



WLDG-1435-214CL
Introduction to Pipe Welding
SUMMER 2021
THUR. 8 AM-4:20 PM
FRI. 8 AM-12 PM

Instructor: Danny Aguilera, daguilera@com.edu, 409-933-8380

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 MTW,4:30PM-5:30PM ;THUR,FRI 7AM-8AM, 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.

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

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

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

1. Demonstrate equipment safety checks
2. Describe equipment and required pipe preparation
3. Perform 1G welds using various electrodes
4. Perform 2G welds using various electrodes

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

Critical Thinking: 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 |
|--|--------------------|--|
| 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 |

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

COM email: 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.

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: In order to receive a letter grade of "W" the student must withdraw before the official withdrawal date for the semester. August 2nd 2021 is withdrawal day.

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. Appointments are strongly encouraged; however some concerns may be addressed on a walk-in basis

<http://www.com.edu/student-services/counseling.php>

Early Warning Program: The Counseling Center at College of the Mainland has implemented an Early Warning Program. 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 Warning Program you will be contacted by someone in the Counseling Department. As student success and retention is very important to us, someone from the Counseling Department 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 makeup exam.

Grading Scale:

65-69 Plus student must complete Lab Objectives 1-4=D

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70-79 Plus student must complete Lab Objectives 5 =C

80-89 Plus student must complete Lab Objectives 6=B

90-100 Plus student must complete Lab Objectives 7=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 Carla Boone at 409-933-8616 or by email at cboone@com.edu.

Course outline: 1435

| Week# | Day/Date | Topic | Reading Assignments & Homework Due Dates |
|-------|----------------|---|--|
| 1 | TH 6-10-21 | Run, Hide, Fight Intro + Syllabus + Expectations + Explain Grading % + Welding Safety Rules + Welding Equipment | |
| | FRI 6-11-21 | Welding Lecture 2-hours lab | |
| 2 | TH 6-17-21 | Welding Lecture 4-hours lab | Chapter 5 Key Terms & Review Questions |
| | FRI 6-18-21 | Welding Lecture/ 2-hours lab | Chapter 5 Quiz |
| 3 | TH 6-24-21 | Chapter 5 Exam Due 4-hours lab | All Chapter 5 Homework and Exam Due |
| | FRI 6-25-21 | Chapter 5 Exam Due 2-hours lab | All Chapter 5 Homework and Exam Due |
| 4 | TH 7-01-21 | Welding Lecture 4-hours lab | Chapter 6 Key Terms & Review Questions |
| | FRI 7-02-21 | Welding Lecture/ 2-hours lab | Chapter 6 Quiz |
| 5 | TH 7-08-21 | Chapter 6 Exam Due 4-hours lab | All Chapter 6 Homework and Exam Due |
| | FRI 7-09-21 | Chapter 6 Exam Due 2-hours lab | All Chapter 6 Homework and Exam Due |
| 6 | TH 7-15-21 | Welding Lecture 4-hours lab | Chapter 23 Key Terms & Review Questions |
| | FRI 7-16-21 | Welding Lecture/ 2-hours lab | Chapter 23 Quiz |
| 7 | TH 7-22-21 | Chapter 23 Exam Due 4-hours lab | All Chapter 23 Homework and Exam Due |

| | | | |
|----|----------------|--|--|
| | FRI 7-23-21 | Chapter 23 Exam Due 2-hours lab | All Chapter 23 Homework and Exam Due |
| 8 | TH 7-29-21 | OPEN LAB CONTEXTUALIZED LAB LECTURE | |
| | FRI 7-30-21 | OPEN LAB CONTEXTUALIZED LAB LECTURE | |
| 9 | TH 8-05-21 | OPEN LAB CONTEXTUALIZED LAB LECTURE | |
| | FRI 8-06-21 | OPEN LAB CONTEXTUALIZED LAB LECTURE | |
| 10 | TH 8-12-21 | OPEN LAB CONTEXTUALIZED LAB LECTURE | |
| | FRI 8-13-21 | OPEN LAB CONTEXTUALIZED LAB LECTURE | |

5G 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 | | |

| Course requirements/Lab Assignments WLDG_1435 | Performance Rating | Date Completed | Instructor=s Initials | Trainee=s 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 | | | | |
| 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 done in uphill position. | | | | |

Core competencies Assessments

Critical thinking

The student will demonstrate equipment safety checks

Critical thinking

The student will describe equipment and required pipe preparation

Critical thinking

The student will Perform 1G welds using various electrodes

Critical thinking

The student will Perform 2G welds using various electrodes

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 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.FAILUE TO FOLLOW SAFETY RULES WILL RESULT BEING REMOVED FROM CLASS**