

COURSE OUTLINE

Revision: D. Weber, August, 2011

DEPARTMENT:	Manufacturing Technology
CURRICULUM:	Welding Fabrication Technology
COURSE TITLE:	Welding Theory
COURSE NUMBER:	WFT 100
TYPE OF COURSE:	Vocational Preparatory
COURSE LENGTH:	1 quarter
CREDIT HOURS:	5
LECTURE HOURS:	55
LAB HOURS:	0
CLASS SIZE:	25
PREREQUISITES:	None

COURSE DESCRIPTION:

Exploration of the applications and criteria for selecting the most widely used welding and weld-related metal joining processes, including, gas metal arc welding, flux-cored arc welding, shielded metal arc welding, gas tungsten arc welding, submerged metal arc, oxyacetylene, brazing, soldering and cutting, plasma arc cutting and resistance welding. Covers types of welds and weld joints.

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Technology - Use equipment and tools properly
2. Personal Responsibility - Take personal responsibility for skills, safety and production.

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STUDENT LEARNING OUTCOMES ADDRESSED: (cont.)

3. Critical Thinking and Problem Solving - Select best process to solve common welding defects
4. Human Relations - Share ideas and critique workmanship through teamwork
5. Communication - Use fabrication drawings and instruction to build samples

GENERAL COURSE OBJECTIVES:

At the end of the course the student be able to:

1. Demonstrate a working knowledge of shop and welding safety procedures and practices.
2. Define and express welding, cutting, and fabricating terminology
3. Identify joints, welding configurations, and positions.
4. Identify shapes and names of structural steels.
5. Demonstrate a working knowledge of primary and secondary electrical principles.
6. Demonstrate a working knowledge of various metal cutting principles.
7. Demonstrate a working knowledge of various welding applications.
8. Evaluate welding test plates and identify weld defects.

TOPICAL OUTLINE:

APPROX. HOURS

I. Safety procedures and practices	5
II. Electrical principles	10
III. Welding processes	15
IV. Welding equipment and procedures	15
V. Joining process selection	3
VI. Structural steels	2
VII. Basic types of welds and weld joints	<u>5</u>
Total	55

REVISED BY: David Weber
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