



### Outcome-based 19/SP Course Syllabus

**Course Rubric Number Section:** ABDR 1349 20H1  
**Lecture-Lab-Credit:** 2-3-3  
**CIP Code:** 47.0603  
**Course Title:** Automotive Plastic and Sheet Molded Compound Repair  
**Course Description:** A comprehensive course in repair of interior and exterior plastics including the use of various types of adhesives.  
**Prerequisites:**  
**Co-requisites:**  
**Course Meets:** 200F 109 LEC MT 08:00AM 09:00AM 200F 112 LAB WTHF 08:00AM 09:00AM  
**Instructor:** Joseph Cantu  
**Office Phone Number:** 956-364-4825  
**Email Address:** jcantu18@tstc.edu  
**Office Fax Number:** 956-364-5159  
**Building & Office Room Number:** Bldg. F 109  
**Office Hours:** 9-10am M-F

<b>Approved by:</b>	Clint Campbell	<b>Date:</b>	2018-12-17
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#### Course Outcomes

- CO1:** Identify various types of automotive plastics
- CO2:** Repair various types of automotive plastics using approved product manufacturer's recommendations and use of adhesives

#### TSTC Grading Policy

(Grades for courses must be C or better)

Grade	Percent	Description	Grade Points
A	90-100	Excellent/Superior Performance Level	4
B	80-89	Above Required Performance Level	3
C	70-79	Minimum Required Performance Level	2
D	60-69	Below Required Performance Level	1
F	Below 60	Failure to meet Performance Requirements	0
IP	--	In Progress	
W	--	Withdrawal	0
CR	--	Credit	0
AUD	--	Audit of Course	0

See College Catalog for complete descriptions.

#### Competencies Rating Scale

Rating Scale Key			
6	90+	Proficient	Student consistently performs the task accurately to industry

			standards without supervision.
5	80-89	Proficient	Student performs the task to industry standards with no supervision.
4	70-79	Proficient	Student performs the task to industry standards with little supervision. This is the minimum performance rating for STAR skill completion.
3	60-69	Exposed/Not Proficient	Student has been introduced to the task and can perform some of the tasks to industry standards.
2	50-59	Exposed/Not Proficient	Student has been introduced to the task, but cannot perform the task to industry standards.
1	0-49		Student was absent or did not complete assignment.

## Campus Standard Policies

The [Student Handbook](#) contains valuable information on campus policies and procedures.

- Student Code of Conduct
- Student Drug and Alcohol Testing Policy
- Plagiarism
- Student Grievances and Complaints

## Disability Services

Any student who, because of a disability, may require special accommodations in order to meet the course requirements, should contact the Disability Services office, as soon as possible, to make necessary arrangements. Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from the Disability Services office has been provided.

### Abilene Campus

Susan Hash  
Testing and Support Services  
Abilene Main Campus Bldg. Rm. 112  
325-734-3641

### Fort Bend Campus

Schauna Boynton  
Brazos Center Rm. 113  
346-239-3394

### Sweetwater Campus

Misty Walden  
Disability Services  
Student Support Services  
Lance Sears Building Rm. 140  
325-236-8292

### Breckenridge Campus

Lisa Langford  
Testing and Advisement located in  
The Main Building Rm. 106  
254-559-7731

### Harlingen Campus

Corina De La Rosa  
Disabilities Services  
Student Support Services  
Student Services Bldg. Rm. 216  
956-364-4521

### North Texas Campus

Amanda Warren  
Student Services, Room 227  
972-617-4724

### Brownwood Campus

Nicole Whitley  
Testing and Advisement  
Building 2 Rm. 120  
325-641-5955

### Marshall Campus

Annette Ellis  
Administration and Admissions Rm. 150  
909-923-3313

### Waco Campus

Marilyn Harren  
Disabilities Services Office  
Student Services Center Rm. 198  
254-867-3600

### Williamson County

Chemese Armstrong  
Enrollment Services Rm. B113C  
512-759-5907

## Tutoring Statement

The Supplemental Instruction & Tutoring Program at TSTC offers free tutoring and academic support services to help you achieve your academic and career goals. You can access the Tutoring Schedule, as well as *MyTSTC Video Tutor Library*, by visiting: [https://portal.tstc.edu/student/Student\\_Learning/Pages/Tutoring.aspx](https://portal.tstc.edu/student/Student_Learning/Pages/Tutoring.aspx) (shortened link: [goo.gl/Z9vJvY](https://goo.gl/Z9vJvY)). For more information, please contact Norma A. Salazar@ [956-364-4557](tel:956-364-4557).

## Learning Resource Center

The purpose of the TSTC Learning Resource Center is to serve the TSTC Community and support academic, advanced, specialized and emerging programs, contributing to the educational and economic development of the State of Texas. For access to online library resources, databases and services visit the Learning Resource Center on the TSTC Portal or go to [tstc.libguides.com](http://tstc.libguides.com).

## Resources

**Textbooks & Publications:**

Item	Title	Author	Publisher	Edition	ISBN
1	Collision Repair and Refinishing (Not required)	Alfred M. Thomas, Michael Jund	Delmar	First	9781401889944
2	ABDR 1349 Plastics Repair	Auto Collision & Management	TSTC	Workbook	SKU# 10412299

**Tools, Materials:**

Item	Resource	Quantity
1	Safety Glasses (Clear Lenses)	1-(One Pair)
2	Sanding Block ( 2 3/4" x 5")	1
3	Putty Knife (1 1/2" to 2")	1
4	Paint Brush (2")	2
5	Nitrile Gloves	1-Box
6	Solvent Resistant Gloves	1-Pair
7	Mixing Board or Tear-off Sheets	1
8	Shredder (Stanley 298/299B)	1
9	Plastic Spreaders (3" Wide)	10
10	Particle Mask	1-Box or 12 minimum
11	Long Sanding Board	1
12	Fiberglass Saturation Roller ( 3" )	1
13	Retractable Measuring Tape ( Combination Standard /Metric)	1 3 ft/1M or longer
14	Tool Box	1
15	Shop Apron (optional)	1
16	Standard pencil	2

Grade Scheme		
Category Description	Category Value	
lecture	33.3%	
<b>Assessment Label:</b>	<b>Assessment Description</b>	<b>Assessment Value</b>
Test 1: Safety Test:	Test	3.33%
Test 10: Door Skin Replacement:	Test	3.33%
Test 2: Identifying Plastics:	Test	3.33%
Test 3: Plastic Welding:	Test	3.33%
Test 4: Repair Replace:	Test	3.33%
Test 5: Non-Fiber Reinforced Plastic:	Test	3.33%
Test 6:Fiber Reinforced:	Test	3.33%
Test 7: One Sided SMC Repairs:	Test	3.33%
Test 8:Two Sided SMC Repairs:	Test	3.33%
Test 9: Panel Replacement / Sectioning:	Test	3.33%
<b>Category Description</b>	<b>Category Value</b>	
lab	33.3%	
<b>Assessment Label:</b>	<b>Assessment Description</b>	<b>Assessment Value</b>
Bumper Cover Onesided Repair:	Lab Objective	3.00%
Bumper Cover Two Sided Repair:	Lab Objective	3.00%
Fiberglass Lay-Up:	Lab Objective	3.00%
One Sided Fiberglass Repair:	Lab Objective	3.00%
Pinning:	Lab Objective	3.00%
Plastic Welding:	Lab Objective	3.00%
SMC Lay-Up:	Lab Objective	3.00%
SMC One Sided Repair:	Lab Objective	3.00%
SMC Sectioning:	Lab Objective	3.00%
SMC Two Sided Repair:	Lab Objective	3.00%
Two Sided Fiberglass Repair:	Lab Objective	3.30%
<b>Category Description</b>	<b>Category Value</b>	
final	33.3%	
<b>Assessment Label:</b>	<b>Assessment Description</b>	<b>Assessment Value</b>

Final Exam:	Test	33.30%
Total Assessment Percent		<b>99.90%</b>
Total Category Percent		<b>99.90%</b>
<b>A = 100-90</b>	<b>B = 89-80</b>	<b>C = 79-70</b>
	<b>D = 69-60</b>	<b>F = 59-0</b>

<b>Description of Graded Elements of the Course</b>			
<b>Assessment Label</b>	<b>Assessment Description/Course outcomes met</b>	<b>Assessment Value in Percent</b>	<b>% of Final Grade</b>
Test 1: Safety Test	Test <b>Course outcomes met: CO1, CO2</b>	3.33	3.33%
Test 2: Identifying Plastics	Test <b>Course outcomes met: CO1, CO2</b>	3.33	3.33%
Bumper Cover Onesided Repair	Lab Objective <b>Course outcomes met: CO1, CO2</b>	3.00	3.00%
Test 3: Plastic Welding	Test <b>Course outcomes met: CO1, CO2</b>	3.33	3.33%
Bumper Cover Two Sided Repair	Lab Objective <b>Course outcomes met: CO1, CO2</b>	3.00	3.00%
Test 4: Repair Replace	Test <b>Course outcomes met: CO1, CO2</b>	3.33	3.33%
Pinning	Lab Objective <b>Course outcomes met: CO1, CO2</b>	3.00	3.00%
Test 5: Non-Fiber Reinforced Plastic	Test <b>Course outcomes met: CO1, CO2</b>	3.33	3.33%
Fiberglass Lay-Up	Lab Objective <b>Course outcomes met: CO1, CO2</b>	3.00	3.00%
Test 6:Fiber Reinforced	Test <b>Course outcomes met: CO1, CO2</b>	3.33	3.33%
One Sided Fiberglass Repair	Lab Objective <b>Course outcomes met: CO1, CO2</b>	3.00	3.00%
Test 7: One Sided SMC Repairs	Test <b>Course outcomes met: CO1, CO2</b>	3.33	3.33%
Two Sided Fiberglass Repair	Lab Objective <b>Course outcomes met: CO2, CO1</b>	3.30	3.30%
Test 8:Two Sided SMC Repairs	Test <b>Course outcomes met: CO1, CO2</b>	3.33	3.33%
SMC Lay-Up	Lab Objective <b>Course outcomes met: CO1, CO2</b>	3.00	3.00%
Test 9: Panel Replacement / Sectioning	Test <b>Course outcomes met: CO1, CO2</b>	3.33	3.33%
SMC One Sided Repair	Lab Objective <b>Course outcomes met: CO1, CO2</b>	3.00	3.00%
Test 10: Door Skin Replacement	Test <b>Course outcomes met: CO2, CO1</b>	3.33	3.33%
SMC Two Sided Repair	Lab Objective <b>Course outcomes met: CO2, CO1</b>	3.00	3.00%
SMC Sectioning	Lab Objective <b>Course outcomes met: CO2, CO1</b>	3.00	3.00%
Plastic Welding	Lab Objective <b>Course outcomes met: CO1, CO2</b>	3.00	3.00%
Final Exam	Test <b>Course outcomes met: CO2, CO1</b>	33.30	33.30%
		<b>99.90</b>	<b>99.90%</b>

**Course Schedule**

Unit/ Week	Unit Description/Objectives	Assessment Label:Description	Due Date
1	Course Orientation, Overview & Syllabus Introduction.		
	<ul style="list-style-type: none"> <li>Course introduction and overview, with an emphasis on Program Policies, and Lab Safety Issues.</li> </ul>	<p><i>Course Orientation: Review program and class polices.</i>  <i>Lesson: Introduction to Plastic Repair</i></p> <p><b>Test 1: Safety Test:</b> Test</p> <p><i>Identify and Explain Safety Standards-Lab</i></p> <p><i>Homework: Read Identifying Plastic Parts; Chapter 1 in assigned work book for next week</i></p>	1st Lab
2	Identify Different Types of Plastic by their Characteristics.		
	<ul style="list-style-type: none"> <li>Explain and Demonstrate different methods of Plastics Identification.</li> </ul>	<p><i>Read: Types of Plastic Repair, from assigned work book.</i></p> <p><i>Lab - Issue Parts to be Repaired.</i></p> <p><i>Homework: Read Identifying Plastics Work Sheet (Continued) for next week.</i></p>	
3	Determine Level of Identification Needed.		
	<ul style="list-style-type: none"> <li>Explain and demonstrate the level of identification for a particular repair product or procedure.</li> </ul>	<p><i>Read: Plastic Memory, from assigned work book.</i></p> <p><b>Test 2: Identifying Plastics:</b> Test</p> <p><i>Start Repair Objectives in Lab</i></p> <p><i>Homework: Review Plastic Welding, from assigned work book for next week.</i></p> <p><b>Bumper Cover Onesided Repair:</b> Lab Objective</p>	<p>To be completed prior to next class period..</p> <p>To be completed prior to start of next repair objective.</p>
4	Plastic Welding		
	<ul style="list-style-type: none"> <li>Explain and demonstrate various types of Plastic welding Equipment, and the different types of welds that may be performed on different types of automotive plastics.</li> </ul>	<p><i>Read: Adhesive Repair, from assigned work book.</i></p> <p><b>Test 3: Plastic Welding:</b> Test</p> <p><i>Continue Repair Objectives: Fiberglass Lay-Up in Lab.</i></p> <p><i>Homework: Read Repair Materials, from assigned work book, Repair Replace Work Sheet for next week.</i></p> <p><b>Bumper Cover Two Sided Repair:</b> Lab Objective</p>	<p>To be completed prior to next class period.</p> <p>To be completed prior to start of next repair .</p>
5	Repair vs. Replace		
	<ul style="list-style-type: none"> <li>Identify and explain the factors involved in determining whether to repair or replace a plastic part.</li> </ul>	<p><i>Read: Flexible Plastic Repair from assigned work book</i></p> <p><b>Test 4: Repair Replace:</b> Test</p> <p><i>Continue Repair objectives, SMC Lay -Up in Lab.</i></p> <p><i>Homework: Read Non-Fiber Reinforced Plastic Repair, from assigned work book for next week.</i></p> <p><b>Pinning:</b> Lab Objective</p>	<p>To be completed prior to next class period.</p> <p>To be completed prior to start of next repair.</p>

6	<p>Non-Fiber Reinforced Plastic Repair</p> <ul style="list-style-type: none"> <li>Explain and demonstrate the proper procedures required to make repairs on Non-Fiber Reinforced plastic parts.</li> </ul>	<p><i>Read: Fiberglass Hand Out.</i></p> <p><b>Test 5: Non-Fiber Reinforced Plastic:</b> Test</p> <p><i>Continue Repair Objectives in Lab.</i></p> <p><i>Homework: Read SMC Hand Out, for next week.</i></p> <p><b>Fiberglass Lay-Up:</b> Lab Objective</p>	<p>To be completed prior to next class period.</p> <p>To be completed prior to start of next repair.</p>
7	<p>Fiberglass</p> <ul style="list-style-type: none"> <li>Explain and demonstrate the process for fabricating Fiberglass repair parts, Explain and demonstrate the proper repair procedures for repairing fiberglass parts.</li> </ul>	<p><i>Read: Fiberglass Handout; " Bruce Myers".</i></p> <p><b>Test 6:Fiber Reinforced:</b> Test</p> <p><i>Continue Repair Objectives, in Lab.</i></p> <p><i>Homework: Read SMC Handout, One Sided Repairs for next week.</i></p> <p><b>One Sided Fiberglass Repair:</b> Lab Objective</p>	<p>To be completed prior to next class period.</p> <p>To be completed prior to start of next repair.</p>
8	<p>SMC One Sided Repairs</p> <ul style="list-style-type: none"> <li>Explain and demonstrate the proper procedures for effectively making one sided repairs on Sheet Molded Compound Panels.</li> </ul>	<p><i>Continue to Read SMC Hand Out.</i></p> <p><b>Test 7: One Sided SMC Repairs:</b> Test</p> <p><i>Continue Repair Objectives, in Lab.</i></p> <p><i>Homework: Read SMC Hand Out, Two Sided Repairs for next week.</i></p> <p><b>Two Sided Fiberglass Repair:</b> Lab Objective</p>	<p>To be completed prior to next class period.</p> <p>To be completed prior to start of next repair.</p>
9	<p>SMC Two Sided Repairs</p> <ul style="list-style-type: none"> <li>Explain and demonstrate the proper procedures for effectively making two sided repairs on Sheet Molded Compound Panels.</li> </ul>	<p><i>Read SMC Handout, Panel Replacement</i></p> <p><b>Test 8:Two Sided SMC Repairs:</b> Test</p> <p><i>Continue Repair Objectives, in Lab.</i></p> <p><i>Homework: Read SMC Handout, Panel Replacement for next week.</i></p> <p><b>SMC Lay-Up:</b> Lab Objective</p>	<p>To be completed prior to next class period.</p> <p>To be completed prior to start of next repair.</p>
10	<p>SMC Panel Replacement</p> <ul style="list-style-type: none"> <li>Explain and demonstrate the proper for replacing Sheet Molded Compound Panels as well as sectioning rules and procedures available for</li> </ul>	<p><i>Read SMC Handout, Sectioning.</i></p>	

	sectioning rules and procedures available for partial panel replacement or repair.	<p><b>Test 9: Panel Replacement / Sectioning: Test</b></p> <p><i>Continue Repair Objectives, in Lab.</i></p> <p><i>Homework: Read SMC Handout, Door Skin Replacement for next week.</i></p> <p><b>SMC One Sided Repair:</b> Lab Objective</p>	<p>To be completed prior to next class period.</p> <p>To Be completed prior to start of next repair.</p>
11	SMC Door Skin Replacement	<p><i>Explain and Demonstrate the proper procedures for replacing Sheet Molded Compound Door Skins.</i></p> <p><i>Read: Summary in Assigned work book</i></p> <p><b>Test 10: Door Skin Replacement: Test</b></p> <p><i>Continue Repair Objectives, in Lab.</i></p> <p><i>Homework: Review work book objectives and handouts</i></p> <p><b>SMC Two Sided Repair:</b> Lab Objective</p>	<p>To be completed prior to next class period</p> <p>To be completed prior to start of next repair.</p>
12	Reinforcement Training	<ul style="list-style-type: none"> <li>• Re-Emphasis key points on all phases of plastics repair, to include Identification, Cleaning, Prepping, and proper repair procedures and repair materials selection.</li> </ul> <p><i>Read: Review All Notes and handouts.</i></p> <p><i>Continue Repair Objectives, in Lab</i></p> <p><i>Homework: Review Notes and Handouts.</i></p> <p><b>SMC Sectioning:</b> Lab Objective</p>	<p>To be completed prior to start of next repair.</p>
13	Review for Final Exam	<ul style="list-style-type: none"> <li>• Review all previous course notes and handouts, in preparation for end of course Final Exam.</li> </ul> <p><b>Plastic Welding:</b> Lab Objective</p>	<p>To be completed prior to end of the semester.</p>
14	Final Course Exam	<ul style="list-style-type: none"> <li>• Administer end of course Final Exam</li> </ul> <p><b>Final Exam:</b> Test</p> <p><i>Finalize Repair Objectives</i></p> <p><i>Meet with advisor, register for next semester classes.</i></p>	<p>To be completed prior to end of semester.</p>
15	Lab Clean Up	<ul style="list-style-type: none"> <li>• Brief all assigned students on Lab clean-up procedures and policies, with an emphasis on safety.</li> </ul> <p><i>Clean up Lab in Preparation for Next Semester.</i></p>	

**Auto Collision and Management Participation Policy:**

A student is expected to attend and participate during the scheduled period of instruction (lecture and lab). This begins with the first scheduled class day of the term and continues to the last scheduled class day of the term. The student who chooses to consistently participate in class discussions and activities sets themselves to be highly successful. The class and lab activities are designed to develop skills necessary to thrive in the collision repair industry. Skills can only be developed by discovery, observed demonstration, time to try and time to increase neurological and muscle growth. Each student has purchased and set aside time to develop knowledge and skills to be successful in this industry. Make every effort to get everything possible from this time.

If a student happens to complete assigned objectives ahead of schedule the instructor and the lead instructor/department chair will discuss and plan activities to continue the growth of these skills. Take advantage of every opportunity to grow as a technician. The Auto Collision Department is dedicated to developing highly trained entry level technicians with the skills and knowledge to advance at a rapid pace.

But, life happens. In these situations handle it properly. Students should call in and leave word with the instructor or someone in the office. If possible let the instructor know beforehand, so he can work with you and be better prepared to help keep you caught up. Schedule appointments outside of class time when possible. Provide documentation of the events when possible so that accurate records are kept and integrity is never questioned. Make sure to take responsibility of any make up work and adjust lab work to meet project deadlines. Always be honest and straight forward. When life happens, work through it.

### **Participation Policy**

Students are expected to present **Repair Samples** to the Instructor during each Lab period for evaluation.

A Student is expected to attend and participate during the scheduled period of instruction (Lecture and Lab). This begins with the first scheduled class day of the term. **A student that misses more than 10% ( 3.0 hours) of the lecture or 10% ( 5.0 hours) of the lab periods, regardless of grades earned on assignments, will have to repeat the course.**

A student is considered tardy up to 15 minutes into the scheduled lecture or lab, and thereafter will be considered absent for that period of instruction.

### **Safety Procedures**

Students are required to participate in a safety lecture prior to performing in the laboratory portion of the course. A written test will be given to each participating student covering the presented safety materials. Students must complete the safety test with 100% accuracy prior to receiving lab assignments.

All lecture and laboratory safety rules and regulations will be followed in every detail. Failure to comply with this policy will result in dismissal from class until further notice.

### **Acceptable Attire**

- NIOSH approved with clear safety glasses will be worn at all times
- Full-toed shoes (no slippers, sandals, flip-flops, or bare feet)
- Full length pants (must extend past ankles)
- Pants must fit around waist within 3 inches of belly button
- Shirts (no sleeveless or tank tops)
- Shirts with and without buttons can be worn with instructor approval on neck opening exposure
- Clothing must be reasonably snug fitting (not excessively loose, baggy, torn)
- An inappropriate slogan on clothing is not acceptable.
- Jogging clothes sweats or warm-ups are not acceptable.
- Acceptable headgear: ball caps or bump caps (**No** do-rags, bandanas or shower caps)
- The Instructor has the final authority concerning matters of dress

### **Classroom and Lab Behavior**

- Smoking in classrooms, laboratories and shops are prohibited
- Smoking is permitted only in designated areas
- Smoking is prohibited within 20 feet of a building, when permitted
- Smoking is prohibited within the fenced area surrounding the ACM and CAT Labs.
- The consumption of drinks, candy and other food items is restricted to lounge areas
- Eating or drinking in laboratories are hazardous because of the toxic nature of lab materials being handled
- No horseplay at any time
- Be responsible – Be a professional

### **Late Work/Test Policies**

All students are required to be present for class. However, unexpected circumstances will occur. If a student has an excused absence, death or illness in the immediate family, the student must notify the instructor of record immediately. If a test is missed, the instructor has to give permission for makeup. The missed test must be made up before the next scheduled period of instruction.

An excused absence only allows for makeup of missed assignments or test. The absence is recorded.

Assignments are due at the beginning of class of the set due date. Late assignments will not be accepted and a grade of "zero" will be earned for said assignment. Students who prior contacted the instructor may be considered excused.

### **Pop Tests**

**Can be given at any time by the instructor and are not make up items.**

### **Exemptions**

Students can be exempted from a final exam if:

- A. Lecture average is 90 or above
- B. Attendance is perfect



- C. Assignments are completed and turned in
- D. Projects are complete

***Cell Phone Policy***

Cell phones may not be brought into the classroom or lab as they are unsafe and disruptive to the environment.

Anyone failing to adhere to this policy will be dismissed from class and issued a non-participation grade (absence) for that period of instruction.

***Departmental Awards Ceremony/Cleanup Policy***

Each student is expected to participate in the awards ceremony and cleanup activities once the date has been identified.

Students' final exam grade is dependent upon their participation at these functions. One half ( $\frac{1}{2}$ ) of the final exam grade for the course is participation. One half ( $\frac{1}{2}$ ) of the final exam grade is completing the final exam for the course.

Students with unexpected circumstances can be excused by the department chair only.

TSTC school calendar identifies the end of the semester. Student break begins the day after.