



## MASTER COURSE OUTLINE

Prepared By: Shawn McDaniel

Date: August 2013

## COURSE TITLE

Gas Metal Arc Welding II

## GENERAL COURSE INFORMATION

Dept.: WLD

Course Num: 212

(Formerly:)

CIP Code: 48.0508

Intent Code: 21

Program Code: 814

Credits: 3

Total Contact Hrs Per Qtr.: 66

Lecture Hrs:

Lab Hrs:66

Other Hrs:

Distribution Designation:

## COURSE DESCRIPTION (as it will appear in the catalog)

Students will learn to apply both types of Flux core arc welding process on steel and perform Gas Metal Arc Welding on aluminum and stainless steel.

## PREREQUISITES

WLD 132

## TEXTBOOK GUIDELINES

Text and materials as decided by welding faculty. (Example: Flux cored Arc Welding Handbook by William Minnick)

## COURSE LEARNING OUTCOMES

*Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills.*

1. Set up and operate Flux Core Arc Welding equipment, as well as aluminum and stainless steel Gas Metal Arc Welding equipment.

## INSTITUTIONAL OUTCOMES

## COURSE CONTENT OUTLINE

Steel Flux Core

Perform safety inspection of equipment, work area and accessories

Make minor repairs to equipment and accessories.

Set up a Flux Core Arc Welding station for plain carbon steel

Flat Position: .045" E71T-1 inside outside corner passing visual inspection: ¾" inside and 1" outside.

Horizontal Position: .045" E71T-1 inside outside corner passing visual inspection

Vertical Position: : .045" E71T-1 inside outside corner passing visual inspection

Overhead Position: : .045" E71T-1 inside outside corner passing visual inspection

Repeat SA4, SA5, SA6 using CO2 shielding gas

E71T-1, Carbon steel, 1" single bevel .FLAT position passing visual inspection

E71T-1, Carbon steel, 1" single bevel. HORIZONTAL position passing visual inspection

E71T-1, Carbon steel, 1" single bevel . VERTICAL position passing visual inspection

E71T-1, Carbon steel, 1" single bevel .OVERHEAD position passing visual inspection

Carbon Steel single V, 22.5degree bevel, on 1"X4"x8" HORIZONTAL position

Carbon Steel single V, 22.5degree bevel, on 1"X4"x8" VERTICAL position

Carbon Steel single V, 22.5degree bevel, on 1"X4"x8" OVERHEAD position.

Self Shielded Flux Core

3/4" Fillet weld, FLAT position

3/4" Fillet weld, HORIZONTAL position

3/4" Fillet weld, VERTICAL position

3/4" Fillet weld OVERHEAD position

Stainless Steel GMAW

1/8" fillet weld, FLAT position, Visual and size inspection

1/8" fillet weld, HORIZONTAL position, Visual and size inspection

1/8" fillet weld, VERTICAL position, Visual and size inspection

1/8" fillet weld, OVERHEAD position, Visual and size inspection

Aluminum GMAW

Running beads FLAT, HORIZONTAL, VERTICAL, OVERHAED

Fillet weld on .080" or other approved material FLAT position

Fillet weld on .080" or other approved material HORIZONTAL position

Fillet weld on .080" or other approved material VERTICAL position

Fillet weld on .080" or other approved material OVERHEAD position

1/4" Fillet weld, FLAT position

1/4" Fillet weld, HORIZONTAL position

1/4" Fillet weld, VERTICAL position

1/4" Fillet weld, OVERHEAD position

**DEPARTMENTAL GUIDELINES** *(optional)*

Grades will be calculated as follows:

50% Based on completing all course competencies.

50% Based on Lab Participation, Cleanup on a daily basis, and following ALL Safety rules.

The grade awarded for the class is as follows:

95-100	4.0	86	3.1	77	2.2	68	1.3
94	3.9	85	3.0	76	2.1	67	1.2
93	3.8	84	2.9	75	2.0	66	1.1
92	3.7	83	2.8	74	1.9	65	1.0
91	3.6	82	2.7	73	1.8	60-64	0.7
90	3.5	81	5.6	72	1.7	0-59	0
89	3.4	80	2.5	71	1.6		
88	3.3	79	2.4	70	1.5		
87	3.2	78	2.3	69	1.4		

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**DIVISION CHAIR APPROVAL**

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**DATE**