



# A&M-COMMERCE

**AMC 2303 - Agricultural Welding**  
**Spring 2024 (3 hrs.)**  
**CRN 21944**

**Instructor**

Marlin Priddy, Ed. D. Assistant Professor  
Office Location: AGIT 144  
Email: [marlin.priddy@tamuc.edu](mailto:marlin.priddy@tamuc.edu)

**Course Meeting Times & Location**

Mon, 1:00 pm – 3:50 pm, AGIT 149 Lab

**Office Hours**

I have an open-door policy for office hours. If my door is open, you may come in. You may also email me to schedule an in-person appointment or for general questions during normal business hours.

**Course Description**

Introduction to oxyfuel cutting/welding, shielded metal arc welding, and gas metal arc welding processes in context of applications in agricultural equipment repair and fabrication.

**Learning Outcomes**

This course is designed to give students a working knowledge of basic welding concepts and skills used in the agriculture industry. Upon completion of this course students should be able to demonstrate the following basic skills and concepts:

- Demonstrate safe laboratory procedures in welding and metal work.
- Identify properties and procedures in metal joining, cutting, and bending.
- Demonstrate proper use of hand and power tools used in welding and metal work.
- Demonstrate proper setup and use of oxyfuel, SMAW, GMAW, and plasma arc cutting equipment.
- Exhibit different types of welds using oxyacetylene, SMAW, and GMAW equipment.
- Recognize weld discontinuities and defects.
- Design, plan, and construct a metal structure.

**Course Textbook (Required)**

Various sources and materials will be provided on D2

**Course Specific Procedures**

**General Policies**

- The use of any tobacco products is strictly prohibited in all classrooms and laboratories.
- Please suspend the use of all electronic devices during lecture other than for notetaking.
- No late work will be accepted in this course without pre-approval from the instructor.
- All assigned reading should be completed before the corresponding lecture time.

**Attendance**

Due to the hands-on nature of this course, lecture and laboratory attendance is strongly encouraged. Attendance will be taken during each lecture/laboratory session. University excused absences will be honored when appropriate written documentation is provided, otherwise the absence will be

considered unexcused. Makeup work and labs may be arranged with the instructor prior to excused absences. Students may not make up work or labs missed from unexcused absences.

### **Laboratory Dress Code and Safety**

Safety glasses are required to be **worn at all times** in the laboratory. Each student should purchase their own pair. Proper clothes should be worn while working in the lab. Closed toed shoes are required (work boots recommended). A nonflammable long sleeve shirt and pants covering the full length of legs are required. It is also recommended each student purchase their own pair of leather welding gloves; however, gloves will be available in the lab. Ear plugs should be worn when in the presence of loud machinery. Students not working in a safe manner will be required to leave the shop.

### **Interaction with Instructor**

E-mail will serve as the primary method for out-of-class communication between the instructor and students. Therefore, students should check their university (myLeo) or other preferred e-mail account at least once daily. The instructor will attempt to answer each student-generated message within 48 hours.

## **University Specific Procedures and Language**

### **Students with Disabilities-- ADA Statement:**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: Office of Student Disability Resources and Services

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Counseling Availability**

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

## **Citizenship**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

## **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

## **Assignment Descriptions**

Safety Test (100 Points) – A safety test covering safety in the welding laboratory will be taken during class. A score of 100 is required before the student will be allowed to work in the welding laboratory.

Quizzes (100 Points) – Short quizzes will be given periodically during lecture or lab over content previously taught in class or on assigned readings. Previous notice will not be given on quiz dates or content covered. It is your responsibility to keep current with reading and attending class.

Laboratory Assignments (300 Points) – There will be required laboratory exercises related to oxyfuel torches, SMAW, GMAW, and plasma cutting. These assignments are important for developing hands-on skills and reinforcing concepts covered in the readings. Assignments will be graded on completeness, skill level, correct operation of machinery, accuracy, and the use of safe practices.

Laboratory Skills Test (100 Points) – The lab final will be taken during the last scheduled laboratory session before the start of your final project construction. This final will be hands-on in nature and will test your skill with various tasks previously covered in the course during the laboratory portion. You will be given 3 hours to complete this assignment.

Project Design Plans and Bill of Materials/Cut List (100 Points) – Each student will be required to construct a metal project during the last three laboratory meetings. The project must be approved by the instructor. Scaled drawings, a bill of materials, and a cut list will be required to ensure accuracy of construction. Scaled drawings and bill of materials must be made by the student, not printed from the internet. Drawings on plain or graph paper will be accepted. CAD drawings created by the student will also be accepted. The bill of materials should be in table format in an electronic word document.

Project Notebook (60 Points) – A final project notebook will be required documenting the design and construction process for the metal project built in the laboratory. This notebook is meant to simulate on a smaller scale the notebook requirements for an agricultural mechanics show. Items to be included are

scaled drawings of project, bill of materials, cut list, photos with descriptions of the construction process, and SDS sheets for equipment and materials used during project construction.

Project Show (140 Points) – You will present your final project during your final lab period. This is how the quality of your skill will be graded. You will be graded on workmanship, knowledge of the project, design, degree of difficulty, and finish. You will also have your project notebooks graded and returned for the show. All projects must be removed by the end of the lab period.

Final Exam (100 Points) – A comprehensive final exam will be given to assess knowledge of topics covered in the readings, previous quizzes, and class instruction. You will have two hours to take the exam and it will consist of a variety of question types including true/false, multiple choice, fill in the blank, short answer, matching, and labeling.

**Grading Scale**

Total Points	Letter Grade
900 – 1000	A
800 – 899	B
700 – 799	C
600 – 699	D
599 or Less	F

**COURSE CALENDAR – SPRING 2024**  
**AMC 2303**  
**Agricultural Welding**

Week	Topic	Reading	Assignments Due
1. 01/15	Holiday		
2. 01/22	Introductions, Syllabus, Expectations, Health and Safety, Lab Orientation, Tool and Equipment ID		
3. 01/29	Oxyfuel Heating & Cutting Weld Joints & Positions	Oxyfuel Equipment Oxyfuel Setup and Cutting	Safety Test
4. 02/05	Oxyfuel Welding	Material ID and Selection	
5. 02/12	Project Plans and Bill of Materials	Project Planning Bill of Materials and Cut List	
6. 02/19 02/23 - 25	Weld Symbols, Weld Defects & GMAW	Weld Symbols GMAW Processes	Weld Symbols Worksheet San Antonio JAM Show
7. 02/26	GMAW	GMAW Fundamentals	
8. 03/04	Plasma Cutting & SMAW	Plasma Cutting Fundamentals SMAW Fundamentals	
9. 03/11 - 3/15 03/15 - 17	Spring Break		Houston Ag Mech Show
10. 03/18	SMAW	Electrode Selection	
11. 03/25 03/26 & 27	SMAW TAMUC CDE Invitational		Project Plans and Bill of Materials with Cut List
12. 04/01 04/03 & 04	Weld Evaluation/Bend Test/Project Construction		
13. 04/8	Lab Skills Test/Practical		Lab Skills Test/Practical
14. 04/15 04/16	Set up for Area ATMS CDE Assist with Area ATMS CDE*		
15. 04/22 04/25 & 26	Project Construction		SHSU State Ag Mech CDE
16. 04/29	Project Show & Lab Cleanup Last Class/Lab Day		Project Notebook
17. 05/10 Friday	Final Exam 10:30 am – 12:30 pm		

\*Schedule is tentative and may be changed by the instructor at any time.

\*\*All readings from the textbook should be completed before the corresponding lecture.

\*\*\*All students in this course are expected to assist with the ATMS CDE on Tuesday, April 16<sup>th</sup>.

#### **Other Important Dates for the Spring 2024 Semester**

- January 11 – Evaluation of Ag Mech Projects, Hood County Fair, Granbury, TX
- January 13 – Fort Worth Stock Show & Rodeo Junior Ag Mechanics Project Show Judging
- January 24 – Area V Tractor Technician CDE, Navarro College
- February 20 – NETLANorthEast Texas Livestock Association) Ag Mechanics Project Show, Sulphur Springs
- February 23 – 25 , San Antonio JAM (Junior Ag Mechanics) Project Show
- March 1 – Area V Applied Agriculture Engineering, Collin College/McKinney
- March 10 – 14 , TAMUC Spring Break
- March 15 – 17, Houston Livestock Show and Rodeo, Ag Mechanics Project Show
- March 26 & 27, TAMUC Invitational CDEs (Career Development Events)
- April 15 & 16, TAMUC Area CDEs (Please consider helping Dr. Priddy with the ASTM CDE on the 15<sup>th</sup> set up and competition on the 16<sup>th</sup>)
- April 19 – 28, Hunt County Fair & Livestock Show, Greenville, TX
- April 25 & 26, State FFA ASTM CDE, Sam Houston State University, Huntsville, TX
- May 17, Area 5, FFA Convention, Registration 9:00 a.m. ANNA High School