COURSE INFORMATION FORM

DISCIPLINE: WELD

COURSE TITLE: Gas Tungsten Arc Welding I (TIG) Lecture

CR.HR. 1  LECT HR. 1  LAB HR.  ______  CLIN/INTERN HR. ______  CLOCK HR. ______

CATALOG DESCRIPTION

Student will develop an awareness of arc welding safety and the gas tungsten arc welding (GTAW) processes. This includes acquiring the knowledge of power sources and polarities, principles of operation, welding techniques, electrode identification and use, filler metal identification and use, code welding, and maintenance of GTAW equipment and accessories.

PREREQUISITES

WELD 121 or take concurrently

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)

Upon completion of this course, the student will be able to:

1. Describe arc welding safety issues.
2. Describe constant current power sources.
3. Identify and select correct welding polarities for given tasks.
4. Describe GTAW principles of operation on carbon steel, stainless steel, and aluminum.
5. Determine the correct GTAW electrodes for carbon steel, stainless steel, and aluminum.
6. Determine the correct GTAW filler metals for carbon steel, stainless steel, and aluminum.
7. Describe GTAW welding techniques.
8. Relate Weld Procedure Specifications and AWS D1.1, D1.2, and D1.6 code to GTAW procedures.
9. Describe maintenance of GTAW equipment and accessories.

GENERAL EDUCATION OUTCOMES (ESO)

Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

Life-Long Learning: Attributes of an Awareness of the Convergence of Knowledge

2. Apply learned skills to real world interactions (1-9)
3. Synthesize information to facilitate application (1,5,6,8)
PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

The student will demonstrate:

1. academic competency in performing welding operations.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Formative and summative tests (1-9)
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An asterisk can be used to mark an item as optional.

I. Arc welding safety
   A. Electrical
   B. Other potential hazards

II. Power sources
    A. Constant current
    B. Polarities
    C. Maintenance

III. Principles of operation
    A. Welding techniques
    B. Troubleshooting problems

IV. GTAW electrodes
    A. Identification
    B. Proper use

V. GTAW filler materials
   A. Identification
   B. Proper use

VI. Code welding
    A. AWS D1.1 structural steel
    B. AWS D1.2 aluminum
    C. AWS D1.6 stainless steel
    D. Weld Procedure Specifications