Outcome-based 18/SU Course Syllabus

Course Rubric Number Section:	ABDR 1359 1001
Lecture-Lab-Credit:	2-3-3
CIP Code:	47.0603
Course Title:	Sheet Metal Fabrication I
Course Description:	A study of the basic shaping techniques required for fabricating sheet metal parts and pieces. Discussion will include custom cars and street rods.
Prerequisites:	
Co-requisites:	
Course Meets:	1FC1 113 LEC M 08:00AM 09:50AM 1FC1 132 LAB M 10:00AM 12:45PM
Instructor:	Tracy Marshall
Office Phone Number:	254 867-4854
Email Address:	tlmarshall@tstc.edu
Office Fax Number:	254 867-2315
Building & Office Room Number:	1FC1 120
Office Hours:	Monday 2:00pm-5:00pm

Approved by:	Clint Campbell	***Date:***	2018-04-30

Course Outcomes

CO1: Perform basic sheet metal forming techniques

CO2: Shape sheet metal parts to conform with the specific design of the automobile

CO3: Install the fabricated sheet metal part

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 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

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

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

Fort Bend Campus
Schauna Boynton
Brazos Center Rm. 113
346-239-3394

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

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

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

North Texas Campus
Amanda Warren
Student Services, Room 227
972-617-4724

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
(shortened link: goo.gl/Z9vJvY). For more information, please contact Norma A. Salazar@ 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. You can access the Learning Resource Center page at https://portal.tstc.edu/employee/Departments/operations/Pages/Learning%20Resource%20Center.aspx

Resources

Tools, Materials:

Item	Resource	Quantity
1	Safety Glasses	1
2	12" Locking Wing Divider	1 Harbor Freight 96440
3	Tape Measure Metric 10'/3M	1
4	Thin Soft Leather Gloves	1 pair
5	Swivel Head Deburring Tool	1 General Tool 482 or Sears
6	Red or Black Sharpie Fine Point	2
7	Push Pin Magnets 10pc Set	1 Home Depot 07509 or similar item
8	Spiral Notebook	1
9	Pencils and Pens	2 ea
10	Nitrile Gloves or 1pr of Solvent Gloves	10pr
11	Ear Plugs	1pr

Grade Scheme

Category Description		Category Value
Lecuter		33.33%
Assessment Label:	**Assessment Description**	**Assessment Value**
Safety Test:	Lab Safety Tests	6.67%
Equipment Quiz:	Proper and safe use of equipment	6.67%
Corrosion Quiz:	Corrosion protection quiz. Demonstrate methods of welding and bonding metal used in replacing a patch panel.	6.67%
Panel Attachment Quiz:	Panel attachment options and procedures. Demonstrate methods of hammer welding and grinding welds. Continue work with patch panel.	6.67%
Dressing Panel Quiz:	Dressing panel for filler and corrosion protection	6.67%
Category Description		**Category Value**
Lab		33.33%
Assessment Label:	**Assessment Description**	**Assessment Value**
Simple Template:	Create paper template for shelf project Create paper template for tool holder	4.76%
Shelf:	Demonstrate use of metal shear and drill press Create metal shelf from template using metal brake	4.76%
Panel Beaters Bag:	Panel Shaped on Panel Beaters Bag	4.76%
Shrinker/Stretcher:	Panel Shaped on Shrinker / Stretcher	4.76%
English Wheel:	Panel shaped on English Wheel fits Template	4.76%
Patch Panel:	Create a replacement patch panel on assigned vehicle area	4.77%
Patch Panel Installation:	Student correctly installed patch panel	4.77%
Category Description		**Category Value**
Final Exam		33.33%
Assessment Label:	**Assessment Description**	**Assessment Value**
Final Exam:	Comprehensive exam covering entire semester class lessons	33.33%

Total Assessment Percent **100.00%**

Total Category Percent **100.00%**

A = 100-90 **B = 89-80** **C = 79-70** **D = 69-60** **F = 59-0**

Description of Graded Elements of the Course

Assessment Label	Assessment Description/Course outcomes met	Assessment Value	% of Final Grade

Label		in Percent	Grade
Safety Test	Lab Safety Tests **Course outcomes met:** CO1, CO2, CO3	6.67	6.67%
Simple Template	Create paper template for shelf project Create paper template for tool holder **Course outcomes met:** CO2	4.76	4.76%
Shelf	Demonstrate use of metal shear and drill press Create metal shelf from template using metal brake **Course outcomes met:** CO1	4.76	4.76%
Panel Beaters Bag	Panel Shaped on Panel Beaters Bag **Course outcomes met:** CO1	4.76	4.76%
Shrinker/Stretcher	Panel Shaped on Shrinker / Stretcher **Course outcomes met:** CO1	4.76	4.76%
English Wheel	Panel shaped on English Wheel fits Template **Course outcomes met:** CO1	4.76	4.76%
Equipment Quiz	Proper and safe use of equipment **Course outcomes met:** CO1	6.67	6.67%
Patch Panel	Create a replacement patch panel on assigned vehicle area **Course outcomes met:** CO1, CO2	4.77	4.77%
Corrosion Quiz	Corrosion protection quiz. Demonstrate methods of welding and bonding metal used in replacing a patch panel. **Course outcomes met:** CO3	6.67	6.67%
Panel Attachment Quiz	Panel attachment options and procedures. Demonstrate methods of hammer welding and grinding welds. Continue work with patch panel. **Course outcomes met:** CO3	6.67	6.67%
Dressing Panel Quiz	Dressing panel for filler and corrosion protection **Course outcomes met:** CO3	6.67	6.67%
Patch Panel Installation	Student correctly installed patch panel **Course outcomes met:** CO3	4.77	4.77%
Final Exam	Comprehensive exam covering entire semester class lessons **Course outcomes met:** CO1, CO3, CO2	33.33	33.33%
		100.00	**100.00%**

Course Schedule

Unit/ Week	Unit Description/Objectives	Assessment Label:Description	Due Date
1	Week 1: Introduction of Course Syllabus and Requirements		
	• Summarize the contents of the course syllabus as discussed in student orientation. • Identify course assessments, policies and procedures using syllabus. • Tour lab and discuss safety and proper use of equipment.	**Safety Test:** Lab Safety Tests	End of Class
2	Week 2: How to Create a Template		
	• Identify tools and materials need to create a template. Identify and perform steps to create a template.	**Simple Template:** Create paper template for shelf project Create paper template for tool holder	End of Class
		Tin Snips: Demonstrate use of Aviation Tin Snips Students practice use of snips to trim sheet metal	End of Class
3	Week 3:How to use a sheet metal brake		
	• Identify and practice proper use of a sheet metal brake. Identify limitations of the sheet metal brake. Identify sheet metal thickness or gauge. Discuss sheet metal composition. • Create a metal shelf using template created in week 2	**Shelf:** Demonstrate use of metal shear and drill press Create metal shelf from template using metal brake	Week 4
		Tool Holder: Create tool holder from template using sheet metal	Week 4
4	Week 4: How to shape metal using a panel beaters bag		

	• Identify tools and procedures used to shape metal using a panel beaters bag. • Perform panel shaping using a Panel Beaters Bag.	**Panel Beaters Bag:** Panel Shaped on Panel Beaters Bag **Pattern Template:** Create full-size pattern on tag board using assigned pattern	Week 5 Week 5
5	Week 5: How to Use a Shrinker/ Stretcher		
	• Discuss how metal moves as it shrinks or stretches. Identify if the metal needs to shrink or stretch to match desired shape. • Perform shrinking/ stretching of panel to fit template.	**Shrinker/Stretcher:** Panel Shaped on Shrinker / Stretcher **Dustpan Template:** Create design of dustpan on tag board; submit for approval. Cut out metal for dustpan using sheet metal shears.	Week 6 Week 6
6	Week 6: How to use the English Wheel		
	• Discuss proper operation of the English Wheel. Identify correct and incorrect tracking of the English Wheel. • Perform panel shaping to fit template using the English Wheel.	**English Wheel:** Panel shaped on English Wheel fits Template **Dustpan:** Continue work on dustpan. Demonstrate use of Resistance Spot Welder and Solid Rivet tools for use in joining sheet metal	Week 8 In Class
7	Week 7: How to use the Bead Roller		
	• Discuss operation of the bead roller and die profiles. Identify which dies create which profile. • Shape panel using the bead roller to match template	**Equipment Quiz:** Proper and safe use of equipment	In Class
8	Week 8: Discuss principles of metal shaping.		
	• Identify high crowns, low crowns, style lines and, reverses • Practice proper and safe use of equipment while shaping metal.	**Lab projects:** Continue work with assigned projects	In Class
9	Week 9:Discuss other ideas for shaping metal		
	• Identify other metal shaping equipment and techniques • Continue practicing proper and safe use of equipment while shaping parts.	**Aluminum :** Create metal shape using wooden die and bead roller using aluminum panel to match aluminum template.	Week 10
10	Week 10:Discuss Creating Complex parts using various tools		
	• Create several templates using metal and paper • Create a patch panel to fit assigned part.	**Patch Panel:** Create a replacement patch panel on assigned vehicle area	Week 13
11	Week 11:Discuss Corrosion Protection		
	• Continue shaping patch panel	**Corrosion Quiz:** Corrosion protection quiz. Demonstrate methods of welding and bonding metal used in replacing a patch panel.	In Class
12	Week 12: Discuss Attaching Patch Panel		
	• Complete shaping of patch panel and prepare to install patch panel	**Panel Attachment Quiz:** Panel attachment options and procedures. Demonstrate methods of hammer welding and grinding welds. Continue work with patch panel.	In Class
13	Week 13:Discuss Dressing Patch Panel		
	• Install patch panel	**Dressing Panel Quiz:** Dressing panel for filler and corrosion protection **Patch Panel Installation:** Student correctly installed patch panel	In Class Week 14
14	Week 14: Last Day to Complete Work		
	• Complete any unfinished lab projects • Students will turn in all work by end of class		

	completed or not.		
15	Week 15: Final Exam Lab Clean Up and Awards Ceremony		
	• Students will clean lab, equipment and attend the Awards Ceremony (Awards Ceremony is the Last Thursday of the Semester)	**Final Exam:** Comprehensive exam covering entire semester class lessons	Week 15

Daily, Weekly, Assignments and Participation Grades:

A class participation grade will be taken each and every class day. The quiz or assignment will be the participation grade if given. Otherwise, 25 will be given for attending and being on time. A 12.5 will be given if you are tardy. An unexcused absence will earn a grade of "ZERO". The Midterm and Final Exams will include the participation grade for those days. **25%** of the exam grade will be deducted if you are tardy. A grade of "ZERO" will be earned if you have an unexcused absence.

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. **A student deemed a non-participant for more than 10% (1.5 days) of the lecture or 10% (1.5 days) 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 a non-participant for that period of instruction.

A sum of two tardies is equivalent to one non- participation period.

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.

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

Cell phone Policy

Cell phones may be brought into the classroom or lab. However, they must be in the off or vibrate position.

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 (½) of the final exam grade for the course is participation. One half (½) of the final exam grade is completing the final exam for the course.

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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.