

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY
SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE: WELDING

CODE NO.: HED700 SEMESTER: N/A

PROGRAM: HEAVY EQUIPMENT DIESEL - PHASE H

AUTHOR: D. SOCCHIA

DATE: Feb 95 PREVIOUS OUTLINE DATED: Sept 93

APPROVED:  / ^ f * * * ^ - (fiJ) Aff95
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TOTAL CREDITS: N/A

PREREQUISITE(S): Successful completion of the 'Common Core' (ie Basic) level of in school training or its equivalent.

I. PHILOSOPHY/GOALS: To expand upon the knowledge base and practical skills developed in the 'Common Core' level of training

H. STUDENT PERFORMANCE OBJECTIVES (OUTCOMES):

Upon successful completion of this course the student will:

- 1) Demonstrate a working knowledge of the construction, operating principles, set-up and minor servicing requirements for the oxyacetylene fusion and braze welding process along with their respective equipment
- 2) Demonstrate a working knowledge of the construction, operating principles, set-up and minor servicing requirements for the gas metal arc welding process and related equipment.

m. TOPICS TO BE COVERED:

- 1) Course Introduction and
- 2) Welder Safety (Oxyacetylene)
- 3) Construction of Oxyacetylene Fusion and Braze Welding Equipment
- 4) Principles of Operation for Oxyacetylene Fusion and Braze Welding Equipment
- 5) Fundamentals of the Oxyacetylene Fusion and Braze Welding Process.
- 6) Correct Set-up and Safe Operation of Oxyacetylene Fusion and Braze Welding Equipment
- 7) Perform Oxyacetylene Fusion Welding on a Variety of Standard Joint Configurations.
- 8) Describe, Identify and Correct Common Fusion Weld Faults and Discontinuities.
- 9) Perform Oxyacetylene Braze Welding on a variety of Standard Joint Configurations.
- 10) Describe, Identify and Correct Common Braze Welding Faults and Discontinuities.
- 11) Welder Safety (Arc)
- 12) Construction of Gas Metal Arc Welding Equipment
- 13) Fundamentals of the Gas Metal Arc Welding Process.
- 14) Principles of Operation for Gas Metal Arc Welding Equipment
- 15) Correct Set-up and Safe Operation of Gas Metal Arc Welding Equipment.
- 16) Perform Gas Metal Arc Welding Operations on a Variety of Standard Joint Configurations.
- 17) Perform Gas Metal Arc Welding Operations on a Variety of Standard Joint Configurations.
- 18) Perform Minor Repairs to Gas Metal Arc Welding Equipment

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

General Assessment

A = 85 - 100%
B = 75 - 84%
C = 60 - 74%
D = 50 - 59%
F = 0 - 49%

Final Mark

Shop Assignments 60%
Theory Tests 40%

Attendance (see 'Notes')

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. The successful completion of a welding course with student outcomes and course topics that are at least 80% compatible with HED700.

<OR>

2. The successful challenge of both HED700 theory tests with a resulting average mark of at least 75%...

<PLUS>

Written proof of at least three (3) years of competent trade experience involving both the oxyacetylene fusion / braze welding AND gas metal arc welding process.

VI. REQUIRED STUDENT RESOURCES

Work Boots (CSA Approved - steel toe and high cut)
Safety Glasses (CSA Approved - impact resistant)
Proper Work Clothes (for use in a welding environment)
Pen, Paper and Binder.

VII. SPECIAL NOTES

Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) 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.

Student attendance is mandatory and will be recorded on a hour by hour basis using the 'Sault College Record of Attendance Form'.