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WLDG-1434-103C3
Introduction to Gas Tungsten Arc Welding
Fall 2025
Mon/Wed- 9:00AM-12:20PM

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

Office hours and location Tue-Thur 9:00 am-1:00 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

Principles of gas tungsten arc welding (GTAW), including setup, GTAW equipment. Instruction in various positions and joint designs

Course requirements:

Lab Assignments WLDG 1434	Performance Rating	*Date*	*Instructor initials*	Student Initials
1. Describe safety rules on equipment SPOL				
2. Describe various joint designs SPOL				
3. Describe the effects of the welding parameters in GTAW. SPOL				
4. Operate GTAW equipment.				
5. Weld various structural materials SPOL				
6. Make 2F fillet weld on carbon steel plate with E70S6 1/8” diameter electrode				
7. Make 3F fillet weld on carbon steel plate with E70S6 1/8” diameter electrode				
8. Make 4F fillet weld on carbon steel plate with E70S6 1/8” diameter electrode				
9. Make 2F fillet weld on aluminum plate with E4043 1/8” diameter electrode				
10. Make 3F fillet weld on aluminum plate with E4043 1/8” diameter electrode				

11. Make 2F fillet weld on with stainless steel filler rod E309 1/8" diameter electrode on carbon steel plate.				
12. Make 3F fillet weld with stainless steel filler rod E309 1/8" diameter electrode on carbon steel plate.				
13. Make 1G vee- butt weld on carbon steel plate with E70S6 1/8" diameter				
14. Make 3G vee-butt weld with carbon steel plate with E70S6 1/8" diameter				
15. Make a 2G vee-butt weld on 6" carbon steel pipe with E70S6 1/8" diameter				

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 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 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 D2L or other LMS)

Student Learner Outcome	Maps To Core Objective	Assessed Via This Assignment
Describe safety rules and equipment	Critical thinking	Homework, Written Exams, Lab Manual Assignment 16-2 SPOL
Describe various joint designs	Critical thinking	Homework, Written Exams, Lab Manual Assignments 16-7 and 16-8 SPOL
Describe the effects of welding parameters in GTAW	Critical thinking	Homework, Written Exams Lab Manual Assignment 15- Welding Quiz SPOL
Weld various structural materials	Critical thinking	Homework, Written Exams, Lab Manual Assignments 16-6 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

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

Course Outline:

Week#	Day/Date	Topic	Reading Assignments & Homework Due Dates
1	T 8-19-25	Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules and Welding Equipment	
	TH 8-21-25		
2	T 8-26-25	Welding Lecture 2 Hours lab	Chapter 16 key terms 1-15
	TH 8-28-25	Welding Lecture 2 Hours lab	Chapter 16 review question 1 thru 15
3	T 9-2-25	Welding Lecture 2 Hours lab	Chapter 16 review question 16 thru 33
	TH 9-4-25	Welding Lecture 2 Hours lab	Chapter 16 Quiz

4	T 9-9-25	Chapter 16 Exam 2-hours lab	
	TH 9-11-25	Welding Lecture 2 Hours lab	Chapter 17 key terms 1 thru 6
5	T 9-16-23	Welding Lecture 2 Hours lab	Chapter 17 review 1 thru 13
	TH 9-18-23	Welding Lecture 2 Hours lab	Chapter 17 review 14 thru 26
6	T 9-23-25	Welding Lecture 2 Hours lab	Chapter 17 Quiz
	TH 9-25-25	Chapter 17 exam 1 hours lab	
7	T 9-30-25	Welding Lecture 2 Hours lab	Chapter 28 Key Terms 1 thru 10
	TH 10-2-25	Welding Lecture 2 Hours lab	Chapter 28 Key Terms 11 thru 21
8	T 10-7-25	Welding Lecture 2-hour lab	Chapter 28 review questions 1 thru 10
	TH 10-9-25	Welding Lecture 2-hour lab	Chapter 28 review questions 11 thru 20
9	T 10-14-25	Welding Lecture 2-hour lab	Chapter 28 review questions 21 thru 31
	TH 10-16-25	Welding Lecture 2-hour lab	Chapter 24 quiz lab manual 1-13
10	T 10-21-25	Welding Lecture 2-hour lab	Chapter 28 review questions 21 thru 31
	TH 10-23-25	Welding Lecture 2-hour lab	
11	T 10-28-25	Chapter 28 Exam 2-hours lab	
	TH 10-30-25	Chapter 28 Exam 2-hours lab	
12	T 11-4-25	FINAL WEEK FOR MAKE UP EXAMS & ASSIGNMENTS	
	TH 11-6-25	FINAL WEEK FOR MAKE UP EXAMS & ASSIGNMENTS	
13	T 11-11-25	OPEN LAB	
	TH 11-13-25	OPEN LAB	
14	T 11-18-25	OPEN LAB	
	TH 11-20-25	OPEN LAB	
15	T 11-25-25	Open Lab	
	TH 11-27-25	THANKSGIVING HOLIDAY COLLEGE CLOSED	

16	T 12-2-25	Open Lab	
	TH 12-4-25	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/student-handbook.html**.** *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 accommodation 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 1. The last date to withdraw from the 16-week session is November 14. The last date to withdraw for the 2nd 8-week session is November 25.

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 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.

3G PLATE GTAW Checklist

WLDG 1434	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 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 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 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**