COURSE INFORMATION FORM

DISCIPLINE: WELD
COURSE TITLE: Gas Metal Arc Welding II (MIG) Lab

CR.HR: 2  LECT HR: .5  LAB HR: 3  CLIN/INTERN HR:  CLOCK HR: 

CATALOG DESCRIPTION

Student will develop skills using the theory and techniques of advanced gas metal arc welding processes. This will include fillet and groove welds in all positions on carbon steel pipe and aluminum plate with the different modes of wire transfer. The student will also identify and initiate recommended repairs for given weld defects.

PREREQUISITES

WELD 250

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)

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

1. Demonstrate arc welding safety issues as they apply to advanced GMAW welding.
2. Select correct welding polarities for given tasks.
3. Execute corrective actions to repair weld defects.
4. Apply GMAW principles of operation on carbon steel pipe and aluminum plate.
5. Select the correct mode of filler metal transfer for given filler materials.
6. Select and use the correct GMAW filler materials for carbon steel and aluminum.
7. Apply advanced GMAW welding techniques to aluminum plate and carbon steel pipe.
8. Adapt advanced GMAW procedures to Weld Procedure Specifications, API 1104 code and AWS D1.2 code.

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.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>(ESO)</th>
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</thead>
<tbody>
<tr>
<td>Life-Long Learning: Attributes of an Awareness of the Convergence of Knowledge</td>
<td></td>
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<tr>
<td>2. Apply learned skills to real world interactions</td>
<td>(1-8)</td>
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<tr>
<td>3. Synthesize information to facilitate application</td>
<td>(1,6,8)</td>
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Revised 7/16/12
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. critical thinking and problem-solving skills and adapt these skills to welding applications.
2. skills that meet or exceed the American Welding Society’s guidelines for entry-level employees in welding technology.

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. Performance tests (1-8)
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. Repair GMAW weld defects  
   A. Identify defects  
   B. Implement weld procedure

III. Principles of operation  
   A. Carbon steel pipe  
   B. Aluminum plate

IV. GMAW filler materials  
   A. Identification  
   B. Proper use

V. Advanced GMAW techniques  
   A. Plate  
   B. Pipe

VI. Code Welding  
   A. Weld Procedure Specifications  
   B. AWS D1.2 structural aluminum  
   C. API 1104