

# Minnesota State College Southeast

## WELD 1430: GTAW-Tungsten Inert Gas Weld I

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: \*.\*

Lab Hours/Week: 6

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course will teach and demonstrate the differences of Tungsten Inert Gas(TIG) welding to that of the stick welding and the MIG welding. The student will learn the proper machine set-up, proper selection of gases for different processes, proper selection and types of tungsten electrodes and the proper polarity to use when welding. The student will demonstrate puddle control, bead layout and various joint welds with aluminum alloy. (Prerequisite: None) (3 credits: 0 lecture/3 lab)

**B. COURSE EFFECTIVE DATES:** 03/03/2008 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

### D. LEARNING OUTCOMES (General)

1. Demonstrate safe practices when working with compressed gases
2. Demonstrate the proper uses of compressed gases
3. Demonstrate proper set-up and start-up procedures
4. Identify the different parts of the welding equipment
5. Identify the different gas mixtures
6. Demonstrate the proper set-up and use of flow meters
7. Identify the different types of filler metals
8. Demonstrate the proper set-up of welding equipment
9. Identify proper application of high frequency welding processes
10. Identify proper application of the different polarities when welding
11. Demonstrate proper puddle control when not using filler metal
12. Demonstrate proper puddle control when using filler metal
13. Demonstrate proper aluminum stringer bead welds in the flat position
14. Demonstrate proper aluminum lap welds in the flat position
15. Demonstrate proper aluminum fillet welds in the flat position
16. Demonstrate proper inspection of welds and identify defects
17. Demonstrate proper shut-down of welding equipment
18. Demonstrate proper shut-down of welding compressed gases
19. Demonstrate proper maintenance of welding equipment

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted