WLDG-2413 114C3
Welding Using Multiple Processes
FALL 2024
TTH- 1:30pm-4:50pm

Instructor: Rico Brown, rbrown@com.edu, 409-933-8380

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)

Student hours and location Mon-Thur 11:00 am-1:00 pm 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: 1-305-49470-1)
The Hard back and Lab book is required.

Course Description
Instruction using layout tools and blueprint reading with demonstration and guided practices with some of the following welding processes: oxy-fuel gas cutting and welding, shield metal arc welding (SMAW), gas tungsten arc welding (GTAW), or any other approved welding process

Course requirements:

Student Learner Outcomes 2413	Performance Rating	Date	Instructor initials	Student Initials
1. Identify proper safety equipment and tools and identify and select the proper welding process for a given application. SPOL				
2. Demonstrate skills training using more than one approved welding process. SPOL				
3. Demonstrate ability to analyze situations and make decisions using skills as				

taught concerning safety and electrode selections. SPOL				
4. Select the most economic and practical welding process for the given task. SPOL				
5. Make a 5G on 6" pipe using GTAW. ER70S2 -1/8" diameter filler rod on Root Pass, Hot Pas, Filler Pass, and Cap				
6. Make a 6G on 6" pipe using GTAW. ER70S2 -1/8" diameter filler rod on Root Pass, Hot Pas, Filler Pass, and Cap				
7. Make a 5G on 6" pipe using GTAW. ER70S2 -1/8" diameter filler rod on Root Pass, Hot Pas, E 7018 3/32 Filler Pass, and Cap				
8. Make a 6G on 6" pipe using GTAW. ER70S2 -1/8" diameter filler rod on Root Pass, Hot Pas, E7018 3/32 Filler Pass, and Cap				
9. Make a 5G on 6" pipe using GTAW. ER309 -1/8" diameter filler rod on Root Pass, Hot Pas, Filler Pass, and Cap				

Determination of Course Grade/Detailed Grading Formula:
65-69 Plus student must complete Lab Objectives 1-6 =D

70-79 Plus student must complete Lab Objectives 7 =C

80-89 Plus student must complete Lab Objectives 8=B

90-100 Plus student must complete Lab Objectives 9=A

Late Work, Make-Up, and Extra-Credit Policy:
Make-up exam dates are specified in the course outline schedule, it is the student obligation to make sure he or she arranges for a makeup exam.

Attendance Policy: Attendance will be taken each class period.

Student Learner Outcome	Maps To Competency	Assessed Via This Assignment
Identify proper safety equipment and tools and identify and select the proper welding process for a given application. SPOL	Critical thinking	Homework, Written Exams, Lab
Demonstrate skills training using more than approved welding process. SPOL	Critical thinking	Homework, Written Exams, Lab Manual Assignment. 26-Welding Quiz.32
Demonstrate ability to analyze situations and make decisions using skills as taught concerning safety and electrode selections.	Critical thinking	Homework, Written Exams, Lab Manual Assignment 29-Welding Quiz.
Select the most economic and practical welding process for the given task.	Critical thinking	Homework, Written Exams, Lab Manual Assignments, 22-1, 22-2, 22-3, and 22 Welding Quiz. Student will demonstrate the most efficient use of material to instructor for a given process

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 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 409-933-8607 dlewis22@com.edu

Week#	Day/Date	Topic	Reading Assignments & Homework Due Dates
1	T 8-20-24	Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules and Welding Equipment	
	TH 8-22-24	Welding Lecture 2 Hours lab	
2	T 8-27-24	Welding Lecture 2 Hours lab	Chapter 29 key terms
	TH 8-29-24	Welding Lecture 2 Hours lab	Chapter 29 review questions 1-10
3	T 9-3-24	Welding Lecture 2 Hours lab	Chapter 29 review questions 11-20
	TH 9-5-24	Welding Lecture 2 Hours lab	Chapter 29 quiz #1
4	T 9-10-24	Welding Lecture 2 Hours lab	Chapter 29 quiz #2
	TH 9-12-24	Welding Lecture 2 Hours lab	Chapter 29 quiz #3
5	T 9-17-24	Welding Lecture 2 Hours lab	Chapter 29 quiz #4
	TH 9-19-24	Chapter 29 exam 1 hour lab	
6	T 9-24-24	Welding Lecture 2 Hours lab	Chapter 30 key terms
	TH 9-26-24	Welding Lecture 2 Hours lab	Chapter 30 review questions 1-15
7	T 10-1-24	Welding Lecture 2 Hours lab	Chapter 30 review questions 16-30
	TH 10-3-24	Welding Lecture 2 Hours lab	Chapter 30 review questions 31-45
8	T 10-8-24	Welding Lecture 2-hour lab	Chapter 30 review questions 46-60
	TH 10-10-24	Welding Lecture 2-hour lab	
9	T 10-15-24	Welding Lecture 2-hour lab	
	TH 10-17-24	Welding Lecture 2-hour lab	Chapter 30 quiz #1
10	T 10-22-24	Welding Lecture 2-hour lab	Chapter 30 quiz #1

	TH 10-24-24	Welding Lecture 2-hour lab	Chapter 30 quiz #1
11	T 10-29-24	Welding Lecture 2-hour lab	Chapter 30 quiz #1
	TH 10-31-24	Chapter 30 EXAM	
12	T 11-5-24	FINAL WEEK FOR MAKE UP EXAMS & ASSIGNMENTS	
	TH 11-7-24	FINAL WEEK FOR MAKE UP EXAMS & ASSIGNMENTS	
13	T 11-12-24	Open Lab	
	TH 11-14-24	Open Lab	
14	T 11-19-24	Open Lab	
	TH 11-21-24	Open Lab	
15	T 11-26-24	Open Lab	
	TH 11-28-24	THANKSGIVING HOLIDAY	
16	T 12-3-24	Open Lab	
	TH 12-5-24	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://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 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:

Kimberly Lachney, Student Accessibility Services Coordinator
Phone: 409-933-8919
Email: 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 advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is October 2. The last date to withdraw from the 16-week session is November15. The last date to withdraw for the 2nd 8-week session is November 26.

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 or communityresources@com.edu.

5G GTAW/SMAW(Combo) Checklist

	Needs Improvement	Standards Met
Root Pass		
Root Penetration – 1/16 – 3/32 penetration, no cold wire		
Weld porosity/undercut – no excess undercut, no porosity		
Weld Tie In (Restarts) – uniform with no undercut, cold wire		
Shield Gas settings – Proper gas flow settings		
Cover Pass		
Size – each weld bead should not exceed twice the size of the welding rod		
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 beads		
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.

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, 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, sun glasses are NOT acceptable**
4. **Shaded cutting googles 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 warn 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. **FAILUE TO FOLLOW SAFETY RULES WILL RESULT BEING REMOVED FROM CLASS**