

Welding

PLM721

COURSE NAME

CODE NO.

TOTAL CREDITS: 24 Hours (8 x 3)

PREREQUISITE(S): Plumbing or Steamfitting Apprenticeship

I. PHILOSOPHY/GOALS:

To provide apprentices with a general working knowledge of the equipment, consumables, safe work practices and welder qualification tests related to the 'Shielded Metal Arc Welding' process.

n. STUDENT PERFORMANCE OBJECTIVES (OUTCOMES):

Upon successful completion of this course the student will:

- 1) Set up and operate basic arc welding equipment in a safe, well organized manner.
- 2) Identify, select and operate standard arc welding electrodes.
- 3) Identify and correct common weld faults.
- 4) Recognize standard acceptance criteria for guided bend test coupons.

m. TOPICS TO BE COVERED:

Approximate Time

1. Course Introduction and Orientation
2. Safety in Arc Welding
3. Setting the Correct Polarity and Welding Amperage.
4. Basic Arc Welding Practices
5. Electrode Classification, Storage and Handling
6. Electrode Selection
7. Fillet Weld Exercise I (Horizontal)
8. Common Weld Faults and Causes
9. Fillet Weld Exercise II (Horizontal)
11. Simulated Groove Weld Exercise I (Flat and Horizontal)
13. ASME Section IX Acceptance Criteria (Welder Qualification)
14. Simulated Groove Weld Exercise II (Flat and Horizontal)
15. Theory Test
16. Preparation Weld Test Samples
17. Practical Test (CSA/ASME Based)

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IV. EVALUATION METHODS: (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS ETC.)

General Assessment

Final Mark*

A = 85 to 100%

Shop Test(s)

70%

B = 75 to 84%

Theory Test

30%

C = 60 to 74%

D = 50 to 59%

Attendance (** See Attached)

F = 0 to 49%

V. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor. Credit for prior learning will be given upon successful completion of the following:

1. Written proof of the successful completion of an arc welding course with student outcomes and course topics that are at least 80% compatible with PLM721.
<OR>
2. The successful challenge of all PLM721 shop and theory tests with a resulting average mark of at least 75%.

VI. REQUIRED STUDENT RESOURCES:

CSA Approved (High Cut) Safety Work Boots
CSA Approved Impact Resistant Safety Glasses
Work Wear
Binder, Pen, Paper
Pen (blue or black ink)

Vn. SPECIAL NOTES:

Students with special needs (eg physical limitations, visual impairments, hearing impairments, learning disabilities etc.) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.

Attendance to all classes is mandatory and will be recorded on an 'hour-by-hour' basis using the 'Record of Attendance Form'.