



## MASTER COURSE OUTLINE

Prepared By: Shawn McDaniel

Date: August 2013

## COURSE TITLE

Thermal Cutting And Welding

## GENERAL COURSE INFORMATION

Dept.: WLD

Course Num: 112

(Formerly:)

CIP Code: 48.0508

Intent Code: 21

Program Code: 814

Credits: 3

Total Contact Hrs Per Qtr.: 66/132

Lecture Hrs:

Lab Hrs:66

Other Hrs:

Distribution Designation:

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

Various techniques of steel cutting with oxy-fuel, air carbon arc, plasma arc processes and oxy-acetylene welding and brazing with various metals

## PREREQUISITES

None

## TEXTBOOK GUIDELINES

Text and materials as decided by welding faculty. (Example: Cutting, Heating and Welding Guide by Victor)

## COURSE LEARNING OUTCOMES

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

1. Set up and adjust equipment for safe Cutting, Welding, Brazing and heating applications.

## INSTITUTIONAL OUTCOMES

## COURSE CONTENT OUTLINE

The student will demonstrate competence in:

1. Straight Cutting  
Use 3/8" x 4" x 8" plate
2. Straight Cutting  
Use 3/4" x 4" x 8" plate
3. Round Bar cutting 1/4" to 1"  
90 degree cut and 35 degree bevel
4. Square tube cutting
5. H and I beam cutting
6. Angle Iron cutting
7. Bevel 35 degree straight cutting  
3/8", 3/4"
8. Scarfing
9. Piercing Holes

- 10. Pipe Straight, bevel cutting
- 11. Machine Cutting  
Repeat #1, #2, and #7
- 12. Machine Cutting  
Repeat #10
- 13. Plasma Arc Cutting
- 14. Carbon Arc Cutting

Oxy-Acetylene Welding

- 1. Carbon Steel Running Bead  
Without rod
- 2. Carbon Steel Running Bead  
With rod
- 3. Butt Joint  
16 Gauge 1" x 6"
- 4. T or Corner Joint
- 5. Lap Joint
- 6. Brazing Running Beads
- 7. Brazing Butt Joint
- 8. Brazing Lap Joint
- 9. Brazing T Joint
- 10. Aluminum Running Beads
- 11. Aluminum Butt Joint

**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**