



WLDG-2413-ALL
Welding Using Multiple Processes
Summer 2021
MTW- 1:00PM-4:45PM

Instructor: Victor Woods, vwoods@com.edu, 409-933-8380 or 409-933-8321

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.

Student hours and location Mon-Wed 7:30am-8:00am and Th 8:00Am-9:30AM 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.

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.

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.

Student Learner Outcomes: Upon successful completion of this course, students will:

- 1 Identify proper safety equipment and tools, identify and select the proper welding process for a given application
3. Demonstrate skills training using more than one approved welding process.
2. Identify and select the proper welding process for a given application
3. Demonstrate ability to analyze situations and make decisions using skills as taught concerning safety and electrode selections.
4. Select the most economic and practical welding process for the given task.

General Education Core Objectives: Students successfully completing this course will demonstrate competency in the following Core Objectives:

1. **Critical Thinking Skills:** Students will demonstrate creative thinking, innovation, and the ability to analyze, evaluate, and synthesize information.

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

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

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COVID-19 Statement: All students, faculty, and staff are expected to familiarize themselves with materials and information contained on the College of the Mainland's Coronavirus Information site at www.com.edu/coronavirus. In compliance with Governor Abbott's May 18 Executive Order, face coverings/masks will no longer be required on COM campus. Protocols and college signage are being updated. We will no longer enforce any COM protocol that requires face coverings. We continue to encourage all members of the COM community to distance, when possible, use hygiene measures, and get vaccinated to protect against COVID-19. Please visit com.edu/coronavirus for future updates.

Attendance Policy: Attendance will be taken each class period.

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 only permitted to withdraw six times during their college career by State law. The last day to withdraw is August 2nd.

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.

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 are in need of 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 at 409-933-8520 or hbankston@com.edu. The Office of Services for Students with Disabilities is located in 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. Counseling services are available on campus in the student center for free and students can also email counseling@com.edu to setup their appointment. Appointments are strongly encouraged; however some concerns may be addressed on a walk-in basis.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention is 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.

Classroom Conduct Policy: College of the Mainland requires that students enrolled at COM be familiar with the Standards of Student Conduct, which can be found in the on-line Student Handbook. <http://www.com.edu/student-services/student-handbook.php>. Students should act in a professional manner at all times. Disruptive students will be held accountable according to college policy. Any violations of the Code of Conduct will result in a referral to the Office for student Conduct and may result in dismissal from this class.

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.

Plagiarism: Plagiarism is using someone else’s words or ideas and claiming them as your own. Plagiarism is a very serious offense. Plagiarism includes paraphrasing someone else’s words without giving proper citation, copying directly from a website and pasting it into your paper, using someone else’s words without quotation marks. Any assignment containing any plagiarized

material will receive a **grade of zero** and the student will be referred to the Office of Student Conduct for the appropriate discipline action.

www.plagiarism.org

Make-Up Policy:

Make-up exam dates are specified in the course outline schedule below, it is the student obligation to make sure he or she arranges for a make up exam.

Grading Scale:

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

Concerns/Questions Statement: 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 409-933-8607 dlewis22@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		

Course outline:

Week#	Day/Date	Topic	Reading Assignments & Homework Due Dates
1	Mon 6-07-21	Run, Hide, Fight Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules and Welding Equipment	
	Tue 6-08-21	Welding Lecture 2 hour lab	
	Wed 6-09-21	Welding Lecture 2 hour lab	

2	Mon 6-14-21	Welding Lecture 2 hour lab	Chapter 29 Key Terms
	Tue 6-15-21	Welding Lecture 2 hour lab	Chapter 29 Review Questions
	Wed 6-16-21	Welding Lecture 2 hour lab	Chapter 29 Quiz
3	Mon 6-21-21	Chapter 10 exam and homework due 2 hour lab	Chapter 29 Exam Due
	Tue 6-22-21	Chapter 10 exam and homework due 2 hour lab	Chapter 29 Exam Due
	Wed 6-23-21	Chapter 10 exam and homework due 2 hour lab	Chapter 29 Exam Due
4	Mon 6-28-21	Welding Lecture 2 hour lab	Chapter 30 Key Terms
	Tue 6-29-21	Welding Lecture 2 hour lab	Chapter 30 Review Questions
	Wed 6-30-21	Welding Lecture 2 hour lab	Chapter 30 Quiz
5	Mon 7-05-21	Chapter 11 exam and homework due 2 hour lab	Chapter 30 Exam Due
	Tue 7-06-21	Chapter 11 exam and homework due 2 hour lab	Chapter 30 Exam Due
	Wed 7-07-21	Chapter 11 exam and homework due 2 hour lab	Chapter 30 Exam Due
6	Mon 7-12-21	OPEN LAB CONTEXTUALIZED LECTURE	
	Tue 7-13-21	OPEN LAB CONTEXTUALIZED LECTURE	
	Wed 7-14-21	OPEN LAB CONTEXTUALIZED LECTURE	
7	Mon 7-19-21	OPEN LAB CONTEXTUALIZED LECTURE	
	Tue 7-20-21	OPEN LAB CONTEXTUALIZED LECTURE	
	Wed 7-21-21	OPEN LAB CONTEXTUALIZED LECTURE	
8	Mon 7-26-21	OPEN LAB CONTEXTUALIZED LECTURE	
	Tue 7-27-21	OPEN LAB CONTEXTUALIZED LECTURE	
	Wed 7-28-21	OPEN LAB CONTEXTUALIZED LECTURE	
9	Mon 8-02-21	OPEN LAB CONTEXTUALIZED LECTURE	
	Tue 8-03-21	OPEN LAB CONTEXTUALIZED LECTURE	
	Wed 8-04-21	OPEN LAB CONTEXTUALIZED LECTURE	
10	Mon 8-09-21	OPEN LAB CONTEXTUALIZED LECTURE	
	Tue	OPEN LAB	

	8-10-21	CONTEXTUALIZED LECTURE	
	Wed 8-11-21	OPEN LAB CONTEXTUALIZED LECTURE	

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				

Core competencies Assessments

Critical thinking	The student will identify proper safety equipment and tools and identify and select the proper welding process for a given application.
Critical thinking	The student will demonstrate skills training using more than one approved welding process.
Critical thinking	The student will demonstrate ability to analyze situations and make decisions using skills as taught concerning safety and electrode selections.
Creativity	The student will select the most economic and practical welding process for the given task.

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.

<https://www.youtube.com/watch?v=5VcSwejU2D0>

Last Resort ACTIVE SHOOTER SURVIVAL Measures by Alon Stivi

<https://www.youtube.com/watch?v=r2tIeRUbRHw>

Surviving an Active Shooter Event - Civilian Response to Active Shooter

<https://www.youtube.com/watch?v=j0It68YxLQQ>

Make the Call *

<https://www.youtube.com/watch?v=AWaPp-8k2p0>

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 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**