



**WLDG-2451-222C3**  
**Advanced Gas Tungsten Arc Welding**  
**Spring-2025**  
**T-TH- 6:00pm-9:20pm**

**Instructor:** Marissa Fisher, mfisher9@com.edu 409-933-8454

**Student hours and location** MTWTH-6:30pm-8:30pm- T/TH -6:00pm-7:30pm-T 7:00pm-8:30pm **Welding Technology Office**

**Required Textbook:**

Welding Principles and Applications (Larry Jeffus)  
 (ISBN-13: 978-0-3573-7765-9)  
 (ISBN-13: 978-0-357-37769-9)  
 The Hard back and Lab book are required.

**Course Description**

Principals of gas tungsten arc welding (GTAW), including setup, GTAW equipment. Instruction in various positions and joint designs.

**Course requirements:**

<b>WLDG 2451 Lab Assignments</b>	<b>Performance Rating</b>	<b>Date Completed</b>	<b>Instructor's Initials</b>	<b>Trainee's Initials</b>
<b>Lab Assignments WLDG 2451</b>				
Perform safety inspections of equipment and accessories				
1.Describe safety rules on equipment SPOL				
2.Describe various joint designs SPOL				

3. Describes the effects of the welding parameters in GTAW. SPOL				
4. Operate GTAW equipment				
5. Diagnose welding problems, and perform visual inspection-SPOL				
6. Make a 2G Fixed position on carbon steel pipe 6" diameter E-70S6- 1/8" diameter for root pass, hot pass, filler pass and cap.				
7. 5G rolled position on carbon steel pipe 6" diameter E70S6 1/8" filler rod root pass, hot pass, filler pass and cap.				
8. 5G fixed position on carbon steel pipe 6" E70S6 root pass, hot pass, filler and cap.				
9. 5G fixed position on carbon steel pipe 2" E70S6 1/8" diameter rod for root pass, hot pass, filler and cap.				
10. 6G fixed position on carbon steel pipe 6" E70S6 root pass, hot pass, filler and cap.				

### **Determination of Course Grade/Detailed Grading Formula**

1. The student must meet AWS standards on all workmanship qualifications.
2. 25% of the grade is homework, all homework must be completed to take the exam or it is a 0 on exam, 25% written exams, and 50% is skills test
3. Student must have a 65-70 on Exams and complete Lab Objectives 1 thru 16=D
4. Student must 71 thru 80 on Exams and complete Lab Objectives 1 thru 17=C
5. Student must 81 thru 90 on Exams and complete Lab Objectives 1 thru 18=B
6. Student must 91 thru 100 on Exams and complete Lab Objectives 1 thru 19=A

### **Late Work, Make-Up, and Extra -Credit Policy:**

Make-up exams must be scheduled with your professor but must be scheduled within 7 days of the original test date or you will receive a zero for the test. Make-up exams may score no higher than 90% unless the make-up exam was scheduled prior to the original exam date. At the instructor's discretion, make up exams may be in a different format from the scheduled exam. Labs and homework not turned in on the due date will be scored at 80% of the maximum

**Attendance Policy: Attendance and Tardiness will be taken each class period.**

**Communicating with your instructor:** ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means (Faculty may add additional statement requiring monitoring and communication expectations via D2L or other LMS.

<b>Student Learner Outcome</b>	<b>Maps to Core Objective</b>	<b>Assessed via this Assignment</b>
Describe safety rules and equipment.	Critical Thinking	Homework, Chapter 18 Written Exams, Lab Manual Quiz
Describe the effects of welding parameters in GTAW, apply safety rules	Critical thinking	Homework, Chapter 18 Written Exams, Lab Manual Assignment.
Describe various joint designs. Troubleshoot equipment used, perform inspection	Critical thinking	Homework, Chapter 19 Written Exams, Lab assignments
Weld various types of structural material, diagnose welding problems	Critical thinking	Homework, Chapter 26 Written Exams Lab Manual Quiz Chapter

**Academic Dishonesty:** Any incident of academic policy will be dealt with in accordance with college policy and the Student Handbook. Academic dishonesty – such as cheating on exams is an extremely serious offense and will result in a **grade of zero** on that exam and the student will be referred to the Office of Student Conduct for the appropriate discipline action

**Student Concerns:** If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Derrick Lewis, Department Chair, 409-933-8321/409-933-8380 at [dlewis22@com.edu](mailto:dlewis22@com.edu)

**Course outline:**

Week#	Day/Date	Topic	Reading Assignments & Homework Due Dates
1	T 1-14-25	Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules + Welding Equipment	Chapter 18 key terms
	TH 1-16-25	Welding Lecture 2 hours lab	Chapter 18 key terms
2	T 1-21-25	LAB	
	TH 1-23-25	Welding Lecture 2 hours lab	Chapter 18 key terms
3	T 1-28-25	Welding Lecture 2 hours lab	Chapter 18 key terms
	TH 1-30-25	Welding Lecture 2 hours lab	Chapter 18 key terms
4	T 2-4-25	Welding Lecture 2-hour lab	Chapter 18 review questions 1 thru 8
	TH 2-6-25	Welding Lecture 2-hour lab	Chapter 18 review questions 9 thru 15
5	T 2-11-25	Welding Lecture 2 hours lab	Chapter 18 review questions 16 thru 30
	TH 2-13-25	Welding Lecture 2 hours lab	Chapter 18 review questions 31 thru 43
6	T 2-18-25	Class Review and Exam on Chapter 18	Exam -Ch-18
	TH 2-20-25	Welding Lecture 2-hour lab	Chapter 19 key terms
7	T 2-25-25	Welding Lecture 2-hour lab	Chapter 19 key terms
	TH 2-27-25	Welding Lecture 2-hour lab	Chapter 19 key terms
8	T 3-4-25	Welding Lecture 2 hours lab	Chapter 19 key terms

	TH 3-6-25	Welding Lecture 2 hours lab	Chapter 19 review questions 1 thru 10
	T 3-11-25	Welding Lecture 2 hours lab	Chapter 19 review questions 11 thru 20
	TH 3-13-25	Welding Lecture 2 hours lab	Chapter 19 review questions 21 thru 26
9	T 3-18-25	Spring Break	
	TH 3-20-25	Spring Break	
10	T 3-25-25	Class review and Exam on Chapter 19	Exam 19
	TH 3-27-25	Welding Lecture 2-hour lab	Chapter 26 key terms
11	T 4-1-25	Class Review	Chapter 26 key terms
	TH 4-3-25	Welding Lecture 2-hour lab	Chapter 26 review questions 1 thru 9
12	T 4-8-25	Welding Lecture 2-hour lab	Chapter 26 review questions 10 thru 18
	TH 4-10-25	Class review and Exam on Chapter 26	Exam chapter 26
13	T 4-15-25	Welding Lecture 2-hour lab	
	TH 4-17-25	Welding Lecture 2-hour lab	
14	T 4-22-25	Welding Lecture 2-hour lab	
	TH 4-24-25	Welding Lecture 2-hour lab	
15	T 4-29-25	Welding Lecture 2hr lab	
	TH 5-1-25	Welding Lecture 2-hour lab	Lab Work
16	T 5-6-25	Welding Lecture 2-hour lab	Lab Work
	TH 5-8-25	Last day of class	Lab Work

### **Institutional Policies and Guidelines**

**Grade Appeal Process: Concerns** about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook [https://www.com.edu/student-services/docs/Student\\_Handbook\\_2024-2025\\_v2.pdf](https://www.com.edu/student-services/docs/Student_Handbook_2024-2025_v2.pdf). *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal*

**Academic Success & Support Services:** College of the Mainland is committed to providing students with the necessary support and tools for success in their college careers. Support is

offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

**ADA Statement:** Any student with a documented disability needing academic accommodation is requested to contact Kimberly Lachney, Student Accessibility Services Coordinator  
Phone: 409-933-8919  
Email: [AccessibilityServices@com.edu](mailto:AccessibilityServices@com.edu)  
Location: COM Doyle Family Administration Building, Student Success Center

**Textbook Purchasing Statement:** A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

**Withdrawal Policy:** Students may withdraw from this course for any reason prior to the last eligible day for a “W” grade. Before withdrawing students should speak with the instructor and consult an adviser. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 16-week session is April 21.

**Fn Grading:** The Fn grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The Fn grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the Fn grade is at the discretion of the instructor.

**Early Alert Program:** The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer for you to meet your academic goals

**Resources to Help with Stress:**

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here <https://www.com.edu/community-resource-center/>. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at [deanofstudents@com.edu](mailto:deanofstudents@com.edu) or [communityresources@com.edu](mailto:communityresources@com.edu).

**Nondiscrimination Statement:**

The College District prohibits discrimination, including harassment, against any individual on the basis of race, color, religion, national origin, age, veteran status, disability, sex, sexual orientation, gender (including gender identity and gender expression), or any other basis prohibited by law. Retaliation against anyone involved in the complaint process is a violation of College District policy.

## **SYLLABUS CHANGES:**

The instructor reserves the right to make changes to this syllabus during the semester as needed to facilitate instruction and/or course needs.

### **Welding Safety Rules**

- 1. No Horseplay of any kind**
- 2. No lighters or matches in the welding lab.**
- 3. Safety glasses(Z87) or prescription glasses with Z87 frame and lens MUST be always worn in labs and outside when students are working, sunglasses are NOT acceptable.**
- 4. Shaded cutting goggles or shaded cutting face shield must be worn when cutting with safety glasses.**
- 5. Never use machinery or equipment unless instructed by faculty instructor or lab assistant.**
- 6. Proper fitting clothing must be always warned in the lab (100% cotton, FRC)**
- 7. Report all accidents immediately.**
- 8. Grinding shields must be worn when grinding with safety glasses.**
- 9. No tobacco of any type in the welding building**
- 10.No spitting anywhere in the welding labs**
- 11.Welding hoods with a shade of 9,10,11 or 12 must be worn while welding.**
- 12. Tool rest for tungsten grinder must be maintained at 1/16 distance from wheel.**
- 13.Gloves are required while welding, cutting, and handling metal in the welding lab.**
- 14.FAILUE TO FOLLOW SAFETY RULES WILL RESULT BEING REMOVED FROM CLASS**

