

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULTSTE. MARIE, ON

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COURSE TITLE: \_\_\_\_\_ WELDING

CODE NO: MET821 SEMESTER: N/A

PROGRAM: PLUMBING - ADVANCED

AUTHOR: D. SOCCHIA

DATE: Aug 95 PREVIOUS OUTLENE DATED: May 89

APPROVED:  \_\_\_\_\_  
DEAN DATE

**Welding**

**MET821**

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**TOTAL CREDITS:**

**PREREQUISITE^: Plumbing or Steamitting 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 die 'Shielded Metal Arc Welding\*' process.

**IL STUDENT PF^FORMANCE OBJECTIVES (OUTCOMES):**

Upon successful completion of tills 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. Review Setting the Correct Polarity and Welding Amperage.
4. Pad Exercise IF, 2F (Flat and Horizontal)
4. Review Electrode Selection
5. Fillet Weld Exercise I -Horizontal (Structural Shapes and Pipe on Plate)
6. Review Common Weld Faults and Causes
7. Fillet Weld Exercise II-3F (Pipe on Plate)
9. Groove Weld Exercise I - 2G, 3G (Horizontal and Vertical Up)
10. ASME Section IX Acceptance Criteria (Welder Qualification)
- 11 Preparation Weld Test Samples
12. Final Weld Test
12. 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 aU shop demonstrations SJK! / or dlsciissions.**

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

**Gtnerfl Anmmtiit**

**FIMI Mark\***

A = 85 to MOM

Shop Test(s)

70M

B = 75 to 84M

Theory Test

30M

C = 60 to 74M

D - 50 to 59M

Attendance (\*\*Scc Aattache\*)

F = 0 to 49M

**NOTE: AD material covered in any shop lectures and/ or demonstration 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 MET821.**

**<OR>**

- 2. The successful challenge of all M821 shop and theory tests with a resulting average mark of at least 75M.**

**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)**

**VII. 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'<sup>1</sup>**