SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE; WELDING

CODE NO: MET103-2 **SEMESTER:** FALL

PROGRAM: COMMON CORE - MECHANICAL

AUTHOR: D. SOCCHIA

DATE: Aug 94 **PREVIOUS OUTLINE DATED:** Jan **91**

APPROVED: 

DEAN **DATE**

Welding MET103-2

COURSE NAME **CODE NO.**

TOTAL CREDITS: 2

PREREQUISITE(S): The ability to read, write and comprehend at the grade 10 level is the minimum requirement. However, it is strongly recommended that persons entering the course have a reasonable ability to work in a *hands on' shop environment.

L PHILOSOPHY / GOALS: To provide students with an introductory overview of the Oxyacetylene and Shielded Metal Arc welding and cutting processes complete with the appropriate liands on' skill required to perform routine job tasks. Strong emphasis will be placed upon correct, safe work practices.

H STUDENT PERFORMANCE OBJECTIVES (OUTCOMES):

Upon successful completion of this course of study the student will:

1) Set up and operate a typical oxyacetylene work station with proper due regard for personal safety, equipment limitations and routine job requirements.
2) Identity, select and use common oxyacetylene filler metals in accordance with sound welding practices.
3) Flame cut, shear and weld mild steel in the flat position
4) Set up and operate a typical S.M.A.W. work station with proper due regard for personal safety, equipment limitations and routine job requirements.
5) Identify, select and use common arc welding electrodes in accordance with sound welding practices.
6) Recognise and correct common weld faults and structural discontinuities

m. TOPICS TO BE COVERED	**Approximate Time**
1. Introduction/Orientation and Safety	
2. Construction of Oxygen and Acetylene Cylinders	
3. Assembling and Handling Portable Equipment	4hrs
4. Pressurizing and Operating the Welding Torch	
5. Backfire and Flashback	
6. Types of Oxyacetylene Flames and Fuel Mixtures	2hrs
7. Fusion Welding Practices (EVALUATION)	
8. Non-Fusion Welding Practices (EVALUATION)	
9. Filler Metals and Their Selection	6hrs
10. Open Book Theory Test	2hrs

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TOPICS Continued:

11. Safety and Set-up for S.M.A.W.
12. Electrode Selection and Amperage Setting
13. Basic Arc Welding Exercises (EVALUATION) 8hrs
14. Flame Cutting Operations (EVALUATION) 4hrs
15. Open Book Theory Test 2hrs

Total Hoars: 28

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

General Assessment	**EiaaLMaife***	
A+ = 90 to 100		
A = 80 to 89	Shop Assignments	60%
B = 70 to 79	Theory Tests	40%
C = 60 to 69	Attendance (** See Attached)	
	Ongoing Safety Evaluation (** See Attached)	

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 basic welding course having student outcomes and course topics that are at least 80% compatible with MET103-2.

— OR —

2. The successfulchallengee of all MET103-2 shop assignments and open book theory tests with a resulting average mark of at least 75% .

VL REQUIRED STUDENT RESOURCES:

Work Boots (CSA Approved - steel toe and high cut)
Safety Glasses (CSA Approved - impact resistant)
Appropriate Work Wear
Notebook, Paper, Pencils, Pens
I.A.S. (Instruction Aid Sheets)

\TL SPECIAL NOTES:

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

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

* Student evaluations concerning the Final Mark are further affected by the conditions set forth in the printed handout 'Guidelines for Related Welding'.

** Special Guidelines for class attendance and safety are included in the above paper.