



## MASTER COURSE OUTLINE

Prepared By: Shawn McDaniel

Date: August 2013

### COURSE TITLE

Welding Layout I

### GENERAL COURSE INFORMATION

Dept.: WLD

Course Num: 152

(Formerly:)

CIP Code: 48.00197

Intent Code: 21

Program Code: 814

Credits: 3

Total Contact Hrs Per Qtr.: 44

Lecture Hrs:22

Lab Hrs:22

Other Hrs:

Distribution Designation:

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

Specialized weldment drafting techniques: intersections and developments; patterns for geometric shapes used in cardboard, sheet metal, and structural shapes; fabrication and model construction.

### PREREQUISITES

MAP 101/117 or Instructor Permission

### TEXTBOOK GUIDELINES

Text and materials as decided by welding faculty.

### COURSE LEARNING OUTCOMES

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

1. Layout and draft to scale patterns and stretch outs for a variety of welded joints commonly encountered in the welding trades. Students will design layout of welded joints then fabricate to a set standard

### INSTITUTIONAL OUTCOMES

### COURSE CONTENT OUTLINE

1. Week 1
  - a. Introduction to Circles, angles, plain figures, solids, sheet metal gage numbers, hems, edges and seams
2. Week 2
  - a. Stretch out prism Project 1
  - b. Stretch out Pyramid Project 2
  - c. Stretch out Truncated Prism Project 3
3. Week 3
  - a. 2 pieces 90 degree S.Q elbow Project 4
  - b. 2 pieces 45 degree S.Q elbow Project 5
  - c. 3 pieces 90 degree S.Q elbow Project 6
4. Week 4
  - a. Tool tray Project 7
5. Week 5

- a. Structural shape and weight
- 6. Week 6
  - a. Angle iron 90 degree Project 8
  - b. Angle iron 135 degree Project 9
  - c. Angle iron 45 degree Project 10
  - d. Full radius angle iron 90 degree Project 11
- 7. Week 7
  - a. H beam to H beam 90 degree Project 12
- 8. Week 8-11
  - a. Group project Project 13

**DEPARTMENTAL GUIDELINES** *(optional)*

There are 12 individual projects and 1 group project. All assignments are graded for construction neatness, preciseness, and completion. Individual assignments are due at the end of the scheduled week. make up and late work are not counted towards your grade.

Group assignments are divided into 2 or 3 groups and the one student leads the group to complete the project. Each group keeps construction records, man hours, bill of materials, blue prints, and cost of materials. These records must be turned in with the completion of the projects.

Grades will be based on the number of accumulated points earned on tests, quizzes, and homework.  
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	2.6	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**