WLDG-2451-222CL
Advanced Gas Tungsten Welding
Fall 2022
Tue/Thurs. – 6:00 PM – 9:20 PM

Instructor: Derrick Cooper, dcooper@com.edu, 409-933-8380 or 409-933-8321

Student hours and location: MTWTH, 5:30 PM -6:00 PM Welding Technology Office

Required Textbook: Welding Principles and Applications (Larry Jeffus)
(ISBN-13: 978-1-111-03918-9) (ISBN-10: 1-111-03918-6)
(ISBN-13: 978-1-111-03917-2) (ISBN-10: 1-111-03917-8)
The Hard back and Lab book is required.

Course Description
Advanced topics in GTAW welding, including welding in various positions and directions.

Course requirements:

Lab Assignments WLDG 2451	**Performance Rating**	**Date**	**Instructor initials**	**Student Initials**
1. Describe safety rules and equipment used- SPOL				
2. Demonstrate proficiency in various welding position- SPOL				
3. Describe the effects of welding parameters in GTAW-SPOL				
4. Set up for Gas Tungsten Arc Welding operations				
5. Diagnose welding problems, and perform visual inspection-SPOL				
6. 2G fixed position on carbon steel pipe 6” diameter E-70S6-1/8” diameter for root pass, hot pass, filler pass and cap				
7. 5G rolled position on carbon steel pipe 6” diameter E-70S6 1/8” filler rod root pass, hot pass, filler pass and cap				

8. 5G fixed position on carbon steel pipe 6” E70S6 1/8” diameter rod root pass, hot pass, filler pass and cap				
9. 5G fixed position on carbon steel pipe 2” E70S6 root pass, hot pass, filler, and cap.				
10. 6G fixed position on carbon steel pipe 6” E70S6 root pass, hot pass, filler, and cap				

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
4. Student must 71 thru 80 on Exams and complete Lab Objectives
5. Student must 81 thru 90 on Exams and complete Lab Objectives
6. Student must 91 thru 100 on Exams and complete Lab Objectives

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

Student Learner Outcome	Maps to Core Objectives	Assessed Via This Assignment
Describe safety rules and equipment used	Critical thinking	Homework, Written Exams. Lab Manual Assignment, 17-1 SPOL
Demonstrate proficiency in various welding positions	Critical thinking	Homework, Written Exams Lab Manual Assignments, 17-2, 17-10, 17-11A and 17-11B, 17-8 SPOL
Describe the effects of welding parameters in GTAW	Critical thinking	Homework, Written Exams, Lab Manual, Assignment, 17-Welding Quiz. SPOL
Diagnose welding problems; and perform visual inspection.	Critical thinking	Homework, Written Exams, Lab Manual Assignment. 16-Welding Quiz SPOL

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

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 Department Chair 409 933-8607/dlewis22@com.edu.

Course outline:

Week#	Day/Date	Topic	Reading Assignments & Homework Due Dates
1	T 8-23-22	Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules + Welding Equipment	
	Th 8-25-22	Welding Lecture/Simulator 2-hours lab	Chapter 16 Key Terms 1 thru 9←
2	T 8-30-22	Welding Lecture/Simulator 2-hours lab	Chapter 16 review question 1 thru 11
	TH 9-1-22	Welding Lecture/Simulator 2-hours lab	Chapter 16 review question 12 thru 22
3	T 9-6-22	Labor Day closed	
	Th 9-8-22	Welding Lecture/Simulator 2-hours lab	Chapter 16 review question 23 thru 33

4	T 9-13-22	Welding Lecture/Simulator 2-hours lab	Chapter 16 Quiz
	Th 9-15-22	Welding Lecture/Chapter 16 Quiz Review 2-hours lab	Chapter 16 Review
5	T 9-20-22	Chapter 16 Exam 2-hours lab	Chapter 17 key terms 1 thru 6
	TH 9-22-22	Welding Lecture/Simulator 2-hours lab	Chapter 17 review 1 thru 13
6	T 9-27-22	Welding Lecture/Simulator 2-hours lab	Chapter 17 review 14 thru 26
	TH 9-29-22	Welding Lecture/Simulator 2-hours lab	Chapter 17 Quiz
7	T 10-4-22	Welding Lecture/Chapter 17 Quiz Review 2-hours lab	Chapter 17 Review
	Th 10-6-22	Chapter 17 Exam 2-hours lab	Chapter 28 Key Terms 1 thru 10
8	T 10-11-22	Welding Lecture/Simulator 2-hours lab	Chapter 28 Key Terms 11 thru 21
	Th 10-13-22	Welding Lecture/Simulator 2-hours lab	Chapter 28 review questions 1 thru 10
9	T 10-18-22	Welding Lecture/Simulator 2-hours lab	Chapter 28 review questions 11 thru 20
	Th 10-20-22	Welding Lecture/Simulator 2-hours lab	Chapter 28 review questions 21 thru 31
10	T 10-25-22	Welding Lecture/Simulator 2-hours lab	Chapter 28 Quiz
	Th 10-27-22	Welding Lecture/Chapter 28 Quiz Review 2-hours lab	Chapter 28 Review
11	T 11-1-22	Chapter 28 Exam 2-hours lab	
	Th 11-3-22	Make Up Exams/ Contextualized Welding Lecture/Simulator 2-hours lab	
12	T 11-8-22	Make Up Exams/ Contextualized Welding Lecture/Simulator 2-hours lab	
	Th 11-10-22	Last Day For Make Up Exams/ Contextualized Welding Lecture/Simulator 2-hours lab	
13	T 11-15-22	Contextualized Welding Lecture/Simulator 2-hours lab	
	Th 11-17-22	Contextualized Welding Lecture/Simulator 2-hours lab	
14	T 11-22-22	Contextualized Welding Lecture/Simulator 2-hours lab	
	Th 11-24-21	Thanksgiving Holiday	
15	T 11-29-22	Contextualized Welding Lecture/Simulator 2-hours lab	

	Th 12-1-22	Contextualized Welding Lecture/Simulator 1- hour lab	
16	T 12-6-22	Contextualized Welding Lecture/Simulator 1- hour lab	
	Th 12-8-22	Welding Lecture/Simulator 2-hours lab	

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. *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 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 Michelle Brezina at 409-933-8124 or mvaldes1@com.edu. The Office of Services for Students with Disabilities is located 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 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 5. The last date to withdraw from the 16-week session is November 18. The last date to withdraw for the 2nd 8-week session is December 1.

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.

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5G PIPE SMAW Checklist

WLDG 2451	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 – weld size no less than 1/16, no more than 1/8 height Width no more than 1/16 outside the bevel		
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(s)		
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 always worn in labs and outside when students are working, sunglasses 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 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. **FAILUE TO FOLLOW SAFETY RULES WILL RESULT BEING REMOVED FROM CLASS**