



WLDG-1435-104CL
Introduction to Pipe Welding
Spring 2024
TUES./THUR. 9:00AM -12:20PM

Instructor: VICTOR WOODS, vwoods@com.edu, 409-933-8380 or 409-933-8321

Student hours and location: MTWTH,6:30AM-7:00AM ;3:15PM – 4:20PM, 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

An introduction to welding of pipe using the shielded metal arc welding process (SMAW), including electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 1G and 2G using various electrodes

Course requirements:

| Course requirements/Lab Assignments WLDG 1435 | Performance Rating | Date Completed | Instructors Initials | Trainees Initials |
|--|--------------------|----------------|----------------------|-------------------|
| 1. Demonstrate equipment safety checks SPOL | | | | |
| 2. Describe equipment and required pipe preparation- SPOL | | | | |
| 3. Perform 1G non fixed weld using various electrodes 5P+ E6010 1/8" diameter root pass, hot pass, E7018 3/32 diameter filler, and cap SPOL | | | | |
| 4. Perform 2G non fixed weld using E60105P+ 1/8" diameter root hot pass, E7018 3/32 diameter filler, and cap. SPOL | | | | |

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|---|--|--|--|--|
| 5. Perform a 2G fixed position on 6" carbon steel pipe using E 60105P+ 1/8" diameter root hot pass, E7018 3/32 diameter filler, and cap. SPOL | | | | |
| 6. Perform 5G non-fixed position 6" carbon steel pipe using E6010 P+ 1/8" diameter root pass, hot pass, E7018 3/32 diameter filler pass, and cap. | | | | |
| 7. Perform a 5G fixed on 6" carbon steel pipe using E60105P+ 1/8" diameter root pass, hot pass, E7018 3/32" diameter filler and cap. All welds must be done in uphill position. | | | | |

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 1 thru 7=D
4. Student must 71 thru 80 on Exams and complete Lab Objectives 1 thru 8=C
5. Student must 81 thru 90 on Exams and complete Lab Objectives 1 thru 9=B
6. Student must 91 thru 100 on Exams and complete Lab Objectives 1 thru 10=A

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 D2L or other LMS)

| Student Learner Outcome | Maps To Competency | Assessed Via This Assignment |
|--|--------------------|--|
| Demonstrate equipment safety checks | Critical thinking | Homework, Written Exams, Lab Manual Assignment, 5-1 |
| Describe equipment and required pipe preparation | Critical thinking | Homework, Written Exams, Lab Manual Assignment, 5-2 |
| Perform 1G welds using various electrodes | Critical thinking | Homework, Written Exams, Lab Manual Assignment, 5-3 |
| Perform 2G welds using various electrodes | Critical thinking | Homework, Written Exams, Lab Manual Assignments 5-4, 5-5 |

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 1-16-24 | Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules and Welding Equipment | |
| | Th 1-18-24 | Welding Lecture 2 Hours lab | Chapter 5 |
| 2 | T 1-22-24 | Welding Lecture 2 Hours lab | Chapter 5 key terms |
| | TH 1-24-24 | Welding Lecture 2 hours lab | Chapter 5 review questions 1-10 |
| 3 | T 1-30-24 | Welding Lecture + welding simulator training 2 Hours Lab | Chapter 5 review questions 11-20 |
| | TH 2-1-24 | Welding Lecture 2 hours lab | Chapter 5 quiz Lab manual |

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| 4 | T 2-6-24 | Class review for chapter 5 exam + welding simulator training 2 hours lab | |
| | TH 2-8-24 | Chapter 5 exam 1 hour's lab | Chapter 6 key terms |
| 5 | T 2-13-24 | Welding Lecture + welding simulator training 2 hours lab | Chapter 6 review questions |
| | TH 2-15-24 | Welding Lecture 2-hour lab | Chapter 6 quiz lab manual |
| 6 | T 2-20-24 | Class review for chapter 6+welding simulator 2 hours lab | |
| | TH 2-22-24 | Chapter 6 exam 2 hours lab | |
| 7 | T 2-27-24 | Make up exams + welding simulator training. 2 hours lab | |
| | TH 2-29-24 | Make up exams+ welding simulator training. 2-hour lab | |
| 8 | T 3-5-24 | Welding Lecture 2 Hours lab | |
| | TH 3-7-24 | Welding Lecture 2 Hours lab | |
| | T 3-11-24 | Spring Break | |
| | TH | Spring Break | |
| 9 | T 3-19-24 | Welding Lecture + welding simulator training 2 hours lab | Chapter 23 key terms |
| | TH 3-21-24 | Welding Lecture 2 hours lab | Chapter 23 review questions 1-14 |
| 10 | T 3-26-24 | Welding Lecture + welding simulator training 2 hours lab | Chapter 23 review questions 15-25 |
| | TH 3-28-24 | Class review chapter 23 2 hours lab | Chapter 23 quiz lab manual 1-2 |
| 11 | T 4-2-24 | Welding Lecture 2 Hours lab | Chapter 23 quiz lab manual 3-4 |
| | TH 4-4-24 | Welding Lecture 2 Hours lab | |
| 12 | T 4-9-24 | Chapter 23 exam 1-hour lab | |
| | TH 4-11-24 | Make up exams. 1-hour lab | |
| 13 | T 4-16-24 | Welding Lecture/open discussions welding simulator training | |
| | TH 4-18-24 | | |
| 14 | T 4-23-24 | Welding Lecture/open discussions welding simulator training | |
| | TH 4-25-24 | Welding Lecture/open discussions 2 hours lab | |

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|----|--------------|---|--|
| 15 | T 4-30-24 | Welding Lecture/open discussions welding simulator training | |
| | TH 5-2-24 | Welding Lecture/open discussions welding simulator training | |
| 16 | T 5-7-24 | Welding Lecture/open discussions welding simulator training | |
| | Th 5-9-24 | Welding Lecture/open discussions welding simulator training | |

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 [Student Handbook 2022-2023 v4.pdf \(com.edu\)](#). *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 at 409-933-8919 or klachney@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 adviser. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 16-week session is April 22nd.

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.

2G PIPE SMAW Checklist

| WLDG 1435 | Needs Improvement | Standards Met |
|---|-------------------|---------------|
| Root Pass | | |
| Root Penetration – 1/16 – 3/32 penetration | | |
| Weld Undercut – no undercuts (if there are undercuts the weld is being made too fast or with too much heat) | | |
| Weld Tie In (Restarts) – uniform with no undercuts | | |
| 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 bead | | |
| 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.

Run, Hide, Fight *

<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 always worn in labs and outside when students are working, sunglasses 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**