



WLDG-1412
Introduction to Flux Core Welding
Summer- 2023
MTW 1:00pm-4:50pm

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

Student hours and location: MTW-7:30am-8:00am,
 MT-12:00pm-1:00pm, 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.

Lab Assignments	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 4G groove weld on 3/8" carbon steel plate.				

7. Make a 2G groove weld on 6' carbon steel pipe fixed position.				
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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 4=D
4. Student must 71 thru 80 on Exams and complete Lab Objectives 1 thru 5=C
5. Student must 81 thru 90 on Exams and complete Lab Objectives 1 thru 6=B
6. Student must 91 thru 100 on Exams and complete Lab Objectives 1 thru 7=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.

Student Learner Outcome	Maps to Competency	Assessed Via This Assignment
Demonstrate equipment safety checks	Critical thinking	Homework, Chapter 12 Written Exams, Lab Manual Assignment welding quiz
Identify Flux Cored Arc Welding (FCAW) equipment parts.	Critical thinking	Homework, Chapter 13 Written Exams, Lab Manual Assignments welding quiz
Demonstrate the procedures for welding a butt joint, a T-joint, in the flat, horizontal, and overhead positions.	Critical thinking	Homework, Chapter 14 Written Exams, Lab Manual Assignment 14-8,14-21
Demonstrate the procedures for making an open butt v-groove weld.	Critical thinking	Homework, Chapter 14 Written Exams, Lab Manual Assignments welding quiz

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

Course outline

Week#	Day/Date	Topic	Reading Assignments & Homework Due Dates
1	M 6-5-23	Run, Hide, Fight Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules and Welding Equipment	Chapter 12
	T 6-6-23	Welding Lecture-Simulator 2 hours Lab	Chapter 12 key terms 1 thru 4
	W 6-7-23	Welding Lecture-Simulator 2 hours Lab	Chapter 12 key terms 5 thru 10
2	M 6--12-23	Welding Lecture-Simulator 2 hours Lab	Chapter 12 review questions 1 thru 5

	T 6-13-23	Welding Lecture-Simulator 2 hours Lab	Chapter 12 review questions 1 thru 5
	W 6-14-23	Welding Lecture-Simulator 2 hours Lab	Chapter 12 review questions 6 thru 14
3	M 6-19-23	College closed for Juneteenth	Closed
	T 6-20-23	Welding Lecture-Simulator 2 hours Lab	Chapter 12 key terms 15 thru 32
	W 6-21-23	Class review and Exam on Chapter 12- Students have 7 DAYS to make-up test.	Exam Ch-12
4	M 6-26-23	Welding Lecture-Simulator 2 hours lab	Chapter 13 key terms 1 thru 4
	T 6-27-23	Welding Lecture-Simulator 2 hours lab	Chapter 13 key terms 1 thru 4
	W 6-28-23	Welding Lecture-Simulator 2 hours lab	Chapter 13 key terms 5 thru 12
5	M 7-3-23	Welding Lecture-Simulator 2 hours lab	Chapter 13 review questions 1 thru 8
	T 7-4-23	College Closed- Independence Day Observed	Closed
	W 7-5-23	Class review and Exam on Chapter 12- Students have 7 DAYS to make-up test.	Chapter 13 review questions 9 thru 12
6	M 7-10-23	Welding Lecture-Simulator 2 hours lab	Chapter 13 review questions 13 thru 16
	T 7-11-23	Welding Lecture-Simulator 2 hours Lab	Chapter 13 key terms 17 thru 20
	W 7-12-23	Class review and Exam on Chapter 13- Students have 7 DAYS to make-up test.	Exam Ch-13
7	M 7-17-23	Welding Lecture-Simulator 2 hours lab	Chapter 14 key terms 1 thru 10
	T 7-18-23	Welding Lecture-Simulator 2 hours Lab	Chapter 14 review questions 1 thru 8
	W 7-19-23	Welding Lecture-Simulator 2 hours lab	Chapter 14 review questions 9 thru 15
8	M 7-24-23	Welding Lecture-Simulator 2 hours lab	Chapter 14 review questions 16 thru 21
	T 7-25-23	Class review and Exam on Chapter 14- Students have 7 DAYS to make-up test.	Exam Ch-14
	W 7-26-23	Students will work on Makeup lab work	
9	M 7-31-23	Students will work on Makeup lab work	
	T 8-1-23	Students will work on Makeup lab work	
	W 8-2-23	Students will work on Makeup lab work	
10	M 8-7-23	Students will work on Makeup lab work	
	T -8-23	Students will work on Makeup lab work	

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	W 8-9-23		

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. *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

Academic Success & Support Services: College of the Mainland is committed to providing students with 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 Kimberly Lachney at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is 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 adviser. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 10-week session is July 31, 2023

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 or communityresources@com.edu.

Course outline 3G FCAW Checklist

	Needs Improvement	Standards Met
Root Pass		
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		
Cover Pass		
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		

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.

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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 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