleshooting Distribution Systems

#### **Academic Level**

Continuing Education

#### **Description**

Study of power outages and voltage complaints on distribution systems. Includes lockout-tagout procedures, safety grounds, backfeed, induced voltage, causes of outages, and analyzing voltage complaints.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **LNWK2321 - Live Line Safety**

#### **Course Title**

Live Line Safety

#### **Academic Level**

Undergraduate

#### **Description**

Study of cover-up procedures and safety requirements for work on energized electrical circuits. Includes use, care, and inspection of cover-up material, recognizing nominal voltages and energized parts, approach distances, and safety.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - LNWK1311 - Climbing Skills (3)

## 2023-2024 Catalog & Student Handbook

### **LNWK2322 - Distribution Line Construction**

#### **Course Title**

Distribution Line Construction

#### **Academic Level**

Undergraduate

#### **Description**

Study of electric distribution line construction. Includes reading staking sheets and framing specifications, tailboard discussions, pole framing and setting, installing conductors, transformers and other line equipment, and OSHA and NESC regulations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - LNWK1311 - Climbing Skills (3)

### **LNWK2324 - Troubleshooting Distribution Systems**

#### **Course Title**

Troubleshooting Distribution Systems

#### **Academic Level**

Undergraduate

#### **Description**

Study of power outages and voltage complaints on distribution systems. Includes lockout-tagout procedures, safety grounds, backfeed, induced voltage, causes of outages, and analyzing voltage complaints.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **LNWK2370 - Transmission and Underground Utilities**

#### **Course Title**

Transmission and Underground Utilities

#### **Academic Level**

Undergraduate

#### **Description**

This is an overview of underground and transmission components, structures, equipment, and safety that relates directly to the distribution of high voltage electricity in the Electrical Lineworker Industry.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

### **LNWK2371 - Maintenance, Testing, and Reconducting For Lineworker**

#### **Course Title**

Maintenance, Testing, and Reconducting For Lineworker

#### **Academic Level**

Undergraduate

#### **Description**

Proper and safe use of testing equipment for linemen industry and maintenance of test equipment and tools.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **LNWK2372 - Work Procedures and Safety in Electrical Lineworker** **Course Title**

Work Procedures and Safety in Electrical Lineworker

#### **Academic Level**

Undergraduate

#### **Description**

identification and utilization of electrical systems; including safety and work procedures. Emphasis on ropes, knots, straps, braiding and common hand signals used for directing cranes for lineman use.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - LNWK1311 - Climbing Skills (3)

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## Logistics & Materials Management

### **LMGT1325 - Warehouse and Distribution Center Management** **Course Title**

Warehouse and Distribution Center Management

#### **Academic Level**

Undergraduate

#### **Description**

Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time, and continuous replenishment.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **LMGT2002 - Distribution and Logistics Mgn** **Course Title**

Distribution and Logistics Mgn

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **LMGT2034 - Logistics** **Course Title**

Logistics

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Machining**

### **MCHN1010 - Grinders, Tool and Cutter** **Course Title**

Grinders, Tool and Cutter

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **MCHN1026 - Intro to Computer Aided Manufacturing** **Course Title**

Intro to Computer Aided Manufacturing

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **MCHN1032 - Bench Work and Layout** **Course Title**

Bench Work and Layout

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to bench work and layout. Application of the use and theory of tools such as hand tools, height gages, pedestal grinders, and layout tools.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **MCHN1201 - Beginning Machine Shop**

#### **Course Title**

Beginning Machine Shop

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental machine shop safety, math, and measurement.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

### **MCHN1300 - Beginning Machine Shop**

#### **Course Title**

Beginning Machine Shop

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental machine shop safety, math, and measurement.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **MCHN1302 - Print Reading for Machining Trades**

#### **Course Title**

Print Reading for Machining Trades

#### **Academic Level**

Undergraduate

#### **Description**

A study of blueprints for machining trades with emphasis on machine drawings.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MCHN1320 - Precision Tools and Measurement**

#### **Course Title**

Precision Tools and Measurement

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to the modern science of dimensional metrology. Emphasis on the identification, selection, and application of various types of precision instruments associated with the machining trade. Practice of basic layout and piece part measurements while using standard measuring tools.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **MCHN1326 - Introduction to Computer-Aided Manufacturing (CAM)**

#### **Course Title**

Introduction to Computer-Aided Manufacturing (CAM)

#### **Academic Level**

Undergraduate

#### **Description**

A study of Computer-Aided Manufacturing (CAM) software which is used to develop applications for manufacturing. Emphasis on tool geometry, tool selection, and the tool library.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - MCHN1371 - Engineering Computer Graphics I (3)
  - Course Not Found

### **MCHN1338 - Basic Machine Shop I**

#### **Course Title**

Basic Machine Shop I

#### **Academic Level**

Undergraduate

#### **Description**

A course that introduces the student to machining fundamentals. The student will use basic machine tools including the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **MCHN1343 - Machine Shop Mathematics**

#### **Course Title**

Machine Shop Mathematics

#### **Academic Level**

Undergraduate

#### **Description**

Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MCHN1371 - Engineering Computer Graphics I**

#### **Course Title**

Engineering Computer Graphics I

#### **Academic Level**

Undergraduate

#### **Description**

This course covers the fundamental concepts associated with engineering computer aided design graphics; CAD. Emphasis will be placed on both dimensional analysis and design for manufacturing ability to D3 models. 3D Modeling Software will be utilized.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **MCHN1416 - Machine Tool Repair**

#### **Course Title**

Machine Tool Repair

#### **Academic Level**

Undergraduate

#### **Description**

Basic repair of machine tools, disassembly, parts fabrication, and assembly of machine types, including related math, blueprint reading, and safety.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **MCHN1438 - Basic Machine Shop I**

#### **Course Title**

Basic Machine Shop I

#### **Academic Level**

Undergraduate

#### **Description**

A course that introduces the student to machining fundamentals. The student begins by using basic machine tools including the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - MCHN1300 - Beginning Machine Shop (3)

## 2023-2024 Catalog & Student Handbook

### **MCHN1454 - Intermediate Machining II**

#### **Course Title**

Intermediate Machining II

#### **Academic Level**

Undergraduate

#### **Description**

Development of job process plan to include operation of lathes, milling machines, drill presses, and power saws. Set-up, layout, and tool maintenance is included. Emphasis on shop safety and preventative maintenance.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - MCHN1438 - Basic Machine Shop I (4)

### **MCHN2002 - Intermediate Milling Operation**

#### **Course Title**

Intermediate Milling Operation

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **MCHN2003 - Fund of Comp Num Cont Mach**

#### **Course Title**

Fund of Comp Num Cont Mach

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **MCHN2004 - Intermediate Millwright**

#### **Course Title**

Intermediate Millwright

#### **Academic Level**

Continuing Education

#### **Description**

Identification of common bearings and seals. Emphasis on design and installation of seals, bearings, and couplings.

#### **Lecture Hours**

6

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **MCHN2035 - Advanced CNC Machining**

#### **Course Title**

Advanced CNC Machining

#### **Academic Level**

Continuing Education

#### **Description**

The study of advanced CNC operation with an emphasis on programming and operations of machining and turning centers. CNC machines will include Fanuc, Mazak and others.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **MCHN2037 - Advanced Milling Operations**

#### **Course Title**

Advanced Milling Operations

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

9

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **MCHN2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls** **Course Title**

Fundamentals of Computer Numerical Controlled (CNC) Machine Controls

#### **Academic Level**

Undergraduate

#### **Description**

Programming and operation of Computer Numerical Controlled (CNC) machine shop equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MCHN2335 - Advanced CNC Machining** **Course Title**

Advanced CNC Machining

#### **Academic Level**

Undergraduate

#### **Description**

The study of advanced CNC operation with an emphasis on programming and operations of machining and turning centers.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MCHN2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls (3)



## 2023-2024 Catalog & Student Handbook

### **MCHN2338 - Advanced Computer-Aided Manufacturing (CAM)**

#### **Course Title**

Advanced Computer-Aided Manufacturing (CAM)

#### **Academic Level**

Undergraduate

#### **Description**

A study of advanced techniques in Computer-Aided Manufacturing (CAM).

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MCHN1326 - Introduction to Computer-Aided Manufacturing (CAM) (3)

### **MCHN2341 - Advanced Machining I**

#### **Course Title**

Advanced Machining I

#### **Academic Level**

Undergraduate

#### **Description**

A study of advanced lathe and milling operations. Emphasis on advanced cutting operations of the lathe and milling machines, including the use of special tooling, bench assembly, and materials identification.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MCHN1454 - Intermediate Machining II (4)

## 2023-2024 Catalog & Student Handbook

### **MCHN2344 - Computerized Numerical Control Programming**

#### **Course Title**

Computerized Numerical Control Programming

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MCHN1302 - Print Reading for Machining Trades (3)

### **MCHN2444 - Computerized Numerical Control Programmi CNC Programming (2-6-4)**

#### **Course Title**

Computerized Numerical Control Programmi CNC Programming (2-6-4)

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **MCHN2447 - Specialized Tools and Fixtures**

#### **Course Title**

Specialized Tools and Fixtures

#### **Academic Level**

Undergraduate

#### **Description**

An advanced course in the designing and building of special tools, such as jigs, fixtures, punch press dies, and molds. Machining and assembling of a production tool using conventional machine shop equipment. Application of production tool theory, care, and maintenance.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - MCHN1438 - Basic Machine Shop I (4)

### **MCHN2471 - Specialized Equipment and Processes**

#### **Course Title**

Specialized Equipment and Processes

#### **Academic Level**

Undergraduate

#### **Description**

An advanced course that incorporates conventional and computer numerical control equipment. Design and fabricate fixtures. Use metrology equipment and reverse engineering. Manufacture a project that shows proficiency in a variety of machining equipment and processes.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - MCHN1438 - Basic Machine Shop I (4)

# 2023-2024 Catalog & Student Handbook

## Manufacturing Engineering Tech

### **MFGT1406 - Mechanical Principles in Automated Manufacturing** **Course Title**

Mechanical Principles in Automated Manufacturing

### **Academic Level**

Undergraduate

### **Description**

Overview of mechanical principles used in automated manufacturing. Includes common measurement methods, engineering drawings, and mechanical methods used in automated manufacturing.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

4

### **Semester Credit Hours**

4

### **MFGT2459 - Industrial Automation II** **Course Title**

Industrial Automation II

### **Academic Level**

Undergraduate

### **Description**

Advanced topics in automated manufacturing. Includes electrical and electronic principles, electro-pneumatic and electro-hydraulic controls, logic control methods, and basic programming techniques.

### **Lecture Hours**

3

### **Lab Hours**

4

### **Credits**

4

### **Semester Credit Hours**

4

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## Marketing

## 2023-2024 Catalog & Student Handbook

### **MRKG1000 - Customer Service**

#### **Course Title**

Customer Service

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **MRKG1001 - Customer Relations**

#### **Course Title**

Customer Relations

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **MRKG1011 - Principles of Marketing**

#### **Course Title**

Principles of Marketing

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **MRKG1301 - Customer Relationship Management**

#### **Course Title**

Customer Relationship Management

#### **Academic Level**

Undergraduate

#### **Description**

General principles of customer relationship management including skills, knowledge, attitudes, and behaviors.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MRKG2033 - Principles of Selling**

#### **Course Title**

Principles of Selling

#### **Academic Level**

Continuing Education

#### **Description**

Overview of the selling process. Identification of the elements of the communication process between buyers and sellers. Examination of the legal and ethical issues of organizations which affect salespeople.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **MRKG2349 - Advertising and Sales Promotion**

#### **Course Title**

Advertising and Sales Promotion

#### **Academic Level**

Undergraduate

#### **Description**

Integrated marketing communications. Includes advertising principles and practices. Emphasizes multi-media of persuasive communication including buyer behavior, budgeting, and regulatory constraints.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1302 - Digital Imaging I (3)

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## Mathematics

### **MATH1314 - College Algebra (3 SCH version)**

#### **Course Title**

College Algebra (3 SCH version)

#### **Academic Level**

Undergraduate

#### **Description**

In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **MATH1316 - Plane Trigonometry**

#### **Course Title**

Plane Trigonometry

#### **Academic Level**

Undergraduate

#### **Description**

In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MATH1325 - Calculus for Business & Social Sciences**

#### **Course Title**

Calculus for Business & Social Sciences

#### **Academic Level**

Undergraduate

#### **Description**

This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences. This course is not a substitute for MATH 2413, Calculus I.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **MATH1332 - Contemporary Mathematics (Quantitative Reasoning)**

#### **Course Title**

Contemporary Mathematics (Quantitative Reasoning)

#### **Academic Level**

Undergraduate

#### **Description**

Intended for Non STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, financial mathematics, probability and statistics with appropriate applications. Number sense, proportional reasoning, estimation, technology, and communication should be embedded throughout the course. Additional topics may be covered.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MATH1342 - Elementary Statistical Methods**

#### **Course Title**

Elementary Statistical Methods

#### **Academic Level**

Undergraduate

#### **Description**

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **MATH1350 - Math - Teachers I Fundamentals of Math I**

#### **Course Title**

Math - Teachers I Fundamentals of Math I

#### **Academic Level**

Undergraduate

#### **Description**

This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MATH1351 - Fundamentals of Mathematics II**

#### **Course Title**

Fundamentals of Mathematics II

#### **Academic Level**

Undergraduate

#### **Description**

Concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek middle grade (4 through 8) teacher certification.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **MATH2312 - Pre-Calculus Math (3 SCH version)**

#### **Course Title**

Pre-Calculus Math (3 SCH version)

#### **Academic Level**

Undergraduate

#### **Description**

In-depth combined study of algebra, trigonometry, and other topics for calculus readiness.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 3 credits from the following:
  - MATH1314 - College Algebra (3 SCH version) (3)
  - MATH1316 - Plane Trigonometry (3)

### **MATH2313 - Calculus I**

#### **Course Title**

Calculus I

#### **Academic Level**

Undergraduate

#### **Description**

Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **MATH2318 - Linear Algebra**

#### **Course Title**

Linear Algebra

#### **Academic Level**

Undergraduate

#### **Description**

Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MATH2320 - Differential Equations (3 SCH version)**

#### **Course Title**

Differential Equations (3 SCH version)

#### **Academic Level**

Undergraduate

#### **Description**

Ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, and boundary value problems; application of differential equations to real-world problems.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MATH2414 - Calculus II (4 SCH version) (4)

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### **MATH2342 - Elementary Statistical Methods**

#### **Course Title**

Elementary Statistical Methods

#### **Academic Level**

Undergraduate

#### **Description**

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MATH2413 - Calculus I (4 SCH version)**

#### **Course Title**

Calculus I (4 SCH version)

#### **Academic Level**

Undergraduate

#### **Description**

Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete at least 1 of the following:
  - MATH1316 - Plane Trigonometry (3)
  - MATH2312 - Pre-Calculus Math (3 SCH version) (3)

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### **MATH2414 - Calculus II (4 SCH version)**

#### **Course Title**

Calculus II (4 SCH version)

#### **Academic Level**

Undergraduate

#### **Description**

Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals.

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - MATH2413 - Calculus I (4 SCH version) (4)

### **MATH2415 - Calculus III (4 SCH version)**

#### **Course Title**

Calculus III (4 SCH version)

#### **Academic Level**

Undergraduate

#### **Description**

Advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem.

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - MATH2414 - Calculus II (4 SCH version) (4)

## Mechatronics

### **MECH1370 - Introduction to Mechatronics**

#### **Course Title**

Introduction to Mechatronics

#### **Academic Level**

Undergraduate

#### **Description**

Overview of mechatronics applications including controls, programming, electrical, and mechanical systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MECH1371 - Industry Digital Devices**

#### **Course Title**

Industry Digital Devices

#### **Academic Level**

Undergraduate

#### **Description**

A course interfacing digital devices using logic circuits, metering equipment and different numbering systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1303 - DC Circuits (3)

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### **MECH1372 - Basic Programmable Logic Controllers**

#### **Course Title**

Basic Programmable Logic Controllers

#### **Academic Level**

Undergraduate

#### **Description**

Basic course in programmable control systems with emphasis on basic program techniques to include hardware identification, basic ladder programming and PLC communications.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1305 - AC Circuits (3)

### **MECH1373 - Motion Control**

#### **Course Title**

Motion Control

#### **Academic Level**

Undergraduate

#### **Description**

This course explores theoretical concepts in motor control. Emphasis in 3 phase across the line control, system design, protection control devices, wiring and troubleshooting. In-depth coverage of power and control voltages.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1305 - AC Circuits (3)



## 2023-2024 Catalog & Student Handbook

### **MECH1471 - Hydraulic and Pneumatic Systems**

#### **Course Title**

Hydraulic and Pneumatic Systems

#### **Academic Level**

Undergraduate

#### **Description**

A course that focuses on Hydraulic and Pneumatic power technology to include valves, actuators, pumps, motors and gauges to communicate with control devices in order to operate the system using network devices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

### **MECH2370 - Industrial Process Controls**

#### **Course Title**

Industrial Process Controls

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to key concepts in automatic control and instrumentation of process plants. Applying industrial protocols (e.g. fieldbus, ethernet, modbus, profinet, profibus) to change controller parameters and read data from the controller. Use smart transmitters to relay instrumentation and final control elements performance status.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1305 - AC Circuits (3)

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### **MECH2372 - Essentials to Advance PLC**

#### **Course Title**

Essentials to Advance PLC

#### **Academic Level**

Undergraduate

#### **Description**

Advanced applications of programmable logic controllers as used in industrial environments including concepts of networking, data collection, and troubleshooting of PLCs.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MECH1372 - Basic Programmable Logic Controllers (3)

### **MECH2373 - Industry 4.0 Project**

#### **Course Title**

Industry 4.0 Project

#### **Academic Level**

Undergraduate

#### **Description**

A course that provides students the opportunity to apply the knowledge and skills in Industry 4.0. A project will be constructed to include programmable logic controller, industrial control devices and production control.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MECH2472 - Communication Protocols (4)
  - MECH1373 - Motion Control (3)

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### **MECH2374 - Robotics Communication**

#### **Course Title**

Robotics Communication

#### **Academic Level**

Undergraduate

#### **Description**

Principles of robotics to include hardware/software components, interfacing, programing and troubleshooting of the robotic system. Course instruct students to program a robot to perform automated task.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MECH2375 - Production Control**

#### **Course Title**

Production Control

#### **Academic Level**

Undergraduate

#### **Description**

This course defines the ability to apply technology in the principles and techniques in the design, planning, hardware and software of Industrial Production Control Systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1305 - AC Circuits (3)

## 2023-2024 Catalog & Student Handbook

### **MECH2378 - Internship-Mechatronics Technology**

#### **Course Title**

Internship-Mechatronics Technology

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **MECH2471 - Industrial Control Devices**

#### **Course Title**

Industrial Control Devices

#### **Academic Level**

Undergraduate

#### **Description**

This course covers the principles of control devices used in industry. Topics include the design, development, and current applications of automated control devices systems including their configuration, operation, and control. Upon completion students will be able to wire and program different control devices including PLC's and variable frequency drives, monitoring relays, protection relays and other devices locally at the device and through communications protocols.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - MECH1373 - Motion Control (3)

## 2023-2024 Catalog & Student Handbook

### **MECH2472 - Communication Protocols**

#### **Course Title**

Communication Protocols

#### **Academic Level**

Undergraduate

#### **Description**

An introductory course to communications protocols in order to address industrial needs for connecting devices as they apply to industry. Industrial and traditional communication working together with emerging technologies.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

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## Music

### **MUSI1306 - Music Appreciation**

#### **Course Title**

Music Appreciation

#### **Academic Level**

Undergraduate

#### **Description**

Understanding music through the study of cultural periods, major composers, and musical elements. Illustrated with audio recordings and live performances. (Does not apply to a music major degree.)

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Non-Course Base Math

## 2023-2024 Catalog & Student Handbook

### **NCBM0009 - Embedded Math I**

#### **Course Title**

Embedded Math I

#### **Academic Level**

Undergraduate

#### **Description**

Embedded math skills in technical course(s).

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **NCBM0010 - Embedded Math II**

#### **Course Title**

Embedded Math II

#### **Academic Level**

Undergraduate

#### **Description**

Embedded math skills in technical course(s).

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **NCBM0014 - Math Fundamentals for College Algebra** **Course Title**

Math Fundamentals for College Algebra

### **Academic Level**

Undergraduate

### **Description**

Development of math and higher order thinking skills necessary for college readiness. This intervention is designed specifically for students who have a TSIA score greater than 335. (0-4-0)

### **Lecture Hours**

0

### **Lab Hours**

1

### **Semester Credit Hours**

0

### **NCBM0016 - Math Fundamentals for Trigonometry** **Course Title**

Math Fundamentals for Trigonometry

### **Academic Level**

Undergraduate

### **Description**

Development of math and higher order thinking skills necessary for college readiness. This intervention is designed specifically for students who have a TSIA score greater than 335. (0-4-0)

### **Lecture Hours**

0

### **Lab Hours**

1

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **NCBM0032 - Math Fundamentals - Quantitative Reasoni**

#### **Course Title**

Math Fundamentals - Quantitative Reasoni

#### **Academic Level**

Undergraduate

#### **Description**

Development of math and higher order thinking skills necessary for college readiness. This intervention is designed specifically for students who have a TSIA score greater than 335.

#### **Lecture Hours**

0

#### **Lab Hours**

1

#### **Semester Credit Hours**

0

### **NCBM0040 - Pedal to the Metal**

#### **Course Title**

Pedal to the Metal

#### **Academic Level**

Undergraduate

#### **Description**

A refresher designed to help students improve their score on the math portion of the TSI Assessment.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **NCBM0050 - Math Quick Review**

#### **Course Title**

Math Quick Review

#### **Academic Level**

Undergraduate

#### **Description**

This is a bootcamp review of math concepts.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **NCBM0100 - BASE Math Lab**

#### **Course Title**

BASE Math Lab

#### **Academic Level**

Undergraduate

#### **Description**

This course supports students in DMTH 0100 if they score from 310-335 in math on the TSIA.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **NCBM0314 - Math Basics - College Algebra**

#### **Course Title**

Math Basics - College Algebra

#### **Academic Level**

Undergraduate

#### **Description**

Development of math and higher order thinking skills necessary for college readiness.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **NCBM0316 - Math Basics for Trigonometry**

#### **Course Title**

Math Basics for Trigonometry

#### **Academic Level**

Undergraduate

#### **Description**

Development of math and higher order thinking skills necessary for college readiness. This intervention is designed specifically for students who have a TSIA score greater than 335. (0-4-0)

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Semester Credit Hours**

0

### **NCBM0332 - Math Basics for Quantitative Reasoning**

#### **Course Title**

Math Basics for Quantitative Reasoning

#### **Academic Level**

Undergraduate

#### **Description**

Development of math and higher order thinking skills necessary for college readiness.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Semester Credit Hours**

0

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## **Nursing Information Systems**

## 2023-2024 Catalog & Student Handbook

### **RNSG1046 - Legal Nurse Consulting**

#### **Course Title**

Legal Nurse Consulting

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **RNSG1210 - Introduction to Community-Based Nursing**

#### **Course Title**

Introduction to Community-Based Nursing

#### **Academic Level**

Undergraduate

#### **Description**

Overview of the delivery of nursing care in a variety of community-based settings to promote health; application of systematic problem-solving processes and critical thinking skills, focusing on the examination of concepts and theories relevant to community-based nursing; and development of judgment, skill, and professional values within a legal/ethical framework.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **RNSG1227 - Transition to Professional Nursing**

#### **Course Title**

Transition to Professional Nursing

#### **Academic Level**

Undergraduate

#### **Description**

Content includes health promotion, expanded assessment, analysis of data, critical thinking skills and systematic problem solving process, pharmacology, interdisciplinary teamwork, communication, and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework throughout the lifespan. This course lends itself to either a blocked or integrated approach.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2

### **RNSG1261 - Clinical - Registered Nursing/Registered Nurse**

#### **Course Title**

Clinical - Registered Nursing/Registered Nurse

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **RNSG1300 - Health Assessment Across the Lifespan**

#### **Course Title**

Health Assessment Across the Lifespan

#### **Academic Level**

Undergraduate

#### **Description**

Development of skills and techniques required for a comprehensive nursing health assessment of patients across the lifespan. Includes assessment of patients' health promotion and maintenance, illness and injury prevention and restoration, and application of the nursing process within a legal/ethical framework. This course lends itself to either a blocked or integrated approach.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **RNSG1301 - Pharmacology**

#### **Course Title**

Pharmacology

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of drug classifications. Content includes the roles and responsibilities of the nurse in safe administration of medications within a legal/ethical framework. This course lends itself to either a blocked or integrated approach.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **RNSG1343 - Complex Concepts of Adult Health**

#### **Course Title**

Complex Concepts of Adult Health

#### **Academic Level**

Undergraduate

#### **Description**

Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession in the care of adult patients and families with complex medical-surgical health care needs associated with body systems. Emphasis on complex knowledge, judgments, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **RNSG1412 - Nursing Care of the Childbearing and Childrearing Family**

#### **Course Title**

Nursing Care of the Childbearing and Childrearing Family

#### **Academic Level**

Undergraduate

#### **Description**

Study of the concepts related to the provision of nursing care for childbearing and childrearing families. Application of systematic problem-solving processes and critical thinking skills, including a focus on the childbearing family during the perinatal periods and the childrearing family from birth to adolescence; and competency in knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **RNSG1463 - Clinical - Registered Nursing/Registered Nurse**

#### **Course Title**

Clinical - Registered Nursing/Registered Nurse

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

### **RNSG2017 - Dialysis Training-Theory**

#### **Course Title**

Dialysis Training-Theory

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **RNSG2162 - Clinical - Registered Nursing/Registered Nurse** **Course Title**

Clinical - Registered Nursing/Registered Nurse

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **RNSG2213 - Mental Health Nursing** **Course Title**

Mental Health Nursing

#### **Academic Level**

Undergraduate

#### **Description**

Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of patients and their families. This course lends itself to a blocked approach.

#### **Lecture Hours**

1

#### **Lab Hours**

3

#### **Credits**

2

#### **Semester Credit Hours**

2



## 2023-2024 Catalog & Student Handbook

### **RNSG2221 - Professional Nursing: Leadership and Management** **Course Title**

Professional Nursing: Leadership and Management

#### **Academic Level**

Undergraduate

#### **Description**

Exploration of leadership and management principles applicable to the roles of the professional nurse. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **RNSG2230 - Professional Nursing Review and Licensure Preparation** **Course Title**

Professional Nursing Review and Licensure Preparation

#### **Academic Level**

Undergraduate

#### **Description**

Review of concepts required for licensure examination and entry into the practice of professional nursing. Includes review of application process of National Council Licensure Examination for Registered Nurses (NCLEX-RN) test plan, assessment of knowledge deficits, and remediation. This course lends itself to either a blocked or integrated approach.

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **RNSG2262 - Clinical - Registered Nursing/Registered Nurse** **Course Title**

Clinical - Registered Nursing/Registered Nurse

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **RNSG2432 - Enhanced Concepts of Adult Health** **Course Title**

Enhanced Concepts of Adult Health

#### **Academic Level**

Undergraduate

#### **Description**

Enhanced concepts and skills for developing professional competencies in complicated nursing care situations involving adult patients/families with multiple body system problems. Emphasizes critical thinking, clinical reasoning, and determining legal/ethical values for optimization of patient care in intermediate and acute care settings. This course lends itself to a blocked approach.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

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## **Pharmacy Technician/Assistant**

## 2023-2024 Catalog & Student Handbook

### **PHRA1060 - Pharmacy Technician/Asst** **Course Title**

Pharmacy Technician/Asst

### **Academic Level**

Continuing Education

### **Lecture Hours**

3

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **PHRA1091 - Pharmacy** **Course Title**

Pharmacy

### **Academic Level**

Continuing Education

### **Lecture Hours**

4

### **Lab Hours**

0

### **Semester Credit Hours**

0

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## **Philosophy**

## 2023-2024 Catalog & Student Handbook

### **PHIL1301 - Introduction to Philosophy**

#### **Course Title**

Introduction to Philosophy

#### **Academic Level**

Undergraduate

#### **Description**

A study of major issues in philosophy and/or the work of major philosophical figures in philosophy. Topics in philosophy may include theories of reality, theories of knowledge, theories of value, and their practical applications.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PHIL1304 - Introduction to World Religions**

#### **Course Title**

Introduction to World Religions

#### **Academic Level**

Undergraduate

#### **Description**

A comparative study of world religions, including but not limited to Hinduism, Buddhism, Judaism, Christianity, and Islam.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PHIL2303 - Introduction to Formal Logic** **Course Title**

Introduction to Formal Logic

#### **Academic Level**

Undergraduate

#### **Description**

The purpose of the course is to introduce the student to symbolic logic, including syllogisms, propositional and predicate logic, and logical proofs in a system of rules.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PHIL2306 - Introduction to Ethics** **Course Title**

Introduction to Ethics

#### **Academic Level**

Undergraduate

#### **Description**

The systematic evaluation of classical and/or contemporary ethical theories concerning the good life, human conduct in society, morals, and standards of value.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Phlebotomy(Blood Collection)**

## 2023-2024 Catalog & Student Handbook

### **PLAB1023 - Phlebotomy**

#### **Course Title**

Phlebotomy

#### **Academic Level**

Continuing Education

#### **Description**

Skill development in the performance of a variety of blood collection methods using proper techniques and universal precautions. Includes vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture, and specimen collection on adults, children, and infants. Emphasis on infection prevention, proper patient identification, labeling of specimens and quality assurance, specimen handling, processing, and accessioning. Topics include professionalism, ethics, and medical terminology.

#### **Lecture Hours**

5

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **PLAB2000 - Professional Development Phleb**

#### **Course Title**

Professional Development Phleb

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Physics**

## 2023-2024 Catalog & Student Handbook

### **PHYS1101 - College Physics Laboratory I**

#### **Course Title**

College Physics Laboratory I

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies PHYS 1301, College Physics I. Laboratory activities will reinforce fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; emphasis will be on problem solving.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

#### **Corequisites**

- Completed or concurrently enrolled in:
  - PHYS1301 - College Physics I (lecture) (3)

### **PHYS1102 - College Physics Lab II**

#### **Course Title**

College Physics Lab II

#### **Academic Level**

Undergraduate

#### **Description**

This laboratory-based course accompanies PHYS 1302, College Physics II. Laboratory activities will reinforce fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

#### **Corequisites**

- Completed or concurrently enrolled in:
  - PHYS1302 - College Physics II (lecture) (3)

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### **PHYS1110 - Elementary Physics**

#### **Course Title**

Elementary Physics

#### **Academic Level**

Undergraduate

#### **Description**

Conceptual level survey of topics in physics intended for liberal arts and other non-science majors. May or may not include a laboratory.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **PHYS1115 - Physical Science Lab I**

#### **Course Title**

Physical Science Lab I

#### **Academic Level**

Undergraduate

#### **Description**

Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Credits**

1

#### **Semester Credit Hours**

1



## 2023-2024 Catalog & Student Handbook

### **PHYS1117 - Physical Science Lab II**

#### **Course Title**

Physical Science Lab II

#### **Academic Level**

Undergraduate

#### **Description**

Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **PHYS1301 - College Physics I (lecture)**

#### **Course Title**

College Physics I (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; with emphasis on problem solving.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - MATH1314 - College Algebra (3 SCH version) (3)
  - Complete at least 1 of the following:
    - MATH1316 - Plane Trigonometry (3)
    - MATH2312 - Pre-Calculus Math (3 SCH version) (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - PHYS1101 - College Physics Laboratory I (1)

## 2023-2024 Catalog & Student Handbook

### **PHYS1302 - College Physics II (lecture)**

#### **Course Title**

College Physics II (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete all of the following
  - Complete the following:
    - PHYS1301 - College Physics I (lecture) (3)
  - Complete at least 1 of the following:
    - PHYS1101 - College Physics Laboratory I (1)
    - PHYS1401 - College Physics I (4)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - PHYS1102 - College Physics Lab II (1)

## 2023-2024 Catalog & Student Handbook

### **PHYS1310 - Elementary Physics**

#### **Course Title**

Elementary Physics

#### **Academic Level**

Undergraduate

#### **Description**

Conceptual level survey of topics in physics intended for liberal arts and other non-science majors. May or may not include a laboratory.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PHYS1315 - Physical Science I (lecture)**

#### **Course Title**

Physical Science I (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PHYS1317 - Physical Science II**

#### **Course Title**

Physical Science II

#### **Academic Level**

Undergraduate

#### **Description**

Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PHYS1401 - College Physics I**

#### **Course Title**

College Physics I

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of PHYS 1301 (lecture) and PHYS 1101 (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **PHYS1402 - College Physics II**

#### **Course Title**

College Physics II

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of PHYS 1302 (lecture) and PHYS 1102 (lab), including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **PHYS1410 - Elementary Physics**

#### **Course Title**

Elementary Physics

#### **Academic Level**

Undergraduate

#### **Description**

Conceptual topics and algebra-level problem solving in a survey course of basic physics principles intended for non-science majors. This course includes a laboratory.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **PHYS1415 - Physical Science I**

#### **Course Title**

Physical Science I

#### **Academic Level**

Undergraduate

#### **Description**

Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **PHYS1417 - Physical Science II Physical Science II**

#### **Course Title**

Physical Science II Physical Science II

#### **Academic Level**

Undergraduate

#### **Description**

Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **PHYS2125 - University Physics Laboratory I (lab)**

#### **Course Title**

University Physics Laboratory I (lab)

#### **Academic Level**

Undergraduate

#### **Description**

Basic laboratory experiments supporting theoretical principles presented in PHYS 2325 involving the principles and applications of classical mechanics, including harmonic motion and physical systems; experimental design, data collection and analysis, and preparation of laboratory reports.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

#### **Corequisites**

- Completed or concurrently enrolled in:
  - PHYS2325 - University Physics I (lecture) (3)

### **PHYS2126 - University Physics Laboratory II (lab)**

#### **Course Title**

University Physics Laboratory II (lab)

#### **Academic Level**

Undergraduate

#### **Description**

Laboratory experiments supporting theoretical principles presented in PHYS 2326 involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics; experimental design, data collection and analysis, and preparation of laboratory reports.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

#### **Corequisites**

- Completed or concurrently enrolled in:
  - PHYS2326 - University Physics II (lecture) (3)



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### **PHYS2325 - University Physics I (lecture)**

#### **Course Title**

University Physics I (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Fundamental principles of physics, using calculus, for science, computer science, and engineering majors; the principles and applications of classical mechanics, including harmonic motion, physical systems and thermodynamics; and emphasis on problem solving.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MATH2413 - Calculus I (4 SCH version) (4)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - PHYS2125 - University Physics Laboratory I (lab) (1)

## 2023-2024 Catalog & Student Handbook

### **PHYS2326 - University Physics II (lecture)**

#### **Course Title**

University Physics II (lecture)

#### **Academic Level**

Undergraduate

#### **Description**

Principles of physics for science, computer science, and engineering majors, using calculus, involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - PHYS2325 - University Physics I (lecture) (3)
  - MATH2414 - Calculus II (4 SCH version) (4)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - PHYS2126 - University Physics Laboratory II (lab) (1)

### **PHYS2425 - University Physics I**

#### **Course Title**

University Physics I

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of PHYS 2325 University Physics I Lecture and PHYS 2125 University Physics I Lab, including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **PHYS2426 - University Physics II**

#### **Course Title**

University Physics II

#### **Academic Level**

Undergraduate

#### **Description**

This lecture and lab course should combine all of the elements of 2326 University Physics II Lecture and 2126 University Physics II Lab, including the learning outcomes listed for both courses.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

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## Pipefitting

### **PFPB1007 - Introduction to Pipefitting**

#### **Course Title**

Introduction to Pipefitting

#### **Academic Level**

Continuing Education

#### **Description**

Instruction in pipefitting hand and power tools, ladder, and scaffold safety motorized equipment, and underground pipe installation.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **PFPB1020 - Tradesman Plumber Training Rev** **Course Title**

Tradesman Plumber Training Rev

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **PFPB1024 - Journeyman Plumber Training Review** **Course Title**

Journeyman Plumber Training Review

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **PFPB1051 - Commercial and Industrial Gas Installati** **Course Title**

Commercial and Industrial Gas Installati

#### **Academic Level**

Continuing Education

#### **Description**

Principles, code requirements, and practical knowledge needed to identify, design, and install commercial and industrial gas supply systems. Includes safety procedures for installation and testing.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **PFPB1306 - Basic Blueprint Reading for Plumbers**

#### **Course Title**

Basic Blueprint Reading for Plumbers

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to reading and interpreting working drawings. Includes symbols and abbreviations and the use of sketching techniques to create isometric and orthographic drawings of drain, waste, vent, hot and cold water, and gas piping components.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PFPB1319 - Commercial Plumbing I**

#### **Course Title**

Commercial Plumbing I

#### **Academic Level**

Undergraduate

#### **Description**

Piping techniques and materials within the pipe trades. Includes pipefitting procedures for applications and upgrades on techniques and practices designed to deal with federal, state, and local environmental and safety regulations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - PFPB1323 - Plumbing Codes I (3)
  - PFPB2349 - Field Measuring, Sketching, and Layout (3)
  - PFPB1306 - Basic Blueprint Reading for Plumbers (3)

## 2023-2024 Catalog & Student Handbook

### **PFPB1321 - Plumbing Maintenance and Repair**

#### **Course Title**

Plumbing Maintenance and Repair

#### **Academic Level**

Undergraduate

#### **Description**

Instruction in the practices and procedures employed by a plumber including public relations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PFPB1323 - Plumbing Codes I**

#### **Course Title**

Plumbing Codes I

#### **Academic Level**

Undergraduate

#### **Description**

State and local plumbing codes and the application of potable water, waste water, and gas systems relating to residential and light commercial settings.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PFPB1347 - Backflow Prevention**

#### **Course Title**

Backflow Prevention

#### **Academic Level**

Undergraduate

#### **Description**

Principles, practices, and regulations of backflow. Includes backpressure, public health, laws and responsibilities, mechanics and use of backflow devices, and equipment testing used in backflow devices.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PFPB1682 - Cooperative Education - Plumbing Technology/Plumber**

#### **Course Title**

Cooperative Education - Plumbing Technology/Plumber

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

6

#### **Semester Credit Hours**

6

## 2023-2024 Catalog & Student Handbook

### **PFPB1683 - Cooperative Education - Plumbing Technology/Plumber** **Course Title**

Cooperative Education - Plumbing Technology/Plumber

#### **Academic Level**

Undergraduate

#### **Description**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

6

#### **Semester Credit Hours**

6

### **PFPB2001 - Plumbing Review** **Course Title**

Plumbing Review

#### **Academic Level**

Continuing Education

#### **Description**

License renewal course. Includes laws and rules, cross-connection control and backflow prevention, mold contamination, fall protection, hepatitis protection, and copper tubing and piping.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **PFPB2008 - Piping Standards and Materials**

#### **Course Title**

Piping Standards and Materials

#### **Academic Level**

Continuing Education

#### **Description**

Identification, description, and application of piping standards and specifications. Includes identification and use of various metallic and non-metallic piping materials, identification and installation of valves, and material take-offs.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **PFPB2308 - Piping Standards and Materials**

#### **Course Title**

Piping Standards and Materials

#### **Academic Level**

Undergraduate

#### **Description**

Identification, description, and application of piping standards and specifications. Includes identification and use of various metallic and non-metallic piping materials, identification and installation of valves, and material take-offs.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PFPB2309 - Residential Construction Plumbing I** **Course Title**

Residential Construction Plumbing I

#### **Academic Level**

Undergraduate

#### **Description**

Skill development in the procedures and techniques employed by a plumber in the rough-in and top-out stages of a new home or the remodeling of an older home.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PFPB2315 - Intermediate Technologies for Piping Trades** **Course Title**

Intermediate Technologies for Piping Trades

#### **Academic Level**

Undergraduate

#### **Description**

Piping techniques and materials within the pipe trades. Includes pipefitting procedures for applications and upgrades on techniques and practices designed to deal with federal, state, and local environmental and safety regulations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PFPB2336 - Commercial Construction and Fixture Setting**

#### **Course Title**

Commercial Construction and Fixture Setting

#### **Academic Level**

Undergraduate

#### **Description**

Practices and procedures employed by a plumber in the common construction in a commercial building including drain, waste, and vent systems, water systems, and fixture installations.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PFPB2343 - Advanced Pipe Practices**

#### **Course Title**

Advanced Pipe Practices

#### **Academic Level**

Undergraduate

#### **Description**

Identification, installation, and testing of steam traps and steam trap station components; valve identification, application, and maintenance; identification, storage, and handling of in-line specialties; hydrostatic testing of process piping.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PFPB2345 - Residential Construction Plumbing II**

#### **Course Title**

Residential Construction Plumbing II

#### **Academic Level**

Undergraduate

#### **Description**

Installation of residential plumbing fixtures used in single- and multi-family housing.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - PFPB2309 - Residential Construction Plumbing I (3)

### **PFPB2349 - Field Measuring, Sketching, and Layout**

#### **Course Title**

Field Measuring, Sketching, and Layout

#### **Academic Level**

Undergraduate

#### **Description**

Field dimensioning, measuring, sketching, and layout of future process piping and the use, care, and setup of transit and level.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PFPB2357 - Plumbing Codes II**

#### **Course Title**

Plumbing Codes II

#### **Academic Level**

Undergraduate

#### **Description**

The application of state and local plumbing codes to potable water, waste water, and gas systems relating to residential and commercial settings.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Practical Nurse

### **VNSG1119 - Leadership and Professional Development**

#### **Course Title**

Leadership and Professional Development

#### **Academic Level**

Undergraduate

#### **Description**

Study of the importance of professional growth. Topics include the role of the licensed vocational nurse in the multi-disciplinary health care team, professional organizations, and continuing education.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

## 2023-2024 Catalog & Student Handbook

### **VNSG1219 - Leadership and Professional Development**

#### **Course Title**

Leadership and Professional Development

#### **Academic Level**

Undergraduate

#### **Description**

Study of the importance of professional growth. Topics include the role of the licensed vocational nurse in the multi-disciplinary health care team, professional organizations, and continuing education.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **VNSG1230 - Maternal-Neonatal Nursing**

#### **Course Title**

Maternal-Neonatal Nursing

#### **Academic Level**

Undergraduate

#### **Description**

A study of the biological, psychological, and sociological concepts applicable to basic needs of the family including childbearing and neonatal care. Utilization of the nursing process in the assessment and management of the childbearing family. Topics include physiological changes related to pregnancy, fetal development, and nursing care of the family during labor and delivery and the puerperium.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **VNSG1261 - Clinical - Licensed Practical/Vocational Nurse Training**

#### **Course Title**

Clinical - Licensed Practical/Vocational Nurse Training

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **VNSG1304 - Foundations of Nursing**

#### **Course Title**

Foundations of Nursing

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to the nursing profession including history, standards of practice, legal and ethical issues, and role of the vocational nurse. Topics include mental health, therapeutic communication, cultural and spiritual diversity, nursing process, and holistic awareness.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **VNSG1327 - Essentials of Medication Administration**

#### **Course Title**

Essentials of Medication Administration

#### **Academic Level**

Undergraduate

#### **Description**

General principles of medication administration including determination of dosage, preparation, safe administration, and documentation of multiple forms of drugs. Instruction includes various systems of measurement.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **VNSG1329 - Medical-Surgical Nursing I**

#### **Course Title**

Medical-Surgical Nursing I

#### **Academic Level**

Undergraduate

#### **Description**

Application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health-illness continuum in a variety of health care settings.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **VNSG1331 - Pharmacology**

#### **Course Title**

Pharmacology

#### **Academic Level**

Undergraduate

#### **Description**

Fundamentals of medications and their diagnostic, therapeutic, and curative effects. Includes nursing interventions utilizing the nursing process.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **VNSG1334 - Pediatrics**

#### **Course Title**

Pediatrics

#### **Academic Level**

Undergraduate

#### **Description**

Study of the care of the pediatric patient and family during health and disease. Emphasis on growth and developmental needs utilizing the nursing process.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **VNSG1402 - Applied Nursing Skills I**

#### **Course Title**

Applied Nursing Skills I

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to and application of primary nursing skills. Emphasis on utilization of the nursing process and related scientific principles.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **VNSG1432 - Medical-Surgical Nursing II**

#### **Course Title**

Medical-Surgical Nursing II

#### **Academic Level**

Undergraduate

#### **Description**

Continuation of Medical-Surgical Nursing I with application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health-illness continuum in a variety of health care settings.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **VNSG1462 - Clinical - Licensed Practical/Vocational Nurse Training** **Course Title**

Clinical - Licensed Practical/Vocational Nurse Training

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

### **VNSG2050 - NCLEX-PN Review Course** **Course Title**

NCLEX-PN Review Course

#### **Academic Level**

Continuing Education

#### **Description**

Review of nursing knowledge and skills, study skills, stress management techniques, and test taking strategies to prepare the graduate vocational nurse (GVN) to take the National Licensure Examination-Practical Nurse (NCLEX-PN).

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **VNSG2413 - Applied Nursing Skills II**

#### **Course Title**

Applied Nursing Skills II

#### **Academic Level**

Undergraduate

#### **Description**

Application of nursing skills to meet complex patient needs utilizing the nursing process and related scientific principles.

#### **Lecture Hours**

3

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

### **VNSG2463 - Clinical - Licensed Practical/Vocational Nurse Training**

#### **Course Title**

Clinical - Licensed Practical/Vocational Nurse Training

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

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## **Pre-Engineering**

## 2023-2024 Catalog & Student Handbook

### **ENGR1201 - Introduction to Engineering**

#### **Course Title**

Introduction to Engineering

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to the engineering profession with emphasis on technical communication and team-based engineering design.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

#### **Prerequisites**

- Complete the following:
  - MATH1314 - College Algebra (3 SCH version) (3)

### **ENGR1304 - Engineering Graphics I (3 Sch version)**

#### **Course Title**

Engineering Graphics I (3 Sch version)

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to computer-aided drafting using CAD software and sketching to generate two- and three-dimensional drawings based on the conventions of engineering graphical communication; topics include spatial relationships, multi-view projections and sectioning, dimensioning, graphical presentation of data, and fundamentals of computer graphics.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - MATH1314 - College Algebra (3 SCH version) (3)

## 2023-2024 Catalog & Student Handbook

### **ENGR2105 - Electrical Circuits I Laboratory**

#### **Course Title**

Electrical Circuits I Laboratory

#### **Academic Level**

Undergraduate

#### **Description**

Laboratory experiments supporting theoretical principles presented in ENGR 2305 involving DC and AC circuit theory, network theorems, time, and frequency domain circuit analysis. Introduction to principles and operation of basic laboratory equipment; laboratory report preparation.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Credits**

1

#### **Semester Credit Hours**

1

### **ENGR2301 - Engineering Mechanics - Statics (3 SCH version)**

#### **Course Title**

Engineering Mechanics - Statics (3 SCH version)

#### **Academic Level**

Undergraduate

#### **Description**

Basic theory of engineering mechanics, using calculus, involving the description of forces, moments, and couples acting on stationary engineering structures; equilibrium in two and three dimensions; free-body diagrams; friction; centroids; centers of gravity; and moments of inertia. Prerequisite: the first calculus-based physics course. Corequisite: a second course in calculus.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - PHYS2325 - University Physics I (lecture) (3)

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### **ENGR2302 - Engineering Mechanics - Dynamics (3 SCH version)**

#### **Course Title**

Engineering Mechanics - Dynamics (3 SCH version)

#### **Academic Level**

Undergraduate

#### **Description**

Basic theory of engineering mechanics, using calculus, involving the motion of particles, rigid bodies, and systems of particles; Newton's Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ENGR2301 - Engineering Mechanics - Statics (3 SCH version) (3)

### **ENGR2304 - Programming for Engineers**

#### **Course Title**

Programming for Engineers

#### **Academic Level**

Undergraduate

#### **Description**

Programming principles and techniques for matrix and array operations, equation solving, and numeric simulations applied to engineering problems and visualization of engineering information; platforms include spreadsheets, symbolic algebra packages, engineering analysis software, and laboratory control software.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ENGR2305 - Electrical Circuits I**

#### **Course Title**

Electrical Circuits I

#### **Academic Level**

Undergraduate

#### **Description**

Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; Kirchhoff's laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidal steady-state analysis; AC circuit analysis; first- and second-order circuits; Bode plots; and use of computer simulation software to solve circuit problems

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - PHYS2325 - University Physics I (lecture) (3)
  - MATH2414 - Calculus II (4 SCH version) (4)

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## **Psychology**



## 2023-2024 Catalog & Student Handbook

### **PSYC1100 - Learning Framework**

#### **Course Title**

Learning Framework

#### **Academic Level**

Undergraduate

#### **Description**

A study of the 1) research and theory in the psychology of learning, cognition, and motivation, 2) factors that impact learning, and 3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. (Crosslisted as EDUC 1300)

#### **Lecture Hours**

1

#### **Lab Hours**

2

#### **Credits**

1

#### **Semester Credit Hours**

1

### **PSYC2301 - General Psychology**

#### **Course Title**

General Psychology

#### **Academic Level**

Undergraduate

#### **Description**

General Psychology is a survey of the major psychological topics, theories and approaches to the scientific study of behavior and mental processes.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PSYC2314 - Lifespan Growth & Development**

#### **Course Title**

Lifespan Growth & Development

#### **Academic Level**

Undergraduate

#### **Description**

Life-Span Growth and Development is a study of social, emotional, cognitive and physical factors and influences of a developing human from conception to death.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **PSYT1007 - Crisis Intervention for Victims of Sexual Assault/Abuse**

#### **Course Title**

Crisis Intervention for Victims of Sexual Assault/Abuse

#### **Academic Level**

Continuing Education

#### **Description**

INTRODUCTION TO THE PSYCHOSOCIAL ASPECTS OF SEXUAL ABUSE/ASSAULT AND INTERVIEWNTION STRATEGIES.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **PSYT1024 - Health Profession Concerns**

#### **Course Title**

Health Profession Concerns

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **PSYT1091 - Autism Recognition & Response**

#### **Course Title**

Autism Recognition & Response

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **PSYT1313 - Psychology of Personal Adjustment**

#### **Course Title**

Psychology of Personal Adjustment

#### **Academic Level**

Undergraduate

#### **Description**

Overview of personal, social, and work adjustment skills.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## Reading/Writing Refresher

### **NCBI0001 - Reading and Writing Fundamentals for Composition I** **Course Title**

Reading and Writing Fundamentals for Composition I

### **Academic Level**

Undergraduate

### **Description**

Developmental reading and writing skills necessary for college readiness. This NCBO is the L-Series 4-hour co-taught model.

### **Lecture Hours**

0

### **Lab Hours**

1

### **Semester Credit Hours**

0

### **NCBI0009 - Embedded Reading/Writing I** **Course Title**

Embedded Reading/Writing I

### **Academic Level**

Undergraduate

### **Description**

Embedded reading and writing skills in technical course(s).

### **Lecture Hours**

0

### **Lab Hours**

2

### **Semester Credit Hours**

0

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### **NCBI0010 - Base Reading & Writing Lab**

#### **Course Title**

Base Reading & Writing Lab

#### **Academic Level**

Undergraduate

#### **Description**

Embedded reading and writing skills in technical course(s).

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **NCBI0040 - Communication Blast Off**

#### **Course Title**

Communication Blast Off

#### **Academic Level**

Undergraduate

#### **Description**

A refresher designed to help students improve their score on the reading and writing portions of the TSI Assessment.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **NCBI0050 - Reading/Writing Quick Review**

#### **Course Title**

Reading/Writing Quick Review

#### **Academic Level**

Undergraduate

#### **Description**

This is a bootcamp review of reading/writing concepts.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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### **NCBI0100 - BASE Reading/Writing Lab** **Course Title**

BASE Reading/Writing Lab

### **Academic Level**

Undergraduate

### **Description**

This course supports students in INRW 0100 if they score from 310-341 in reading or 310-349 on writing on the TSIA.

### **Lecture Hours**

0

### **Lab Hours**

2

### **Semester Credit Hours**

0

### **NCBI0301 - Reading and Writing Basics for Composition I** **Course Title**

Reading and Writing Basics for Composition I

### **Academic Level**

Undergraduate

### **Description**

Developmental reading and writing skills necessary for college readiness. This NCBO is the 5-hour (3 hour academics, 2 hour DevEd) model.

### **Lecture Hours**

0

### **Lab Hours**

3

### **Semester Credit Hours**

0

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### **NCBI0305 - Reading and Writing Fundamentals for Federal Government** **Course Title**

Reading and Writing Fundamentals for Federal Government

#### **Academic Level**

Undergraduate

#### **Description**

Developmental reading and writing skills necessary for college readiness.

#### **Lecture Hours**

0

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **NCBI0311 - Reading and Writing Fundamentals For Technical and Business Writing** **Course Title**

Reading and Writing Fundamentals For Technical and Business Writing

#### **Academic Level**

Undergraduate

#### **Description**

Developmental reading and writing skills necessary for college readiness.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

### **NCBI0312 - Reading and Writing Fundamentals for United States History II** **Course Title**

Reading and Writing Fundamentals for United States History II

#### **Academic Level**

Undergraduate

#### **Description**

Developmental reading and writing skills necessary for college readiness.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **NCBI0315 - Reading and Writing Fundamentals for Public Speaking** **Course Title**

Reading and Writing Fundamentals for Public Speaking

#### **Academic Level**

Undergraduate

#### **Description**

Developmental reading and writing skills necessary for college readiness.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

### **NCBI0321 - Reading and Writing Fundamentals for Introduction to Humanities** **Course Title**

Reading and Writing Fundamentals for Introduction to Humanities

#### **Academic Level**

Undergraduate

#### **Description**

Developmental reading and writing skills necessary for college readiness.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Semester Credit Hours**

0



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### **NCBI0322 - Reading and Writing Fundamentals for General Psychology**

#### **Course Title**

Reading and Writing Fundamentals for General Psychology

#### **Academic Level**

Undergraduate

#### **Description**

Developmental reading and writing skills necessary for college readiness.

#### **Lecture Hours**

0

#### **Lab Hours**

3

#### **Semester Credit Hours**

0

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## Robotics

### **RBTC1009 - Pneumatics**

#### **Course Title**

Pneumatics

#### **Academic Level**

Continuing Education

#### **Description**

A study of principles of pneumatics, including formulas, functions, and circuits with hands-on experience in these industrial automated systems.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Semester Credit Hours**

0

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### **RBTC1047 - Electro-Mechanical Devices**

#### **Course Title**

Electro-Mechanical Devices

#### **Academic Level**

Continuing Education

#### **Description**

A study of basic electro-mechanical devices found in robotic systems, including transformers, switches, and solid state relays.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Semester Credit Hours**

0

### **RBTC1301 - Programmable Logic Controllers**

#### **Course Title**

Programmable Logic Controllers

#### **Academic Level**

Undergraduate

#### **Description**

A Study in Programmable Controllers. Topics Include Processor Units, Numbering Systems, Memory Organization, Relay Type Devices Timers, Counters, Data Manipulators, and Programming.

#### **Lecture Hours**

1

#### **Lab Hours**

5

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ELPT1341 - Motor Control (3)

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### **RBTC1309 - Pneumatics**

#### **Course Title**

Pneumatics

#### **Academic Level**

Undergraduate

#### **Description**

A study of principles of pneumatics, including formulas, functions, and circuits with hands-on experience in these industrial automated systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - HYDR1305 - Basic Hydraulics (3)

### **RBTC1341 - Vision Systems**

#### **Course Title**

Vision Systems

#### **Academic Level**

Undergraduate

#### **Description**

An overview of machine vision systems, including terminology and components. Topics include optics, sensors, lighting, image analysis, and user interfaces.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC2339 - Robot Programming and Diagnostics (3)

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### **RBTC1343 - Robotics**

#### **Course Title**

Robotics

#### **Academic Level**

Undergraduate

#### **Description**

Principles and applications of robots. Includes installation, interfacing, programming, maintenance, and safety of robots and robotic cells.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete at least 1 of the following:
  - CETT1303 - DC Circuits (3)
  - IEIR1302 - Introduction to Direct Current Circuits (3)

### **RBTC1345 - Robot Interfacing**

#### **Course Title**

Robot Interfacing

#### **Academic Level**

Undergraduate

#### **Description**

A study of the basic principles of robot controllers, controller input/output, memory, and interfacing with computer integrated manufacturing.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC2339 - Robot Programming and Diagnostics (3)
  - RBTC1347 - Electro-Mechanical Devices (3)
  - RBTC1301 - Programmable Logic Controllers (3)

## 2023-2024 Catalog & Student Handbook

### **RBTC1347 - Electro-Mechanical Devices**

#### **Course Title**

Electro-Mechanical Devices

#### **Academic Level**

Undergraduate

#### **Description**

A study of electro-mechanical devices found in robotic systems. Includes transformers, switches, and solid state relays.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **RBTC1355 - Sensors**

#### **Course Title**

Sensors

#### **Academic Level**

Undergraduate

#### **Description**

Study of basic principles of industrial sensors for automated systems. Emphasis on the operation and application of position, rate, proximity, opto-electronics, ranging, and pressure switches.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC2339 - Robot Programming and Diagnostics (3)
  - RBTC1347 - Electro-Mechanical Devices (3)

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### **RBTC1371 - Industrial Motors and Drives**

#### **Course Title**

Industrial Motors and Drives

#### **Academic Level**

Undergraduate

#### **Description**

Choosing, installation and troubleshooting of 3-phase motors and variable speed drives ,with emphasis on wiring and controls of industrial motors.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC1301 - Programmable Logic Controllers (3)
  - ELPT1341 - Motor Control (3)

### **RBTC1391 - Special Topics in Robotics Technology**

#### **Course Title**

Special Topics in Robotics Technology

#### **Academic Level**

Undergraduate

#### **Description**

This course will design and construct automated robotics systems for training.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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### **RBTC2335 - Numerical Controlled/Computer Numerical Control Programming** **Course Title**

Numerical Controlled/Computer Numerical Control Programming

#### **Academic Level**

Undergraduate

#### **Description**

A study of the principles and concepts of numerical control through computer applications, specifically in the area of programming for the control of machine tools in CIM.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC1345 - Robot Interfacing (3)
  - RBTC1355 - Sensors (3)

### **RBTC2339 - Robot Programming and Diagnostics** **Course Title**

Robot Programming and Diagnostics

#### **Academic Level**

Undergraduate

#### **Description**

Emphasis on the programming of industrial robots, the development of programming techniques, and the diagnosis of faults in systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC1343 - Robotics (3)

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### **RBTC2345 - Robot Application, Set-up, and Testing**

#### **Course Title**

Robot Application, Set-up, and Testing

#### **Academic Level**

Undergraduate

#### **Description**

A capstone course that provides the student with laboratory experience in the installation, set-up, and testing of robotic cells. Topics include maintenance.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC1345 - Robot Interfacing (3)
  - RBTC1355 - Sensors (3)

### **RBTC2347 - Computer Integrated Manufacturing**

#### **Course Title**

Computer Integrated Manufacturing

#### **Academic Level**

Undergraduate

#### **Description**

The principles of computer integrated manufacturing, including case studies and implementation of process control techniques, CAD/CAM, operations, software, and networking for CIM systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - RBTC1345 - Robot Interfacing (3)
  - RBTC1355 - Sensors (3)



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### **RBTC2375 - Human Machine Interface Programming and Interfacing** **Course Title**

Human Machine Interface Programming and Interfacing

### **Academic Level**

Undergraduate

### **Description**

An overview of Human Machine Interface (HMI) devices and their use in industrial automation. Programming HMIs for use with automated systems.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **Prerequisites**

- Complete the following:
  - RBTC1345 - Robot Interfacing (3)
  - RBTC1301 - Programmable Logic Controllers (3)

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## Safety and Health

### **OSHT1000 - Basic Safety and Health** **Course Title**

Basic Safety and Health

### **Academic Level**

Continuing Education

### **Description**

Basic concepts of safety and health.

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **OSHT1003 - Workplace Safety**

#### **Course Title**

Workplace Safety

#### **Academic Level**

Continuing Education

#### **Description**

Provides an introduction to specific training techniques involving the safe handling of blood and airborne pathogens as well as the general safety and security on the premises. Addresses the right to know and Manufacturers Safety Data Sheets (MSDS). Outlines Occupational Safety and Health regulations. null null

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **OSHT1005 - Osha Regulations-Const. Indus**

#### **Course Title**

Osha Regulations-Const. Indus

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **OSHT1015 - Safety and Accident Prevention**

#### **Course Title**

Safety and Accident Prevention

#### **Academic Level**

Continuing Education

#### **Description**

Recognize and evaluate hazards in the workplace and implement control measures including engineering, administrative, and personal protective equipment.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

**OSHT1017 - Basic Safety Communications**

**Course Title**

Basic Safety Communications

**Academic Level**

Continuing Education

**Lecture Hours**

3

**Lab Hours**

0

**Semester Credit Hours**

0

**OSHT1091 - St in Occupational Safety and Health**

**Course Title**

St in Occupational Safety and Health

**Academic Level**

Continuing Education

**Description**

ST IN OCCUPATIONAL SAFETY AND HEALTH TECHNOLOGY/TECHNICIAN

**Lecture Hours**

0

**Lab Hours**

0

**Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **OSHT1209 - Physical Hazards Control**

#### **Course Title**

Physical Hazards Control

#### **Academic Level**

Undergraduate

#### **Description**

A study of the physical hazards in industry and the methods of workplace design and redesign to control these hazards. Emphasis on the regulation codes and standards associated with the control of physical hazards.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **OSHT1305 - OSHA Regulations - Construction Industry**

#### **Course Title**

OSHA Regulations - Construction Industry

#### **Academic Level**

Undergraduate

#### **Description**

A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to the construction industry.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **OSHT1307 - Construction Site Safety and Health**

#### **Course Title**

Construction Site Safety and Health

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to safety requirements for construction sites including occupational health and environmental co

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **OSHT1313 - Accident Prevention, Inspection, & Investigation**

#### **Course Title**

Accident Prevention, Inspection, & Investigation

#### **Academic Level**

Undergraduate

#### **Description**

Provides a basis for understanding the nature of occupational hazard recognition, accident prevention, loss reduction, inspection techniques, and accident investigation analysis.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **OSHT1320 - Energy Industrial Safety**

#### **Course Title**

Energy Industrial Safety

#### **Academic Level**

Undergraduate

#### **Description**

An overview for industrial workers of state/federal regulations and guidelines which require industrial safety training. Topics include the 29 C.F.R. 1910, 1926 and National Fire Protection Association (NFPA) 70E standards such as confined space entry, emergency action, lock out/tag out, arc flash, and other work related subjects.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **OSHT2001 - OSHA Regulations-General Industry**

#### **Course Title**

OSHA Regulations-General Industry

#### **Academic Level**

Continuing Education

#### **Description**

A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to general industry.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **OSHT2209 - Safety Program Management** **Course Title**

Safety Program Management

#### **Academic Level**

Undergraduate

#### **Description**

Examine the major safety management issues that affect the workplace including safety awareness, loss control, regulatory issues, and human behavior modification.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **OSHT2320 - Safety Training Presentation Techniques** **Course Title**

Safety Training Presentation Techniques

#### **Academic Level**

Undergraduate

#### **Description**

Principles of developing and presenting effective industrial/business training. Emphasis on instructor qualifications and responsibilities, principles of teaching including use of teaching aids and presentation skills.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **OSHT2370 - Safety and Health First Aid Certification**

#### **Course Title**

Safety and Health First Aid Certification

#### **Academic Level**

Undergraduate

#### **Description**

This course is designed to offer the student certification in standard First Aid and Cardio-Pulmonary Resuscitation (CPR) along with a full understanding of the principles of emergency care. The student will learn on-scene planning as well as actions necessary to deal with accidents and injuries in an industrial setting. The student will learn physiology of the human body and the principles behind pressure points and actions taken in splint application and body immobilization.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

### **OSHT2388 - Internship - Occupational Safety and Health Technology/Technician**

#### **Course Title**

Internship - Occupational Safety and Health Technology/Technician

#### **Academic Level**

Undergraduate

#### **Description**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **OSHT2401 - OSHA Regulations - General Industry**

#### **Course Title**

OSHA Regulations - General Industry

#### **Academic Level**

Undergraduate

#### **Description**

A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to general industry.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

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## Science

### **SCIT1000 - Human Anatomy & Physiology**

#### **Course Title**

Human Anatomy & Physiology

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **SCIT1318 - Applied Physics**

#### **Course Title**

Applied Physics

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to physics for industrial applications including vectors, motion, mechanics, simple machines, matter, heat, and thermodynamics.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SCIT1407 - Applied Human Anatomy and Physiology I**

#### **Course Title**

Applied Human Anatomy and Physiology I

#### **Academic Level**

Undergraduate

#### **Description**

An applied systematic study of the structure and function of the human body. Includes anatomical terminology, cells, tissues, and the following systems: integumentary, skeletal, muscular, nervous, and endocrine. Emphasis on homeostasis.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **SCIT1414 - Applied General Chemistry I**

#### **Course Title**

Applied General Chemistry I

#### **Academic Level**

Undergraduate

#### **Description**

Applications of general chemistry emphasizing industry-related laboratory skills and competencies including laboratory safety and report writing. Addresses supporting chemical theories including atomic and molecular structure, nomenclature, chemical reactivity, gas laws, acids and bases, solutions, and an overview of organic chemistry.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

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## **Small Engine Mechanic & Repair**

### **SMER1434 - Small Engine Two Stroke Overhaul**

#### **Course Title**

Small Engine Two Stroke Overhaul

#### **Academic Level**

Undergraduate

#### **Description**

Overhaul procedures for two stroke small engines as used in lawn and garden applications. Emphasis on proper shop procedures for overhaul of two stroke small engines.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **SMER1437 - Small Engine Four Stroke Engine**

#### **Course Title**

Small Engine Four Stroke Engine

#### **Academic Level**

Undergraduate

#### **Description**

Overhaul procedures for four stroke small engines. Emphasis on shop procedures for overhauls.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

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## Sociology

### **SOCI1301 - Introduction to Sociology**

#### **Course Title**

Introduction to Sociology

#### **Academic Level**

Undergraduate

#### **Description**

The scientific study of human society, including ways in which groups, social institutions, and individuals affect each other. Causes of social stability and social change are explored through the application of various theoretical perspectives, key concepts, and related research methods of sociology. Analysis of social issues in their institutional context may include topics such as social stratification, gender, race/ethnicity, and deviance.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **SOCI1306 - Social Problems**

#### **Course Title**

Social Problems

#### **Academic Level**

Undergraduate

#### **Description**

Application of sociological principles and theoretical perspectives to major social problems in contemporary society such as inequality, crime and violence, substance abuse, environmental issues, deviance, or family problems.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SOCI2319 - Minority Studies I**

#### **Course Title**

Minority Studies I

#### **Academic Level**

Undergraduate

#### **Description**

This course studies minority-majority group relations, addressing their historical, cultural, social, economic, and institutional development in the United States. Both sociological and social psychological levels of analysis will be employed to discuss issues including experiences of minority groups within the context of their cultural heritage and tradition, as well as that of the dominant culture. Core concepts to be examined include (but are not limited to) social inequality, dominance/subordination, prejudice, and discrimination. Particular minority groups discussed may include those based on poverty, race/ethnicity, gender, sexual orientation, age, disability, or religion.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Solar Energy Technology**

## 2023-2024 Catalog & Student Handbook

### **SOLR1272 - Found of Solar Photovoltiac Power Gener**

#### **Course Title**

Found of Solar Photovoltiac Power Gener

#### **Academic Level**

Undergraduate

#### **Description**

Solar electrical power generation using photovoltaic (PV) equipment. Includes calculation of power generation and demand requirements, installation process for solar system components, and strategies for optimizing system performance and reliability.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **SOLR1273 - Foundations of Solar Thermal Systems**

#### **Course Title**

Foundations of Solar Thermal Systems

#### **Academic Level**

Undergraduate

#### **Description**

Discusses industry terminology, safety issues, solar thermal systems design and installation procedures.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **SOLR1371 - Introduction to Solar and Alternative Energy Technologies**

#### **Course Title**

Introduction to Solar and Alternative Energy Technologies

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to Renewable Energy is an overview to the most common types of renewable energy with an emphasis on solar system types and applications. This course introduces solar system types, components, safety issues, and history.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SOLR1372 - Foundations of Solar Photovoltaic Power Generation**

#### **Course Title**

Foundations of Solar Photovoltaic Power Generation

#### **Academic Level**

Undergraduate

#### **Description**

Solar electrical power generation using photovoltaic (PV) equipment. Includes calculation of power generation and demand requirements, installation process for solar system components, and strategies for optimizing system performance and reliability.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **SOLR1373 - Foundations of Solar Thermal Systems**

#### **Course Title**

Foundations of Solar Thermal Systems

#### **Academic Level**

Undergraduate

#### **Description**

Discusses industry terminology, safety issues, solar thermal systems design and installation procedures.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SOLR2175 - Solar Sys Des, Install, Trblshting & Rep**

#### **Course Title**

Solar Sys Des, Install, Trblshting & Rep

#### **Academic Level**

Undergraduate

#### **Description**

Design considerations including site assessment and desired system operation, installation, commissioning, maintenance, operation, troubleshooting and repair, and decommissioning. Review of safety issues, personal protection equipment, and tools of the trade associated with installation, operation, maintenance, and troubleshooting and repair of solar systems.

#### **Lecture Hours**

0

#### **Lab Hours**

4

#### **Credits**

1

#### **Semester Credit Hours**

1



## 2023-2024 Catalog & Student Handbook

### **SOLR2275 - Solar System Design, Installation, Troubleshooting & Repair**

#### **Course Title**

Solar System Design, Installation, Troubleshooting & Repair

#### **Academic Level**

Undergraduate

#### **Description**

Design considerations including site assessment and desired system operation, installation, commissioning, maintenance, operation, troubleshooting, repair and decommissioning. Review of safety issues, personal protection equipment, and tools of the trade associated with installation, operation, maintenance, troubleshooting and repair of solar systems.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

### **SOLR2276 - Special Projects in Solar Energy Systems**

#### **Course Title**

Special Projects in Solar Energy Systems

#### **Academic Level**

Undergraduate

#### **Description**

This course will provide the student with opportunities for solar installations and hands on experience. Photovoltaic Systems as well as Solar Thermal Systems will be addressed. Individual students will be given the responsibility of supervising the planning and installation of their own systems.

#### **Lecture Hours**

1

#### **Lab Hours**

4

#### **Credits**

2

#### **Semester Credit Hours**

2

## 2023-2024 Catalog & Student Handbook

### **SOLR2374 - Solar System Equipment & Components**

#### **Course Title**

Solar System Equipment & Components

#### **Academic Level**

Undergraduate

#### **Description**

Design and operation of solar system equipment, components, subsystems, and balance of plant. Design considerations include environmental, architectural, structural, and legal requirements.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SOLR2375 - Solar System Design, Installation, Troubleshooting & Repair**

#### **Course Title**

Solar System Design, Installation, Troubleshooting & Repair

#### **Academic Level**

Undergraduate

#### **Description**

Design considerations including site assessment and desired system operation, installation, commissioning, maintenance, operation, troubleshooting and repair, and decommissioning. Review of safety issues, personal protection equipment, and tools of the trade associated with installation, operation, maintenance, and troubleshooting and repair of solar systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **SOLR2376 - Special Projects in Solar Energy Systems**

#### **Course Title**

Special Projects in Solar Energy Systems

#### **Academic Level**

Undergraduate

#### **Description**

This course will provide the student with opportunities for solar installations and hands-on experience. Photovoltaic Systems as well as Solar Thermal Systems will be addressed. Individual students will be given the responsibility of supervising the planning and installation of their own systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SOLR2377 - Codes for Alternative Energy, Efficiency & Conservation**

#### **Course Title**

Codes for Alternative Energy, Efficiency & Conservation

#### **Academic Level**

Undergraduate

#### **Description**

Apply various building and energy codes to solar and other alternate energy system installations. Emphasis will be on safety features of the codes and how the installation methods affect installers, occupants as well as any emergency responders that may have contact with the system and the structure on which it is installed. Energy efficiency, energy conservation, and the concept of a whole structure approach will be covered.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Spanish**

## 2023-2024 Catalog & Student Handbook

### **SPAN1311 - Beginning Spanish I**

#### **Course Title**

Beginning Spanish I

#### **Academic Level**

Undergraduate

#### **Description**

Basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the beginner level.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SPAN1312 - Beginning Spanish II**

#### **Course Title**

Beginning Spanish II

#### **Academic Level**

Undergraduate

#### **Description**

Continued development of basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the high beginner to low intermediate level.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **SPAN1411 - Beginning Spanish I**

#### **Course Title**

Beginning Spanish I

#### **Academic Level**

Undergraduate

#### **Description**

Basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the beginner level.

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

4

### **SPAN1412 - Beginning Spanish II**

#### **Course Title**

Beginning Spanish II

#### **Academic Level**

Undergraduate

#### **Description**

Continued development of basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the high beginner to low intermediate level.

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

4

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## **Special Topics Petroleum**

## 2023-2024 Catalog & Student Handbook

### **PTRT1003 - Drilling** **Course Title**

Drilling

### **Academic Level**

Continuing Education

### **Description**

A study of practices and procedures that are involved in drilling operations. Topics on rig equipment, casing design, fishing, and proper procedures to successfully drill a well are implemented. Instruction in volume calculations, hydrostatic pressures, formations pressures, and analyzing problems in downhill drilling operations.

### **Lecture Hours**

10

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **PTRT1006 - Drilling Fluids** **Course Title**

Drilling Fluids

### **Academic Level**

Continuing Education

### **Description**

A study of the functions and properties of the fluids used in drilling an oil or gas well. The various types of mud systems for different formations will be discussed and developed.

### **Lecture Hours**

2

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **PTRT1013 - Industrial Safety** **Course Title**

Industrial Safety

### **Academic Level**

Continuing Education

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **PTRT1301 - Introduction to Petroleum Industry** **Course Title**

Introduction to Petroleum Industry

### **Academic Level**

Undergraduate

### **Description**

An introduction to the various aspects of petroleum industry including equipment, systems, instrumentation, operations, and the various scientific principles. Addresses a variety of petroleum technologies: exploration, drilling, production, transportation, marketing, and chemical processing industries.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

### **PTRT1307 - Recovery and Production Methods** **Course Title**

Recovery and Production Methods

### **Academic Level**

Undergraduate

### **Description**

Petroleum recovery and production methods.

### **Lecture Hours**

2

### **Lab Hours**

4

### **Credits**

3

### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **PTRT1401 - Introduction to Petroleum Industry**

#### **Course Title**

Introduction to Petroleum Industry

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to the various aspects of petroleum industry including equipment, systems, instrumentation, operations, and the various scientific principles. Addresses a variety of petroleum technologies: exploration, drilling, production, transportation, marketing, and chemical processing industries.

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

### **PTRT1413 - Industrial Safety**

#### **Course Title**

Industrial Safety

#### **Academic Level**

Undergraduate

#### **Description**

An overview for petroleum and manufacturing workers of state/federal regulations and guidelines which require industrial safety training. Topics include the 29 C.F.R 1910, 1926 standards.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4



## 2023-2024 Catalog & Student Handbook

### **PTRT1471 - Downhole Tool Redressing**

#### **Course Title**

Downhole Tool Redressing

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified skills and knowledge pertinent to working in the oil and gas shop environments. This course has been designed to prepare a student for redressing the downhole tools used in the oil well servicing industry.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **PTRT2025 - Petroleum Safety and Environmental Hazar**

#### **Course Title**

Petroleum Safety and Environmental Hazar

#### **Academic Level**

Continuing Education

#### **Description**

Various hazards associated with the petroleum industry.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

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## **Speech**

## 2023-2024 Catalog & Student Handbook

### **SPCH1311 - Introduction to Speech Communication**

#### **Course Title**

Introduction to Speech Communication

#### **Academic Level**

Undergraduate

#### **Description**

Introduces basic human communication principles and theories embedded in a variety of contexts including interpersonal, small group, and public speaking.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SPCH1315 - Public Speaking**

#### **Course Title**

Public Speaking

#### **Academic Level**

Undergraduate

#### **Description**

Application of communication theory and practice to the public speaking context, with emphasis on audience analysis, speaker delivery, ethics of communication, cultural diversity, and speech organizational techniques to develop students' speaking abilities, as well as ability to effectively evaluate oral presentations.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **SPCH1318 - Interpersonal Communication**

#### **Course Title**

Interpersonal Communication

#### **Academic Level**

Undergraduate

#### **Description**

Application of communication theory to interpersonal relationship development, maintenance, and termination in relationship contexts including friendships, romantic partners, families, and relationships with co-workers and supervisors.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SPCH1321 - Business & Professional Communication**

#### **Course Title**

Business & Professional Communication

#### **Academic Level**

Undergraduate

#### **Description**

Study and application of communication within the business and professional context. Special emphasis will be given to communication competencies in presentations, dyads, teams and technologically mediated formats.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

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**Surg Tech**

## 2023-2024 Catalog & Student Handbook

### **SRGT1244 - Technological Sciences for the Surgical Technologist**

#### **Course Title**

Technological Sciences for the Surgical Technologist

#### **Academic Level**

Undergraduate

#### **Description**

Specialized surgical modalities covered include endoscopy, microsurgery, therapeutic surgical energies, and other integrated science technologies.

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Credits**

2

#### **Semester Credit Hours**

2

### **SRGT1405 - Introduction to Surgical Technology**

#### **Course Title**

Introduction to Surgical Technology

#### **Academic Level**

Undergraduate

#### **Description**

Orientation to surgical technology theory, surgical pharmacology and anesthesia, and patient care concepts.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **SRGT1409 - Fundamentals of Perioperative Concepts and Techniques**

#### **Course Title**

Fundamentals of Perioperative Concepts and Techniques

#### **Academic Level**

Undergraduate

#### **Description**

In-depth coverage of aseptic technique principles and practices, infectious processes, wound healing and creation and maintenance of the sterile field.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

### **SRGT1441 - Surgical Procedures I**

#### **Course Title**

Surgical Procedures I

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the general, OB/GYN genitourinary, and orthopedic surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **SRGT1442 - Surgical Procedures II**

#### **Course Title**

Surgical Procedures II

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the thoracic, peripheral vascular, plastic/reconstructive , EENT, cardiac, and neurological surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

#### **Lecture Hours**

3

#### **Lab Hours**

3

#### **Credits**

4

#### **Semester Credit Hours**

4

### **SRGT1460 - Clinical - Surgical Technology/Technologist**

#### **Course Title**

Clinical - Surgical Technology/Technologist

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **SRGT1461 - Clinical - Surgical Technology/Technologist**

#### **Course Title**

Clinical - Surgical Technology/Technologist

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - SRGT1491 - Special Topics in Surgical/Operating Room TECHNICIAN (4)

### **SRGT1491 - Special Topics in Surgical/Operating Room TECHNICIAN**

#### **Course Title**

Special Topics in Surgical/Operating Room TECHNICIAN

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

3

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **SRGT1541 - Surgical Procedures I**

#### **Course Title**

Surgical Procedures I

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the general, OB/GYN, genitourinary, otorhinolaryngology, and orthopedic surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

#### **Lecture Hours**

3

#### **Lab Hours**

6

#### **Credits**

5

#### **Semester Credit Hours**

5

### **SRGT1542 - Surgical Procedures II**

#### **Course Title**

Surgical Procedures II

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the cardiothoracic, peripheral vascular, plastic/reconstructive, ophthalmology, oral/maxillofacial, and neurological surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

#### **Lecture Hours**

3

#### **Lab Hours**

6

#### **Credits**

5

#### **Semester Credit Hours**

5



## 2023-2024 Catalog & Student Handbook

### **SRGT2130 - Professional Readiness**

#### **Course Title**

Professional Readiness

#### **Academic Level**

Undergraduate

#### **Description**

Overview of professional readiness for employment, attaining certification, and maintaining certification status.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **SRGT2462 - Clinical - Surgical Technology/Technologist**

#### **Course Title**

Clinical - Surgical Technology/Technologist

#### **Academic Level**

Undergraduate

#### **Description**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - SRGT1461 - Clinical - Surgical Technology/Technologist (4)

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## Surveying

## 2023-2024 Catalog & Student Handbook

### **SRVY1313 - Plane Surveying**

#### **Course Title**

Plane Surveying

#### **Academic Level**

Undergraduate

#### **Description**

An introductory overview of surveying equipment and measurement techniques used in mapping. Emphasis on leveling and traversing.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **SRVY1341 - Land Surveying**

#### **Course Title**

Land Surveying

#### **Academic Level**

Undergraduate

#### **Description**

A study of the measurement and determination of boundaries, areas, shapes, location through traversing techniques. Instruction in a variety of adjustment methods using calculators and computers. Addresses methods of traversing and adjustment of errors according to prevailing professional standards.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **SRVY2348 - Plane Surveying**

#### **Course Title**

Plane Surveying

#### **Academic Level**

Undergraduate

#### **Description**

Surveying instruments, basic measuring procedures, vertical and horizontal control, and traverse closure.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Teacher Education

### **EDTC1090 - Systematic Curr. & Inst. Dev**

#### **Course Title**

Systematic Curr. & Inst. Dev

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **EDTC1164 - Practicum (or Field Experience) - Teacher Assistant/Aide**

#### **Course Title**

Practicum (or Field Experience) - Teacher Assistant/Aide

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

1

#### **Semester Credit Hours**

1

### **EDTC1301 - Educational Systems**

#### **Course Title**

Educational Systems

#### **Academic Level**

Undergraduate

#### **Description**

A study of the role and responsibilities of educational personnel with emphasis on development of professionalism and communication strategies. Topics include the various codes of ethics governing the educational field, the issue of confidentiality, learners' rights and responsibilities, and challenges facing schools.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **EDTC1307 - Introduction to Teaching Reading**

#### **Course Title**

Introduction to Teaching Reading

#### **Academic Level**

Undergraduate

#### **Description**

General principles of reading instruction. Topics include emergent literacy, reading readiness, reading instruction, literacy-based environments, and a review of varied materials and techniques for teaching reading.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **EDTC1321 - Bilingual Education**

#### **Course Title**

Bilingual Education

#### **Academic Level**

Undergraduate

#### **Description**

An overview of bilingual education. Topics include awareness of cultural diversity, assessment strategies, teaching techniques, instructional activity development, and historical/philosophical concepts of bilingual/bicultural education.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **EDTC1325 - Multicultural Education**

#### **Course Title**

Multicultural Education

#### **Academic Level**

Undergraduate

#### **Description**

An examination of cultural diversity found in society and reflected in the classroom. Topics include the study of major cultures and their influence on lifestyle, behavior, learning, intercultural communication and teaching, as well as psychosocial stressors encountered by diverse cultural groups.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

### **EDTC1341 - Instructional Technology and Computer Applications**

#### **Course Title**

Instructional Technology and Computer Applications

#### **Academic Level**

Undergraduate

#### **Description**

Examination of specialized educational technology. Topics include the integration of educational computer terminology, system operations, software, and multimedia in the contemporary classroom environment.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **EDTC1364 - Practicum (or Field Experience) - Teacher Assistant/Aide**

#### **Course Title**

Practicum (or Field Experience) - Teacher Assistant/Aide

#### **Academic Level**

Undergraduate

#### **Description**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **EDTC1373 - Writing Problems**

#### **Course Title**

Writing Problems

#### **Academic Level**

Undergraduate

#### **Description**

An in depth coverage of writing difficulties at the elementary level. Emphasis will be on the foundations and theories of writing at the elementary level, required curriculum to be taught, instructional techniques to utilize with students, models of teaching students, assessment techniques, and lesson planning strategies useful in working with the elementary student.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **EDTC1374 - Teaching Math & Science in the Elementary School**

#### **Course Title**

Teaching Math & Science in the Elementary School

#### **Academic Level**

Undergraduate

#### **Description**

Practical approaches for introducing math and science concepts in an elementary classroom lab environment with an emphasis on problem solving, inquiry, and critical thinking. Topics include basic math and science concepts and properties, diagnostic testing, pedagogy, and recognizing and recommending corrective teaching strategies.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **EDTC1375 - Issues in Special Needs Education**

#### **Course Title**

Issues in Special Needs Education

#### **Academic Level**

Undergraduate

#### **Description**

An examination of current research, federal and state regulations, and programs for students with exceptionalities within the public school environment. Topics address methods for supporting instructional planning and the implementation of program goals and objectives.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3



## 2023-2024 Catalog & Student Handbook

### **EDTC2000 - Verbal and Physical Conflict Resolution**

#### **Course Title**

Verbal and Physical Conflict Resolution

#### **Academic Level**

Continuing Education

#### **Description**

Intensive training in an identified area(s) to meet continuing education and/or review/update requirements associated with professional licensure or certification. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **EDTC2305 - Reading Problems**

#### **Course Title**

Reading Problems

#### **Academic Level**

Undergraduate

#### **Description**

In-depth coverage of reading difficulties. Emphasis on the theories, strategies, recognition, and remediation of reading problems. Topics include assessment, direct instruction, and motivational/interactive literacy activities.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **EDTC2311 - Instructional Practices and Effective Learning Environments**

#### **Course Title**

Instructional Practices and Effective Learning Environments

#### **Academic Level**

Undergraduate

#### **Description**

General principles for selecting developmentally appropriate strategies in core curriculum areas, planning the classroom environment, and instructional accommodations and modifications.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **EDTC2317 - Guiding Student Behavior**

#### **Course Title**

Guiding Student Behavior

#### **Academic Level**

Undergraduate

#### **Description**

Developmentally appropriate and indirect guidance techniques for use in various school environments. Topics include identifying causes of inappropriate behavior, establishing and managing routines, the environment's role in promoting positive behavior, promoting self-esteem negotiation/conflict resolution strategies, and enhancing positive self-direction. Emphasis in implementation of a behavior management plan.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Visual & Performing Art, Animt**

## 2023-2024 Catalog & Student Handbook

### **ARTV1345 - 3-D Modeling and Rendering I**

#### **Course Title**

3-D Modeling and Rendering I

#### **Academic Level**

Undergraduate

#### **Description**

Techniques of three-dimensional (3-D) modeling utilizing industry standard software. Includes the creation and modification of 3-D geometric shapes, use of a variety of rendering techniques, camera, light sources, texture, and surface mapping.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTC1302 - Digital Imaging I (3)

### **ARTV1351 - Digital Video**

#### **Course Title**

Digital Video

#### **Academic Level**

Undergraduate

#### **Description**

Producing and editing video and sound for multimedia or web productions. Emphasizes capture, editing, and outputting of video using a digital video workstation.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ARTV2341 - Advanced Digital Video**

#### **Course Title**

Advanced Digital Video

#### **Academic Level**

Undergraduate

#### **Description**

Advanced digital video techniques for post-production. Emphasizes integration of special effects and animation for film, video, and the Internet. Exploration of new and emerging compression and video streaming technologies.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - ARTV1351 - Digital Video (3)

### **ARTV2345 - 3-D Modeling and Rendering II**

#### **Course Title**

3-D Modeling and Rendering II

#### **Academic Level**

Undergraduate

#### **Description**

A studio course focused on advanced 3-D modeling and rendering techniques using industry standard software, modeling techniques, camera settings, lighting, and surfacing to develop detailed environments.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **ARTV2351 - 3-D Animation II**

#### **Course Title**

3-D Animation II

#### **Academic Level**

Undergraduate

#### **Description**

Advanced level 3-D course utilizing animation tools and techniques used to develop movement. Emphasis on advanced animation techniques. null APRIL 17 2009 03:17pm Saucedo, Elizabeth null

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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## **Welder/Welding Technologist**

## 2023-2024 Catalog & Student Handbook

### **NDTE1310 - Liquid Penetrant/Magnetic Particle Testing**

#### **Course Title**

Liquid Penetrant/Magnetic Particle Testing

#### **Academic Level**

Undergraduate

#### **Description**

Identify and select proper materials and equipment to perform a liquid penetrant test of a weldment; interpret the results of a liquid penetrant test to ascertain acceptability of the weldment; demonstrate knowledge of safety precautions relative to fire and toxic hazards; and identify and properly select equipment used in magnetic particle testing. Demonstrate knowledge of the principles of magnetic particle, magnetic fields, current requirements for testing and demagnetization; perform a magnetic particle examination on a weldment, following established procedures; and interpret the results of the above test to ascertain acceptability of the weldment.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)

### **NDTE2001 - Advanced Ultrasonics**

#### **Course Title**

Advanced Ultrasonics

#### **Academic Level**

Continuing Education

#### **Description**

Designed to strengthen the students' knowledge and skills in ultrasonic testing. Emphasis is on examination of plate and pipe welds, characterization of flaws, immersion testing, written practices, and procedures.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **NDTE2311 - Preparation Welding Inspection (2-2-3)**

#### **Course Title**

Preparation Welding Inspection (2-2-3)

#### **Academic Level**

Undergraduate

#### **Description**

General principles of welding inspection including welding processes, terms and definitions, welding discontinuities, duties and responsibilities of inspectors, destructive and nondestructive testing, quality assurance/ quality control, welding codes and blueprints, procedures, and case studies. An overview of welding tools and equipment, metallurgy, chemistry, and joint design. '

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

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## Welding

### **WLDG1004 - Fundamentals of Oxy-Fuel Welding & Cutti**

#### **Course Title**

Fundamentals of Oxy-Fuel Welding & Cutti

#### **Academic Level**

Continuing Education

#### **Description**

Oxy-fuel welding and cutting equipment. Includes equipment safety, setup, and maintenance.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WLDG1007 - Intro Welding Using Multiple Processes**

#### **Course Title**

Intro Welding Using Multiple Processes

#### **Academic Level**

Continuing Education

#### **Description**

An overview of the basic welding processes, including oxy-fuel welding and cutting, shielded metal arc (SMAW), gas metal arc (GMAW), and gas tungsten arc welding (GTAW).

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **WLDG1012 - Introduction to Flux Cored Arc Welding**

#### **Course Title**

Introduction to Flux Cored Arc Welding

#### **Academic Level**

Continuing Education

#### **Description**

An overview of terminology, safety procedures, and equipment set-up. Practice in performing T-joints, lap joints, and butt joints using self-shielding and dual-shield electrodes.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0



## 2023-2024 Catalog & Student Handbook

### **WLDG1017 - Introduction to Layout and Fabrication**

#### **Course Title**

Introduction to Layout and Fabrication

#### **Academic Level**

Continuing Education

#### **Description**

A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction.

#### **Lecture Hours**

10

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **WLDG1021 - Intro to Welding Fundamentals**

#### **Course Title**

Intro to Welding Fundamentals

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WLDG1023 - Welding Safety, Tools, & Equip**

#### **Course Title**

Welding Safety, Tools, & Equip

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to welding careers and safety practice, including welding safety; OSHA and the Hazardous Communication Act; Material Safety Data Sheets (MSDS); basic mathematics; measuring systems; shop operations; use and care of precision measuring tools; and the use and care of hand and power tools. Instruction on various types of welding equipment and processes, basic welding gases, fluxes, rods, electrodes, symbols, and blueprints.

#### **Lecture Hours**

4

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **WLDG1025 - Intro Oxy-Fuel Wldg & Cutting**

#### **Course Title**

Intro Oxy-Fuel Wldg & Cutting

#### **Academic Level**

Continuing Education

#### **Description**

An Introduction to Oxy-Fuel Welding and Cutting, Safety, Setup And Maintenance of Oxy-Fuel Welding, and Cutting Equipment and Supplies.

#### **Lecture Hours**

1

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WLDG1028 - Intro to Shielded Arc Welding (smaw)**

#### **Course Title**

Intro to Shielded Arc Welding (smaw)

#### **Academic Level**

Continuing Education

#### **Description**

An introduction to shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **WLDG1030 - Introduction to Gas Metal Arc Welding (g**

#### **Course Title**

Introduction to Gas Metal Arc Welding (g

#### **Academic Level**

Continuing Education

#### **Description**

A study of the principles of gas metal arc welding, setup and use of Gas Metal Arc Welding (GMAW) equipment, and safe use of tools/equipment. Instruction in various joint designs.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **WLDG1035 - Intro to Pipe Welding**

#### **Course Title**

Intro to Pipe Welding

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WLDG1041 - Pipe Welding** **Course Title**

Pipe Welding

### **Academic Level**

Continuing Education

### **Description**

This course covers pipe welding techniques and applications.

### **Lecture Hours**

0

### **Lab Hours**

5

### **Semester Credit Hours**

0

### **WLDG1057 - Intermediate Smaw** **Course Title**

Intermediate Smaw

### **Academic Level**

Continuing Education

### **Description**

A Study of the Production of Various Fillets and Groove Welds. Preparation of Specimens for Testing in All Test Positions.

### **Lecture Hours**

1

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WLDG1072 - Welding Internship**

#### **Course Title**

Welding Internship

#### **Academic Level**

Continuing Education

#### **Description**

A basic, intermediate, or advanced type of non-health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Direct supervision is provided by the faculty or the work supervisor. An internship may be a paid or unpaid learning experience.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **WLDG1091 - Special Topics in Welding**

#### **Course Title**

Special Topics in Welding

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

2

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WLDG1313 - Introduction to Blueprint Reading for Welders**

#### **Course Title**

Introduction to Blueprint Reading for Welders

#### **Academic Level**

Undergraduate

#### **Description**

A study of industrial blueprints. Emphasis placed on terminology, symbols, graphic description, and welding processes. Includes systems of measurement and industry standards. Also includes interpretation of plans and drawings used by industry to facilitate field application and production.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - WLDG1313 - Introduction to Blueprint Reading for Welders (3)

#### **Corequisites**

- Completed or concurrently enrolled in:
  - WLDG1313 - Introduction to Blueprint Reading for Welders (3)

## 2023-2024 Catalog & Student Handbook

### **WLDG1327 - Welding Codes and Standards**

#### **Course Title**

Welding Codes and Standards

#### **Academic Level**

Undergraduate

#### **Description**

An in-depth study of welding codes and their development in accordance with structural standards, welding processes, destructive and nondestructive test methods.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)

### **WLDG1337 - Introduction to Welding Metallurgy**

#### **Course Title**

Introduction to Welding Metallurgy

#### **Academic Level**

Undergraduate

#### **Description**

A study of ferrous and nonferrous metals from the ore to the finished product. Emphasis on metal alloys, heat treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **WLDG1391 - Special Topics in Welder/Welding Technologist** **Course Title**

Special Topics in Welder/Welding Technologist

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **WLDG1407 - Introduction to Welding Using Multiple Processes** **Course Title**

Introduction to Welding Using Multiple Processes

#### **Academic Level**

Undergraduate

#### **Description**

Basic welding techniques using some of the following processes: Oxy-fuel welding (OFW) and cutting, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and gas tungsten arc welding (GTAW).

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4



## 2023-2024 Catalog & Student Handbook

### **WLDG1412 - Intro to Flux Cored Arc Welding (fcaw)**

#### **Course Title**

Intro to Flux Cored Arc Welding (fcaw)

#### **Academic Level**

Undergraduate

#### **Description**

An overview of terminology, safety procedures, and equipment set-up. Practice in performing T-joints, lap joints, and butt joints using Flux Cored Arc Welding(FCAW) equipment.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **WLDG1417 - Introduction to Layout and Fabrication**

#### **Course Title**

Introduction to Layout and Fabrication

#### **Academic Level**

Undergraduate

#### **Description**

A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG1313 - Introduction to Blueprint Reading for Welders (3)

## 2023-2024 Catalog & Student Handbook

### **WLDG1428 - Introduction to Shielded Metal Arc Welding (SMAW)**

#### **Course Title**

Introduction to Shielded Metal Arc Welding (SMAW)

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to the shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

### **WLDG1434 - Introduction to Gas Tungsten Arc (GTAW) Welding**

#### **Course Title**

Introduction to Gas Tungsten Arc (GTAW) Welding

#### **Academic Level**

Undergraduate

#### **Description**

Principles of gas tungsten arc welding (GTAW), including setup, GTAW equipment. Instruction in various positions and joint designs.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG1407 - Introduction to Welding Using Multiple Processes (4)

## 2023-2024 Catalog & Student Handbook

### **WLDG1435 - Introduction to Pipe Welding**

#### **Course Title**

Introduction to Pipe Welding

#### **Academic Level**

Undergraduate

#### **Description**

An introduction to welding of pipe using the shielded metal arc welding process (SMAW), including electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 1G and 2G using various electrodes.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG2435 - Advanced Layout and Fabrication (4)

### **WLDG1453 - Intermediate Layout & Fabrication**

#### **Course Title**

Intermediate Layout & Fabrication

#### **Academic Level**

Undergraduate

#### **Description**

An intermediate course in layout and fabrication. Includes design and production of shop layout and fabrication. Emphasis placed on symbols, blueprints, and written specifications

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **WLDG1457 - Intermediate Shielded Metal Arc Welding (SMAW)**

#### **Course Title**

Intermediate Shielded Metal Arc Welding (SMAW)

#### **Academic Level**

Undergraduate

#### **Description**

A study of the production of various fillets and groove welds. Preparation of specimens for testing in various positions.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG1428 - Introduction to Shielded Metal Arc Welding (SMAW) (4)

### **WLDG2032 - Welding Automation**

#### **Course Title**

Welding Automation

#### **Academic Level**

Continuing Education

#### **Description**

Overview of automated welding and cutting applications. Special emphasis on safe use and operation of equipment.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WLDG2043 - Advanced Smaw** **Course Title**

Advanced Smaw

### **Academic Level**

Continuing Education

### **Description**

Advanced Topics Based on Accepted Welding Codes. Training Provided With Various Electrodes in Shielded Metal Arc Welding Processes With Open V-Groove Joints in All Positions.

### **Lecture Hours**

1

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **WLDG2047 - Advanced Gas Metal Arc Welding (gmaw)** **Course Title**

Advanced Gas Metal Arc Welding (gmaw)

### **Academic Level**

Continuing Education

### **Description**

Advanced topics in Gas Metal Arc Welding (GMAW). Includes welding in various positions.

### **Lecture Hours**

6

### **Lab Hours**

0

### **Semester Credit Hours**

0

### **WLDG2051 - Adv Gas Tungsten Arc Welding** **Course Title**

Adv Gas Tungsten Arc Welding

### **Academic Level**

Continuing Education

### **Lecture Hours**

0

### **Lab Hours**

0

### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WLDG2052 - Advanced Flux Cored Arc Welding**

#### **Course Title**

Advanced Flux Cored Arc Welding

#### **Academic Level**

Continuing Education

#### **Description**

Advanced concepts of flux cored arc welding of structural and fabricated steel products. Skill development in multi-pass fillet and v-groove welding.

#### **Lecture Hours**

6

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **WLDG2331 - Adv Blueprint Interpretation & Cost Anal Cost Analysis**

#### **Course Title**

Adv Blueprint Interpretation & Cost Anal Cost Analysis

#### **Academic Level**

Undergraduate

#### **Description**

A continuation of the Blueprint for Welders course. Emphasis placed on inspection, cost analysis, and estimating.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

## 2023-2024 Catalog & Student Handbook

### **WLDG2355 - Advanced Metallurgy**

#### **Course Title**

Advanced Metallurgy

#### **Academic Level**

Undergraduate

#### **Description**

Advanced study of metallurgy as it applies to welding. Includes structure, identification, and testing of metals. Also covers temperature changes and their effect on welded metals, properties of metals, and factors affecting weldability of ferrous and nonferrous metals.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

### **WLDG2406 - Intermediate Pipe Welding**

#### **Course Title**

Intermediate Pipe Welding

#### **Academic Level**

Undergraduate

#### **Description**

A comprehensive course on the welding of pipe using the shielded metal arc welding (SMAW) process. Welds will be done using various positions. Topics covered include electrode selection, equipment setup, and safe shop practices.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG2435 - Advanced Layout and Fabrication (4)

## 2023-2024 Catalog & Student Handbook

### **WLDG2413 - Intermediate Welding Using Multiple Processes**

#### **Course Title**

Intermediate Welding Using Multiple Processes

#### **Academic Level**

Undergraduate

#### **Description**

Instruction using layout tools and blueprint reading with demonstration and guided practices with some of the following welding processes: Oxy-fuel gas cutting and welding, shield metal arc welding (SMAW), gas metal arc welding (GMAW), flux-cored arc welding (FCAW), gas tungsten arc welding (GTAW), or any other approved welding process.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG1407 - Introduction to Welding Using Multiple Processes (4)

### **WLDG2432 - Welding Automation**

#### **Course Title**

Welding Automation

#### **Academic Level**

Undergraduate

#### **Description**

Overview of automated welding and cutting applications. Special emphasis on safe use and operation of equipment

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)



## 2023-2024 Catalog & Student Handbook

### **WLDG2435 - Advanced Layout and Fabrication**

#### **Course Title**

Advanced Layout and Fabrication

#### **Academic Level**

Undergraduate

#### **Description**

An advanced course in layout and fabrication. Includes production and fabrication of layout, tools, and processes. Emphasis on application of fabrication and layout skills.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG1417 - Introduction to Layout and Fabrication (4)

### **WLDG2443 - Advanced Shielded Metal Arc Welding (SMAW)**

#### **Course Title**

Advanced Shielded Metal Arc Welding (SMAW)

#### **Academic Level**

Undergraduate

#### **Description**

Advanced topics based on accepted welding codes. Training provided with various electrodes in shielded metal arc welding processes with open V-groove joints in all positions.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG1457 - Intermediate Shielded Metal Arc Welding (SMAW) (4)

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### **WLDG2447 - Advanced Gas Metal Arc Welding (gmaw)**

#### **Course Title**

Advanced Gas Metal Arc Welding (gmaw)

#### **Academic Level**

Undergraduate

#### **Description**

Advanced topics in Gas Metal Arc Welding (GMAW). Includes welding in various positions.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)

### **WLDG2451 - Advanced Gas Tungsten Arc Welding (gtaw)**

#### **Course Title**

Advanced Gas Tungsten Arc Welding (gtaw)

#### **Academic Level**

Undergraduate

#### **Description**

Advanced Topics in GTAW welding, including positions and directions.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)

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### **WLDG2452 - Advanced Flux Cored Arc Welding**

#### **Course Title**

Advanced Flux Cored Arc Welding

#### **Academic Level**

Undergraduate

#### **Description**

Advanced concepts of flux cored arc welding of structural and fabricated steel products. Skill development of multi-pass fillet and v-groove welding.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG2413 - Intermediate Welding Using Multiple Processes (4)

### **WLDG2453 - Advanced Pipe Welding**

#### **Course Title**

Advanced Pipe Welding

#### **Academic Level**

Undergraduate

#### **Description**

Advanced topics involving welding of pipe using the shielded metal arc welding (SMAW) process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes.

#### **Lecture Hours**

2

#### **Lab Hours**

6

#### **Credits**

4

#### **Semester Credit Hours**

4

#### **Prerequisites**

- Complete the following:
  - WLDG2435 - Advanced Layout and Fabrication (4)

## 2023-2024 Catalog & Student Handbook

### **WIND1000 - Introduction to Wind Energy**

#### **Course Title**

Introduction to Wind Energy

#### **Academic Level**

Continuing Education

#### **Description**

Introduction of the evolution of wind technology, wind farm design, and characteristics of energy sources.

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

### **WIND1002 - Wind Safety**

#### **Course Title**

Wind Safety

#### **Academic Level**

Continuing Education

#### **Description**

Introduction to safety procedures and practices relating to turbine towers. Includes first aid training and CPR certifications.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WIND1300 - Introduction to Wind Energy**

#### **Course Title**

Introduction to Wind Energy

#### **Academic Level**

Undergraduate

#### **Description**

Introduction of wind technology, wind farm design, and wind power delivery.

#### **Lecture Hours**

3

#### **Lab Hours**

0

#### **Credits**

3

#### **Semester Credit Hours**

3

### **WIND1302 - Wind Safety**

#### **Course Title**

Wind Safety

#### **Academic Level**

Undergraduate

#### **Description**

Introduction to safety procedures and practices relating to turbine towers. Includes first aid training and CPR certifications.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

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### **WIND1371 - Safety At Height Training**

#### **Course Title**

Safety At Height Training

#### **Academic Level**

Undergraduate

#### **Description**

Develop basic safety at height skills, gain knowledge of how to react to dangerous situations in the turbine, and learn emergency evacuation skills.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1325 - Digital Fundamentals (3)

### **WIND1391 - Special Topics in Wind Energy**

#### **Course Title**

Special Topics in Wind Energy

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

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### **WIND1491 - Special Topics in Wind Energy**

#### **Course Title**

Special Topics in Wind Energy

#### **Academic Level**

Undergraduate

#### **Description**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

### **WIND2010 - Turbine Specific/Duke Energy Tech. Train**

#### **Course Title**

Turbine Specific/Duke Energy Tech. Train

#### **Academic Level**

Continuing Education

#### **Lecture Hours**

0

#### **Lab Hours**

0

#### **Semester Credit Hours**

0

## 2023-2024 Catalog & Student Handbook

### **WIND2310 - Wind Turbine Materials and Electro-Mechanical Equipment**

#### **Course Title**

Wind Turbine Materials and Electro-Mechanical Equipment

#### **Academic Level**

Undergraduate

#### **Description**

Identification and analysis of the components and systems of wind turbine.

#### **Lecture Hours**

2

#### **Lab Hours**

2

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - WIND1300 - Introduction to Wind Energy (3)
  - WIND1302 - Wind Safety (3)
  - CETT1303 - DC Circuits (3)

### **WIND2355 - Wind Turbine Troubleshooting and Repair**

#### **Course Title**

Wind Turbine Troubleshooting and Repair

#### **Academic Level**

Undergraduate

#### **Description**

Operation, maintenance, troubleshooting, and repair of wind turbine electro-mechanical systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1305 - AC Circuits (3)
  - INMT1317 - Industrial Automation (3)



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### **WIND2359 - Wind Power Delivery System**

#### **Course Title**

Wind Power Delivery System

#### **Academic Level**

Undergraduate

#### **Description**

Components, equipment, and infrastructure used in the production and transmission of electricity as related to wind turbine power.

#### **Lecture Hours**

2

#### **Lab Hours**

3

#### **Credits**

3

#### **Semester Credit Hours**

3

#### **Prerequisites**

- Complete the following:
  - CETT1305 - AC Circuits (3)

### **WIND2455 - Wind Turbine Troubleshooting and Repair**

#### **Course Title**

Wind Turbine Troubleshooting and Repair

#### **Academic Level**

Undergraduate

#### **Description**

Operation, maintenance, troubleshooting, and repair of wind turbine electro-mechanical systems.

#### **Lecture Hours**

2

#### **Lab Hours**

4

#### **Credits**

4

#### **Semester Credit Hours**

4

## 2023-2024 Catalog & Student Handbook

### **WIND2459 - Wind Power Delivery System**

#### **Course Title**

Wind Power Delivery System

#### **Academic Level**

Undergraduate

#### **Description**

Components, equipment, and infrastructure used in the production and transmission of electricity as related to wind turbine power.

#### **Lecture Hours**

3

#### **Lab Hours**

2

#### **Credits**

4

#### **Semester Credit Hours**

4

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