



**WLDG-1430-223CL**  
**Introduction to Gas Metal Arc Welding**  
**SPRING 2024**  
**Mon-Wed 6:00pm-9:20pm**

**Instructor:** Marissa Fisher, [mfisher9@com.edu](mailto:mfisher9@com.edu) , 409-933-8380

**Student hours and location** Mon-Th 6:00 pm-9:00 pm 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:** A study of the production of various fillets and groove welds. Preparation of specimens for testing in various positions

**Course requirements:**

Lab Assignments WLDG 1430	Performance Rating	Date Completed	Instructor's Initials	Trainee's Initials
1. Make a 2F fillet weld on 3/16" carbon steel plate				
2. Make a 3F fillet weld on 3/16" carbon steel plate				
3. Make a 4F fillet weld on 3/16" carbon steel plate				
4. Make a 1G groove weld on 3/8" carbon steel plate				
5. Make a 3G groove weld on 3/8" carbon steel plate				
6. Make a 2G groove weld on 6" carbon steel pipe				
7. Make a 5G groove weld on 6" carbon steel pipe				

### **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
4. Student must 71 thru 80 on Exams and complete Lab Objectives
5. Student must 81 thru 90 on Exams and complete Lab Objectives
6. Student must 91 thru 100 on Exams and complete Lab Objectives

### **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

<b>Student Learner Outcome</b>	<b>Maps to Core Objective</b>	<b>Assessed Via This Assignment</b>
Describe welding positions with various joint designs on plate.	Critical thinking	Homework, Chapter 10 Written Exams, Lab Manual Assignments 10-1and 10-2
Describe the effects of welding parameters in GMAW, apply safety rules.	Critical thinking	Homework, Chapter 11 Written Exams, Lab assignments.11-5 and 11-6
Troubleshoot equipment used, perform inspection.	Critical thinking	Homework, Chapter 15 Written Exams, Lab assignments 15-13
Weld various types of structural material, diagnose welding problems.	Critical thinking	Homework, Chapter 15 Written Exams, Lab assignments 15-14,15-14

**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 1-17-23	Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules and Welding Equipment	
	TH 1-19-23	Welding Lecture-Simulator 2 hours Lab	
2	T 1-24-23	Welding Lecture-Simulator 2 hours Lab	Chapter 10 key terms
	TH 1-26-23	Welding Lecture-Simulator 2 hours Lab	Chapter 10 review questions 1-15
3	T 1-31-23	Welding Lecture-Simulator 2 hours lab	Chapter 10 review questions 15-27
	TH 2-2-23	Welding Lecture-Simulator 2 hours lab	Chapter 10 quiz #4
4	T 2-7-23	Welding Lecture-Simulator 2 hours lab	Chapter 10 quiz #5
	TH 2-9-23	Welding Lecture-Simulator 2 hours lab	Chapter 10 quiz #6
5	T 2-14-23	Welding Lecture-Simulator 2 hours lab	
	TH 2-16-23	Class Exam Chapter 10	
6	T 2-21-23	Welding Lecture-Simulator 2 hours lab	Chapter 11 key terms
	TH 2-23-23	Welding Lecture-Simulator 2 hours lab	Chapter 11 review questions 1-15
7	T 2-28-23	Welding Lecture-Simulator 2 hours lab	Chapter 30 review questions 16-25
	TH 3-2-23	Welding Lecture-Simulator 2 hours lab	Chapter 11 quiz #1

8	T 3-7-23	Welding Lecture-Simulator 2 hours lab	Chapter 11 quiz #2
	TH 3-9-23	Welding Lecture-Simulator 2 hours lab	Chapter 11 quiz #3
	T 3-14-23	SPRING BREAK	Chapter 11 quiz #4
	TH 3-16-23	SPRING BREAK	
9	T 3-21-23	Welding Lecture-Simulator 2 hours lab	Chapter 11 quiz #4
	TH 3-23-23	CH 11 EXAM	Chapter 15 key terms
10	T 3-28-23	Welding Lecture-Simulator 2 hours lab	Chapter 15 review questions 1-10
	TH 3-30-23	Welding Lecture-Simulator 2 hours lab	Chapter 15 review questions 11-21
11	T 4-4-23	Welding Lecture-Simulator 2 hours lab	Chapter 15 quiz #4
	TH 4-6-23	Welding Lecture-Simulator 2 hours lab	Chapter 15 quiz #5
12	T 4-11-23	Class Exam Chapter 15	
	TH 4-13-23	OPEN LAB	
13	T 4-18-23	FINAL WEEK FOR MAKE UP EXAMS & ASSIGNMENTS	
	TH 4-20-23	FINAL WEEK FOR MAKE UP EXAMS & ASSIGNMENTS	
14	T 4-25-23	OPEN LAB	
	TH 4-27-23	OPEN LAB	
15	T 5-2-23	OPEN LAB	
	TH 5-4-23	OPEN LAB	
16	T 5-9-23	OPEN LAB	
	TH 5-11-23	LAST DAY OF CLASS	

### **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://build.com.edu/uploads/sitecontent/files/student-services/Student\\_Handbook\\_2019-2020v5.pdf](https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.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.* [https://build.com.edu/uploads/sitecontent/files/student-services/Student\\_Handbook\\_2019-2020v5.pdf](https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf)

**Academic Success & Support Services:** College of the Mainland is committed to providing students 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 accommodations is requested to contact Michelle Brezina at 409-933-8124 or [mvaldes1@com.edu](mailto:mvaldes1@com.edu). The Office of Services for Students with Disabilities is located in the 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 advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1<sup>st</sup> 8-week session is March 1. The last date to withdraw from the 16-week session is April 24. The last date to withdraw for the 2<sup>nd</sup> 8-week session is May 3.

**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. The last date of attendance should be documented for submission of an FN grade.

**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 in order 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).

## 3G GMAW Checklist

WLDG 1430	Needs Improvement	Standards Met
<b>Root Pass</b>		
Root Penetration – 1/16 – 3/32 penetration		
Weld Undercut – no undercuts (if there are undercuts the weld is being made too fast or with too much heat)		
Weld Tie In (Restarts) – uniform with no undercuts		
<b>Cover Pass</b>		
Size – each weld bead should not exceed AWS standards for the size of the Welding Wire		
Weld Undercut – no undercuts (if there are undercuts the weld is being made too fast or with too much heat)		
Weld Porosity – no pin holes in weld		
Continuous Welding Bead – straight uniform bead		
Cold Lap – need to run at proper temperature		

The lab assignments are a major part of the course outline each student will progress at their own pace. However, each student must pass at least number 5 lab assignment to pass the class at a minimum requirement to A.W.S. Standards. Student must demonstrate 3 Vee-Butt welds complete and consecutively meeting AWS standards. Any student not passed assignment 4 by (W-day) will meet with instructor about their academic progress. The student and instructor will discuss any issue and/or distractions causing the problem. Faculty may, at their discretion withdraw a student due to an inability to maintain the prescribe minimum rate of progress stated in the course syllabi, or behavior detrimental to the learning process of the student or class.

### 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 weld 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 worn at all times 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 hood 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 weld lab**
- 14. FAILURE TO FOLLOW SAFETY RULES WILL RESULT BEING REMOVED FROM CLASS**