



**WLDG-1435-214CL**

**Introduction to Pipe Welding**

**Summer- 2022**

**MTW 5:30pm-9:15pm**

**Instructor:** Dwight Miller, dmiller@com.edu, 409-933-8454

**Student hours and location:** MTW-4:30pm-5:00pm,  
Th-12:00pm-12:0pm, Welding Technology Office

**Required Textbook:**

Welding Principles and Applications (Larry Jeffus)  
(ISBN-13: 978-1-305-49469-5) (ISBN-10: 1-305-49469-5)  
(ISBN-13: 978-1-305-49470-1 (ISBN-10: 305-49470-9  
The Hard back and Lab book is required.

**Course Description**

Principles of gas metal arc welding, setup and use of Flux Core Arc Welding (FCAW) equipment, and safe use of tools/equipment. Instruction in various joint designs.

**Course requirements:**

<b>Course requirements/Lab Assignments WLDG 1435</b>	<b>Performance Rating</b>	<b>Date Completed</b>	<b>Instructors Initials</b>	<b>Trainees Initials</b>
1. Demonstrate equipment safety checks SPOL				
2. Describe equipment and required pipe preparation- SPOL				
3. Perform 1G non fixed weld using various electrodes 5P+ E6010 1/8” diameter root pass, hot pass, E7018 3/32 diameter filler, and cap SPOL				

4. Perform 2G non fixed weld using E60105P+ 1/8" diameter root hot pass, E7018 3/32 diameter filler, and cap. SPOL				
5. Perform a 2G fixed position on 6" carbon steel pipe using E 60105P+ 1/8" diameter root hot pass, E7018 3/32 diameter filler, and cap. SPOL				
6. Perform 5G non-fixed position 6" carbon steel pipe using E6010 P+ 1/8" diameter root pass, hot pass, E7018 3/32 diameter filler pass, and cap.				
7. Perform a 5G fixed on 6" carbon steel pipe using E60105P+ 1/8" diameter root pass, hot pass, E7018 3/32" diameter filler and cap. All welds must be done in uphill position.				

### **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, homework must be done outside of class. Any student doing homework in class will have 25 points taken off their exam. 25% written exams, and 50% is skills test

### **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. All homework assignments are to be done outside of class time

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

**Communicating with your instructor:** It is the students' responsibility to check his or her COM email. 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 Competency</b>	<b>Assessed Via This Assignment</b>
Demonstrate equipment safety checks	Critical thinking	Homework, Chapter 5 Written Exams, Lab Manual Assignment welding quiz 1
Describe equipment and required pipe preparation	Critical thinking	Homework, Chapter 5 Written Exams, Lab Manual Assignments welding quiz 2
Perform 1G welds using various electrodes	Critical thinking	Homework, Chapter 5 Written Exams, Lab Manual Assignment 3
Perform 2G welds using various electrodes	Critical thinking	Homework, Chapter 5 Written Exams, Lab Manual Assignments welding quiz 4

**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 Welding Coordinator [vwoods@com.edu](mailto:vwoods@com.edu) 409-993-8380/409-933-8123

**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 Welding Coordinator [vwoods@com.edu](mailto:vwoods@com.edu) 409-993-8380/409-933-8123

### Course outline

<b>Week#</b>	<b>Day/Date</b>	<b>Topic</b>	<b>Reading Assignments &amp; Homework Due Dates</b>
1	M 6-6-22	Run, Hide, Fight Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules and Welding Equipment	Chapter 5
	T 6-7-22	Welding Lecture-Simulator 2 hours Lab	Chapter 5 key terms 1 thru 4

	W 6-8-22	Welding Lecture-Simulator 2 hours Lab	Chapter 5 key terms 6 thru 10
2	M 6--13-22	Welding Lecture-Simulator 2 hours Lab	Chapter 5 review questions 1 thru 5
	T 6-14-22	Welding Lecture-Simulator 2 hours Lab	Chapter 5 review questions 6 thru 10
	W 6-15-22	Welding Lecture-Simulator 2 hours Lab	Chapter 5 review questions 11 thru 15
3	M 6-20-22	Welding Lecture-Simulator 2 hours lab	Chapter 15 review questions 15 thru 20
	T 6-21-21	Class review and Exam on Chapter 12- Students have 7 DAYS to make-up test.	Exam-Ch-5
	W 6-22-21	Class review and Exam on Chapter 12- Students have 7 DAYS to make-up test.	Chapter 23 key terms 1 thru 5
4	M 6-27-22	Welding Lecture-Simulator 2 hours lab	Chapter 23 key terms 6 thru 10
	T 6-28-22	Welding Lecture-Simulator 2 hours lab	Chapter 23 key terms 11 thru 14
	W 6-29-22	Welding Lecture-Simulator 2 hours lab	Chapter 23 review questions 1 thru 10
5	M 7-4-22	College Closed- Independence Day Observed	
	T 7-5-22	Welding Lecture-Simulator 2 hours Lab	Chapter 23 review questions 11 thru 15
	W 7-6-22	Welding Lecture-Simulator 2 hours Lab	Chapter 23 review questions 16 thru 20
6	M 7-13-22	Welding Lecture-Simulator 2 hours lab	Chapter 23 review questions 21 thru 25
	T 7-14-22	Class review and Exam on Chapter 23- Students have 7 DAYS to make-up test.	Exam Ch-23
	W 7-15-22	Students will work on Makeup lab work	
7	M 7-18-22	Students will work on Makeup lab work	
	T 7-19-22	Students will work on Makeup lab work	
	W 7-20-22	Students will work on Makeup lab work	
8	M 7-27-22	Students will work on Makeup lab work	
	T 7-28-22	Students will work on Makeup lab work	
	W 7-29-22	Students will work on Makeup lab work	
9	M 8-1-22	Students will work on Makeup lab work	
	T 8-2-22	Students will work on Makeup lab work	

	W 8-3-22	Students will work on Makeup lab work	
10	M 8-8-22	Students will work on Makeup lab work	
	T 8-9-22	Students will work on Makeup 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://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:** College of the Mainland adheres to all applicable federal, state and local laws, regulations and guidelines with respect to providing accommodations to students with disabilities. If you have a disability and need special accommodation, the instructor will work with you to provide a reasonable accommodation to ensure that you have a fair opportunity to perform in this class. Any student with a documented disability needing academic accommodations is requested to contact Holly Bankston 409) 933-8520 or [hbankston@com.edu](mailto:hbankston@com.edu). The Office of Services for Students with Disabilities is in the Student Success Center. Appropriate steps will then be taken to assist you in your needs.

**ADA Statement:** College of the Mainland adheres to all applicable federal, state and local laws, regulations and guidelines with respect to providing accommodations to students with disabilities. If you have a disability and need special accommodation, the instructor will work with you to provide a reasonable accommodation to ensure that you have a fair opportunity to perform in this class. Any student with a documented disability needing academic accommodations is requested to contact Holly Bankston 409) 933-8520 or [hbankston@com.edu](mailto:hbankston@com.edu). The Office of Services for Students with Disabilities is in the Student Success Center. Appropriate steps will then be taken to assist you in your needs.

**Counseling Statement:** Any student that is needing counseling services is requested to please contact Holly Bankston in the student success center at 409-933-8520 or [hbankston@com.edu](mailto:hbankston@com.edu). Counseling services are available on campus in the student center for free and students can also email [counseling@com.edu](mailto:counseling@com.edu) to setup their appointment. Appointments are strongly encouraged; however some concerns may be addressed on a walk-in basis

**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:** In order to receive a letter grade of “W” the student must withdraw before the official withdrawal date for the semester. Before withdrawing students should speak with the instructor and consult an advisor. Students are only permitted to withdraw six times during their college career by State law. The last day to withdraw is August-1- 2022.

**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 Counseling Center at College of the Mainland has implemented an Early Warning Program. 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 Warning Program, you will be contacted by someone in the Counseling Department. As student success and retention is very important to us, someone from the Counseling Department 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).

**Grading Scale:**

65-69 Plus student must complete Lab Objectives 1-7 =D

70-79 Plus student must complete Lab Objectives 1-8=C

80-89 Plus student must complete Lab Objectives 1-9=B

90-100 Plus student must complete Lab Objectives 1-10=A

### Course outline 2G SMAW Checklist

	Needs Improvement	Standards Met
<b>Root Pass</b>		
Root Penetration – no more than 1/16 penetration		
Weld porosity- – no pin holes in weld		
Weld Tie In (Restarts) – uniform with no undercuts		
Shield Gas Setting-Proper gas flow settings		
<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 8 lab assignment to pass the class at a minimum requirement to A.W.S. Standards. Any student below lab assignment 8 is an automatic F for the class. Any student not passing assignment 8 by week 8 will meet with the instructor about dropping the class, due to lack of 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. The Speaking, Reading and Writing Center provides free tutoring services to students, staff and faculty seeking assistance for writing, reading and oral presentations for academic and non-academic assignments/projects. Located in the Technical Vocational Building 1306, the center provides face to face and online tutoring sessions in a welcoming environment. Appointments can be made in person, or on the center scheduler at [com.mywconline.com](http://com.mywconline.com), or by clicking the SRWC icon on the COM website.**

## **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 worn at all times 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 worn 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 CLAS**