

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

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WELDING

COURSE TITLE:

CODE NO: MET722

SEMESTER: N/A

PROGRAM: STEAMFITTING - INTERMEDIATE

AUTHOR: D SOCCHIA

DATE: Oct 95 **PREVIOUS OUTLINE DATED:** May 89

APPROVED: 
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DATE

Welding

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TOTAL CREDITS:

PREREQUISITE(S): Plumbing or Steamfitting Apprenticeship

L 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.

ID. 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. Pad Exercise IF (6010 /11 and 7018)
5. Electrode Classification, Storage and Handling
6. Electrode Selection
7. Fillet Weld Exercise I - 2F (Lap and Tee Joints)
8. Common Weld Faults and Causes
9. Fillet Weld Exercise II 2F (Clip Test c/w Stop and Restart)
11. Simulated Groove Weld Exercise I 1G, 2G (Flat and Horizontal)
13. ASME Section IX Acceptance Criteria (Welder Qualification)
34. Simulated Groove Weld Exercise II 1G, 2G (Flat and Horizontal)
15. Preparation Weld Test Samples
16. Practical Test (CSA / ASME Based)
17. Theory Test

NOTE: Course materials discussed and / or explained during any and all shop demonstrations are subject to evaluation via theory testing. Students are therefore responsible for the content of all shop demonstrations and / or discussions.

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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(**SeeAttached)

F = 0 to 49%

NOTE: All material covered in shop lectures and demonstrations may be included in the final theory test.

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 PLM722.
<OR>
2. The successful challenge of all PLM722 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 Fdrn'