Gas Metal Arc Welding I

TEWT - 1310 101

Course Description

This course will provide practice in the Gas Metal Arc Welding process. Safe practices and theory of GMAW will be taught. Students will learn how to properly set voltage, wire feed speed, and shielding gas flow for welding on carbon steel. In this course, students will perform basic safety inspections and maintenance of Gas Metal Arc Welding equipment.

Semester(s) Taught: All

Course Student Learning Outcomes

- Demonstrate safe shop and process practices.
- Perform equipment set-up and proper power source adjustment.
- Demonstrate welding skills on inside/outside corner joints, lap joints and butt joints in all appropriate welding positions.
- Follow welding procedure specifications.
- Execute practical weld tests and welder performance qualification.
- Critique welds to a quality standard.

Engagement Plan

Example language:

- I will respond to email within two days. I will offer feedback on major assignments within one week. The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication.

- In this course I will be posting interactive announcements which will offer specific opportunities for class questions and extra credit every other week.
- Additionally, I will be participating in the discussion forums with you to share my perspective within the discipline and to offer some nuances of interpretation that may not be present in your textbook.
- Lastly, we'll be holding small group Q & A sessions, where we can learn from our peers (and faculty) on some of the more difficult units within the course.

Keys for Success (how to succeed in the course)

Attendance and class Participation are critical to each student's success in the course.

Required Text or Materials

Title: Welding
ISBN: 9780357377659
Authors: Larry Jeffus
Publisher: Cengage Learning
Publication Date: 2020-01-17

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Additional Materials

Welding Tools and Personal Protective Equipment

Because of their personal nature, and the necessity for welders to have these items on a job, students are required to purchase their own PPE and tools. Each welding student should obtain the following PPE & Tools prior to starting lab courses:

PPE:

1 ea. - Welding Jacket

1 ea. - Split Leg Leather Apron or Leather Chaps, or Coveralls (Must be cotton, denim, or twill material. NO SYNTHETIC MATERIALS!)

1 ea. - Safety Glasses (Clear Lenses Only)

1 Pair - Heavy Welding Gloves

1 Pair – Medium Weight Welding Gloves

1 Pair - Light Weight Welding Gloves

1 Pair - Work boots (Over the ankle. Steel toes not required.)

1 ea. - Welding Helmet (Automatic) (Lincoln, Miller, or Speedglass brands preferred for Auto-darkening) must have grinding mode and cutting mode selection. Extra cover lenses and batteries.

1 ea. - Welding Cap (The uglier the better.)

Tools:

1 ea. - Wire Brush

1 ea. - Triple Flint Spark Lighter

1 ea. - Soap Stone with Holder (Rectangular shape preferred)

1 ea. - Vise Grip Pliers (Optional – Vise Grip “C” Clamp)

1 ea. - 25’ Tape Measure (3/4” to 1” blade width is best)

1 ea. - Combination Lock (Needed if you lease a locker)

1 ea. - Welding Tip Cleaner

1 ea. - Chipping Hammer

1 ea. - Welding Pliers (Special tool for wire feed processes. (WELPERS® or generic brand from discount tool stores)

1 ea. - Calculator (TI 30X IIS or Equivalent)

1 set – Fillet Weld Gauges

1 ea. – inspection flashlight

1 ea. – 4-1/2-inch angle grinder (Example: DeWalt DWE4011)

Brief Description of Assignments/Exams

At the completion of this course, students shall have demonstrated to the instructor job entry level competencies with the Gas Metal Arc Welding process in the following activities:

- Demonstrate safe shop and process practices
- Perform equipment set-up and proper power source adjustment
- Demonstrate welding skills on inside/outside corner joints, lap joints and butt joints in all appropriate welding positions
- Follow welding procedure specifications
- Execute practical weld tests and welder performance qualification
- Critique welds to a quality standard

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	Flat Padding	Assignment	100

Due Date	Assignment Name	Assignment Type	Points
	Flat position, Butt, Lap, and Tee Joints (BLT)	Assignment	90
	Horizontal position, BLT joints	Assignment	90
	Horizontal, 2G, V-Groove	Assignment	100
	Introduce Yourself	Discussion	0
	Introduce Yourself	Discussion	0
	Introduce Yourself	Discussion	0
	Module 1 Quiz Chapter 10 GMAW I	Quiz	35
	Module 12 Lab Exam 1**	Assignment	0
	Module 16: Gas Metal Arc Welding Advanced Quiz 1	Quiz	0
	Module 2 Chapter 11 GMAW I	Quiz	35
	Module 20: Lab Exam 2	Quiz	0
	Module 22: Gas Metal Arc Welding Basic Quiz 2	Quiz	0
	Module 24: Lab Exam 3	Quiz	0

Due Date	Assignment Name	Assignment Type	Points
	Module 28: Gas Metal Arc Welding Advanced Quiz 2	Quiz	0
	Module 9: Gas Metal Arc Welding Basic Quiz 1	Quiz	0
	Overhead position, BLT Joints	Assignment	90
	Overhead, 4G, V-Groove	Assignment	100
	Overhead, 4G, V-Groove, Bend Test	Assignment	100
	Roll Call Attendance	Assignment	100
	Vertical position, BLT joints	Assignment	90
	Vertical, 3G, V-Groove	Assignment	100
	Vertical, 3G, V-Groove Bend Test	Assignment	100

Grading Scale

A (90-100%)

B (89.9-80%)

E (Below 79.9%)

How to Navigate to Canvas

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

For more information, navigate to the Institutional Policies tab on the Institutional Syllabus page.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, visit the Institutional Syllabus page under the Tutoring and Learning Support tab. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, visit the Institutional Syllabus page under the Advising and Counseling Support Services tab. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

SLCC Student Academic Calendar