

Virginia Western Community College

WEL 130

Inert Gas Welding (MIG)

Prerequisites

WEL 120 or division approval.

Course Description

Introduces practical operations in the uses of inert-gas-shield arc welding. Discusses equipment, safety operations, welding practice in the various positions, process applications, and manual and semi-automatic welding.

Semester Credits: 3 Lecture Hours: 2 Lab/Clinical/Internship Hours: 3

Required Materials

Textbook:

Modern Welding Althouse

Edition: 12

ISBN: 9781635636864

Other Materials

The student supplies the following PPE for student use in the welding labs:

- Safety Glasses MUST BE WORN AT ALL TIMES IN LAB
- Helmet
- Proper Shade Lens
- Welding Hood / Jacket
- Gloves

Students are responsible for replacing any lost or removed equipment.

Course Outcomes

At the completion of this course, the student should be able to:

- Understand welding safety and its application in the shop.
- Understand shielding gasses and electrodes as well as their application.
- Set up material to be welded, both by verbal instruction as well as by reading prints.
- Demonstrate the ability to weld: Butt, Lapp, T, Corner and Edge Joints.
- Demonstrate the ability to weld in multiple positions.

- Students will take an AWS certification test as the “final exam” in the FCAW process on 3/8” plate in either the 1G or 3G position. Students may elect consideration for certification by American Welding Society by paying a non-refundable fee of \$50 prior to testing. The certification fee is also non-transferable to other WEL courses. Students whose test coupons pass the AWS standard will receive certification from AWS.

Topical Description

- WEEK 1 Introduction to GMAW
Lab: Introduction and Identification
- WEEK 2 Lesson 9 A Handout
Lab: Create a stringer bead and build a pad
- WEEK 3 Lesson 9 A Handout
Lab: Create a stringer bead and build a pad
- WEEK 4 Lesson 9 B Handout
Lab: Job 9 C-1 Handout
- WEEK 5 Lesson 9 B Handout
Lab: Job 9 C-1 Handout
- WEEK 6 GMAW Safety from Chapter 9
Lab: Job 9 C-2 Handout
- WEEK 7 Test One
Lab: Job 9 C-2 Handout
- WEEK 8 Lesson 9 B-1 Handout
Lab: Job 9 C-3 Handout
- WEEK 9 Chapter 9 Correct torch movement for position
Lab: Job 9 C-3 Handout
- WEEK 10 Lesson 9 C Handout
Lab: Job 9 C-4 Handout
- WEEK 11 Test Two
Lab: Job 9 C-4 Handout
- WEEK 12 Handout
Lab: Job 9 C-5 Handout
- WEEK 13 Handout
Lab: Job 9 C-6 Handout
- WEEK 14 Lab Projects
Lab: Begin Vertical weld position
- WEEK 15 Lab Projects
Lab: Continue Vertical weld position
- WEEK 16 Final Exam
- All Job sheets are due at the end of each class.

Notes to Instructors

- None