COURSE INFORMATION FORM

DISCIPLINE: WELD
COURSE TITLE: Flux Core Arc Welding I Lecture

CR.HR.  1   LECT HR.  1   LAB HR.  0   CLIN/INTERN HR.  _______   CLOCK HR.  _______

CATALOG DESCRIPTION
Student will learn the theory and techniques of flux cored arc welding, both self-shielded and gas-shielded. This will include fillet welds and groove welds in all positions on carbon steel plates and pipe. The student will also identify and recommend repairs for given weld defects.

PREREQUISITES
WELD 151 or take concurrently

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:

1. Describe arc welding safety issues as they apply to FCAW-S and FCAW-G welding.
2. Identify and select correct welding polarities for given tasks.
3. Identify corrective actions to repair weld defects.
4. Describe FCAW principles of operation on carbon steel plate and pipe.
5. Determine the correct FCAW-S and FCAW-G filler metals for various carbon steel applications.
6. Describe FCAW welding techniques.
7. Relate Weld Procedure Specifications, API 1104 code, and AWS D1.1 code to FCAW procedures.

GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

Life-Long Learning: Attributes of an Awareness of the Convergence of Knowledge

2. Apply learned skills to real world interactions  (1-7)
3. Synthesize information to facilitate application  (1,5,7)

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PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

The student will demonstrate:

1. academic competency in performing welding operations.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Formative and summative tests (1-7)
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Arc welding safety
   A. Electrical
   B. Other potential hazards
II. Repair FCAW weld defects
    A. Identify defects
    B. Implement weld procedure
III. Principles of operation
     A. Carbon steel plate
     B. Carbon steel pipe
IV. FCAW filler materials
    A. Identification
    B. Proper use
V. FCAW techniques
   A. Plate
   B. Pipe
VI. Code Welding
    A. Weld Procedure Specifications
    B. AWS D1.1 structural steel
    C. API 1104