Las Positas College
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Course Outline for WLDT 68

CERTIFICATION PREPARATION

Effective: Fall 2008

I. CATALOG DESCRIPTION:
WLDT 68 — CERTIFICATION PREPARATION — 2.00 units

Welding processes preparation for certification exams. Theory of American Welding Society D1.1, American Society of Mechanical Engineers Section IX, American Petroleum Institute 1.104

2.00 Units Lab

Grading Methods:
Letter or P/NP

Discipline:

	MIN
Lab Hours:	108.00
Total Hours:	108.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 4

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

A. Display skills required to pass a welding certification test;
   1. American Welding Society D1.1;
   2. American society of Mechanical Engineers Section IX;
   3. American Petroleum Institute 1104;
B. List the requirements to take the specified certification test;
C. Construct coupons required to pass the tests;
D. Employ understanding of destructive and non-destructive examination of test welds;
E. Identify discontinuities that will lead to test failure.

V. CONTENT:
A. Read and discuss appropriate sections of the code books
B. Preparation of test samples and coupons
C. Hands-on practice under simulated test conditions/position
D. Destructive and non-destructive examination of sample test
E. Identification and discussion of discontinuities and results

VI. METHODS OF INSTRUCTION:
A. Group demonstration
B. One-on-one, hands-on instruction
C. Visual aids

VII. TYPICAL ASSIGNMENTS:
A. Welding samples using different welding processes 1. Gas Tungsten Arc Welding (GTAW) 2. Gas Metal Arc Welding (GMAW) 3. shielded Metal Arc Welding (SMAW) 4. Flux-Core Arc Welding (FCAW) B. Welding samples using different welding joints 1. Butt joint 2. Tee joint 3. Lap joint 4. Corner joint 5. Edge joint C. Welding samples using different positions 1. Flat 2. Horizontal 3. vertical 4. Overhead D. Welding samples using different materials 1. Carbon Steel 2. Stainless Steel 3. Aluminum E. Coupon preparation using semi-automated oxy-acetylene cutting torch F. Coupon preparation using hand-held grinder/sander

VIII. EVALUATION:
A. **Methods**
   1. Class Participation
   2. Lab Activities
   3. Other:
      a. Methods:
         1. Attendance and participation
         2. Workmanship samples

3. Safe operation in the laboratory environment and the proper use of shop equipment

B. **Frequency**

1. Frequency:
    a. Attendance and participation will be evaluated daily
    b. Workmanship samples will be submitted for grading as completed over the duration of the semester
    c. Safety and proper use of tools will be evaluated on a daily basis

IX. TYPICAL TEXTS:

1. Welding code books
2. American Welding society D1.1
3. American Society of Mechanical Engineers Section IX
4. American Petroleum Institute 1104

X. OTHER MATERIALS REQUIRED OF STUDENTS:

A. Personal Protective Equipment
B. Safety Glasses (ANSI Z87.1)
C. Leather welding gloves
D. Long sleeve shirt or jacket
E. Leather shoes or boots