

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE: WELDING

CODE NO. MPC600 SEMESTER: N/A

PROGRAM: MOTIVE POWER - COMMON CORE

AUTHOR: D. SOCCHIA

DATE: June 1996 PREVIOUS OUTLINE DATED: Oct 1995

APPROVED: **J-** *C?* *L* As i/H
DEAN DATE

TOTAL CREDITS N/A

PREREQUISITE(S): An apprenticeship in one of the following trades: Motor Vehicle
Mechanic, Truck / Coach Mechanic, Heavy Duty Equipment
Mechanic, Farm Equipment Mechanic, or Fork Lift Mechanic

LENGTH OF COURSE: 2 Hours / Week for 4 Weeks

TOTAL CREDIT HOURS: 10 Hours

n. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE
(Continued)

2) *Communicate clearly and correctly in the written form as well as demonstrate by means of practical shop assignments a sound working knowledge of how to set up and operate a typical oxyacetylene workstation.*

Potential Elements of the Performance:

- perform a routine inspection of assigned workstations to determine the condition of torch body, hoses, regulators and tips
- correct deficiencies prior to the commencement of work
- understand the differences in construction and operation between a balanced pressure and an injector torch
- pressurize and purge regulators, hoses, torch body and tip
- explain the dangers associated to the hazards of backfire and flashback
- explain the correct safe response to backfire and flashback
- identify correct versus unsafe flame ignition procedures
- adjust the oxyacetylene flame to produce flames designated as carburizing, neutral anoxidizingng
- describe procedures for the shutting down of the oxyacetylene torch, regulators and assigned workstation

3) *Communicate clearly and correctly in the written form as well as demonstrate by means of practical shop assignments a sound working knowledge of how to perform both fusion and braze welding operations.*

Potential Elements of the Performance:

- describebe potential fire, fume and explosion hazards associated to the fusion welding of metals
- identify proper fusion welding techniques
- perform appropriate pressure settings and flame adjustments for specific fusion welding exercises
- describe potential fire, fume and explosion hazards associated to the braze welding of metals
- identify proper braze welding techniques
- perform appropriate pressure settings and flame adjustments for specific braze welding exercises

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

C.S A. Approved (High Cut) Safety Work Boots
C.S.A. Approved (Impact Resistant) Safety Glasses
Appropriate Work Wear
Notebook c/w Paper
Two Finger (Gauntlet Type) Welding Gloves
Module: "Basic OxyFuel Gas Welding

V. EVALUATION PROCESS/GRADING SYSTEM

The evaluation for Learning Outcomes # 1 thru # 4 will consist of an over-all theory test as well as practical lab/shop assignments for which students must demonstrate proficiency in both 'knowledge' and 'hands on' skill.

The over-all *theory test* will represent 70% of the mark for the above Learning Tasks and will be 'open book' using MPC600 course notes and the identified module.

All *practical lab /shop assignments* will represent 15% of the mark for the above Learning Tasks and must be completed prior to the writing of the said theory test.

While all tests and assignments are designed to be completed with the specified time limit (or less), students MUST report to the shop/ classroom fully prepared. Your professor will supply only the assignment or test instructions.

The evaluation for Learning Outcome # 5 will consist of a day to day recording of the Elements of Performance listed. Each infraction will constitute the loss of one percentage point from the *15 percentage points* allocated to this outcome.

Course Grading Scheme

Final Mark (*see« ftem \$ 3 under Special Notes)

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

Shop Assignments 15%
Theory Test 70%
Employment Readiness 15%

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VT1. 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 an oxyacetylene flame cutting and welding course with Learning Outcomes and Elements of Performance that are at least 80% compatible with this course outline...

AND

2. The successful challenge of the over-all theory test identified by this course outline.

<OR>

3. Documented proof of at least three (3) years of competent trade experience involving oxyacetylene flame cutting and welding that is compatible with Learning Outcomes described in MPC600...

AND

4. The successful challenge of the over-all theory test identified by this course outline.