

SYLLABUS

DIVISION: Business and Engineering Technology

REVISED: MAY / 2013

CURRICULA IN WHICH COURSE IS TAUGHT: DCC Program of Study

COURSE NUMBER AND TITLE: WEL 121 Arc Welding I

CREDIT HOURS: 2 **HOURS/WK LEC:** 1 **HOURS/WK LAB:** 3 **LEC/LAB COMB:** 4

I. CATALOG DESCRIPTION: CATALOG DESCRIPTION:

Wel 121 Studies the operation of AC and DC power sources, weld heat, polarities, and electrodes for use in joining various alloys by the SMAW process. Covers welds in different types of joints and different welding positions. Emphasizes safety procedures.

II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES:

Covers performing safety inspections, making minor repairs, adjusting operating parameters, and operating SMAW equipment utilizing E-6010, and E-7018 electrodes. Welding layout procedures and practices will also be introduced.

III. REQUIRED BACKGROUND/PREREQUISITIES:

- Wel 120 Fundamentals

IV. COURSE CONTENT:

- Welding orientation (first class only)
- Safety in the welding lab
- Assemble SMAW outfit
- Equipment and Supplies
- Electrode selection
- Weld joint design
- SMAW Vertical
- SMAW Horizontal
- Weld flaws and defects
- Restarting and finishing a weld bead
- Cleaning a weld bead

V. THE FOLLOWING GENERAL EDUCATION OBJECTIVES WILL BE ADDRESSED IN THIS COURSE

Communication

Information Literacy

Critical Thinking

Personal Development

Cultural and Social Understanding

Quantitative Reasoning

VI. LEARNER OUTCOMES

VII. EVALUATION

Learner outcome	Evaluation method
<ul style="list-style-type: none"> • Demonstrate the ability to select the proper electrode, current and polarity to use in a given weld position. • Demonstrate the ability to correctly restart and arc and blend • Demonstrates the ability to perform acceptable welds on all five basic weld joints. • Describes different types of weld defects with the ability to differentiate between acceptable and unacceptable welds • Be able to complete a safety inspection in the welding lab 	<p>Lab exercises</p> <p>Written test</p> <p>Hands on lab exam</p>

