



**WLDG-2413-ALL**  
**Welding Using Multiple Processes**  
**Spring 2022**  
**TTH- 1:30pm-4:50pm**

**Instructor:** Rico Brown, [rbrown@com.edu](mailto:rbrown@com.edu), 409-933-8380

**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:**

<b>Student Learner Outcomes 2413</b>	<b>Performance Rating</b>	<b>Date</b>	<b>Instructor initials</b>	<b>Student Initials</b>
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 make up exam.

**Attendance Policy:** Attendance 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. (Faculty may add additional statement requiring monitoring and communication expectations via Blackboard or other LMS)

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 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 409-933-8607 [dlewis22@com.edu](mailto:dlewis22@com.edu)

**Course outline:**

<b>Week#</b>	<b>Day/Date</b>	<b>Topic</b>	<b>Reading Assignments &amp; Homework Due Dates</b>
1	T 1-18-22	Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules and Welding Equipment	Chapter 30 key terms 1-15
	Th 1-20-22	Welding Lecture 2 hours Lab	Chapter 30 key terms 16-27
2	T 1-25-22	Welding Lecture 2 hours Lab	Chapter 30 review questions 1-20
	TH 1-27-22	Welding Lecture 2 hours lab	Chapter 30 review questions 21-40
3	T 2-1-22	Welding Lecture 2 hours lab	Chapter 30 review questions 41-60
	TH 2-3-22	Welding Lecture 2 hours lab	Chapter 30 quiz lab manual 1-18
4	T 2-8-22	Welding Lecture 2 hours lab	Chapter 30 quiz lab manual 19-38
	TH 2-10-22	Welding Lecture 2 hours lab	Chapter 30 quiz lab manual 39-53
5	T 2-15-22	Welding Lecture 2 hours lab	Chapter 30 quiz lab manual 54-68
	TH 2-17-22	Welding Lecture 2 hours lab	
6	T 2-22-22	Class review Chapter 30 2 hours lab	
	TH 2-24-22	Chapter 30 exam 1 hour lab	
7	T 3-1-22	Make up exam 2 hours lab	
	TH 3-3-22	Make up exam Open Lab	
8	T 3-8-22	Welding Lecture 2 hours lab	Chapter 29 key terms 1-15
	TH 3-10-22	Welding Lecture 2 hours lab	Chapter 29 review 1-20
	T 3-15-22	SPRING BREAK	
	TH 3-17-22	SPRING BREAK	
9	T 3-22-22	Welding Lecture 2 hours lab	Chapter 29 quiz lab manual 1-19
	TH 3-24-22	Class review Chapter 29 2 hours lab	Chapter 29 quiz lab manual 20-34
10	T 3-29-22	Class review Chapter 29 2 hours lab	

	TH 3-30-22	Chapter 29 Exam Open Lab	
11	T 4-5-22	Make up Exam Open Lab	
	TH 4-7-22	Make up Exam Open Lab	
12	T 4-12-22	Open lab	
	TH 4-14-22	Open lab	
13	T 4-19-22	Open lab	
	TH 4-21-22	Open lab	
14	T 4-26-22	Open lab	
	TH 4-26-22	Open Lab	
15	T 5-2-22	Open Lab	
	TH 5-7-22	Open lab	
16	5-10-22	Open lab	
	5-12-22	Last Day	

## 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 Holly Bankston at 409-933-8520 or [hbankston@com.edu](mailto:hbankston@com.edu). The Office of Services for Students with Disabilities is located in the Student Success Center.

**Counseling Statement:** Any student 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 set up 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:** 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 2. The last date to withdraw from the 16-week session is April 25. The last date to withdraw for the 2<sup>nd</sup> 8-week session is May 4.

**F<sub>N</sub> Grading:** The F<sub>N</sub> grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The F<sub>N</sub> 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 F<sub>N</sub> grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an F<sub>N</sub> 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.

**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](http://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](http://com.edu/coronavirus) for future updates.

### 5G GTAW/SMAW(Combo) Checklist

	Needs Improvement	Standards Met
<b>Root Pass</b>		
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		
<b>Cover Pass</b>		
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](http://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**