

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE: WORK PRACTICES & PROCEDURES **

**** This reportable subject also includes 3 sections of
welding shown on separate course outlines (attached)**

CODE NO.: MVM110

SEMESTER: 32 Week Program

PROGRAM: MOTOR VEHICLE MECHANIC PRE-APPRENTICE PROGRAM

AUTHOR: JOHN AVERY

DATE: MAY 1997

PREVIOUS OUTLINE DATED: FEBRUARY 1997

APPRO^

DEAN

DATE

TOTAL CREDITS: 8

**PREREQUISITE(S): ONTARIO SECONDARY SCHOOL DD7/LOMA WITH
GRADE 12 ENGLISH AT GENERAL LEVEL AND 1 SENIOR LEVEL HIGH
SCHOOL AUTOMOTIVE COURSE OR EQUIVALENT WORK EXPERIENCE.**

LENGTH OF COURSE: 32 WEEKS TOTAL CREDIT HOURS: 96

COURSE NAME

CODE NO.

- I. COURSE DESCRIPTION:** This course is designed to provide students with the necessary skills to properly & safely use hand tools and power tools currently used in the diagnosis and repair of automotive vehicles. They will be required to perform tasks involving the use of precision tools, both mechanical and electronically powered.

- H. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**
(Generic Skills Learning Outcomes placement on the course outline will be determined and communicated at a later date.)

Upon successful completion of this course the student will demonstrate the ability to:

- 1) Use the correct safety practices associated in an automotive shop.

Potential Elements of the Performance:

- 1) List the safety equipment required to operate a automotive repair shop.
- 2) Describe the potential dangers associated to the automotive repair industry.
- 3) Outline the proper procedures to defuse a potentially hazardous situation in the workplace.
- 4) Exhibit knowledge and understanding of the W.H.M.I.S. Safety Act.
- 5) Demonstrate the proper method of raising and lowering vehicles using hoists and floor jacks.
- 6) Demonstrate proper use of cleaning equipment.

- 2) Name and give a detailed description and operation of the hand tools and power tools being used.

Potential Elements of the Performance:

- 1) Demonstrate proper safety measures.
- 2) Explain why we need to use precision measuring tools.
- 3) Show competency in safely handling the tools necessary for the task being performed.
- 4) Describe which tool is appropriate for the task being performed.

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**H. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE
(Continued)**

- 3) Demonstrate proficiency in accurately taking measurements and reading the measuring tools.

Potential Elements of the Performance:

- 1) Measuring taper in a cylinder with a micrometer.
- 2) Measuring out-of-round in a cylinder.
- 3) Measuring crankshaft journals for out-of-round and taper.
- 4) Use a dial bore gauge to measure cylinder wear.
- 5) Use a straight edge to measure cylinder head warpage.
- 6) Compare the readings, measurements taken, to the specifications in the proper manual.

- 4) Fastening Devices.

Potential Elements of the Performance:

- 1) Describe the proper terminology of fastener nomenclature.
- 2) Select the proper fastener for the job being performed.
- 3) Remove worn fasteners from components.
- 4) Install replacement fasteners using the correct torque specification and sequence.

- 5) Describe the different types of seals & gaskets used.

Potential Elements of the Performance:

- 1) Properly clean and prepare gasket surfaces.
- 2) Correctly install various gaskets used on an automotive unit.
- 3) Use the proper tools for removal & installation of crankshaft seals.
- 4) Diagnose the failure of oil seals used in the automotive trade.

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**H. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE
(Continued)**

- 6) Describe the operation of the air-conditioning system.

Potential Elements of the Performance:

- 1) Demonstrate the proper hook up of the air-conditioning service equipment.
 - 2) Discharge the air-conditioning system.
 - 3) Charge the air-conditioning system.
 - 4) Apply the proper safety regulations mandate when servicing the air-conditioning system.
- 7) Demonstrate his/her ability to properly and safely use hand and power tools to repair threaded holes in engine components.
- 1) Remove broken bolts from various engine components.
 - 2) Clean the threads out using the correct tap and die.
 - 3) Drill a hole to the correct diameter and properly thread it.
 - 4) Install the correct fastener required.
 - 5) Tighten the fastener to the proper torque value and in the proper sequence.

m. TOPICS:

- 1) Shop Safety
- 2) Measuring Tools
- 3) Hand Tools & Power Tools
- 4) Automotive Fasteners and Procedures
- 5) Gaskets & Seals
- 6) Air Conditioning Service Procedures

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Necessary hand tools and power tools.
Automotive Test Book & Working Manual
Handouts specific to each topic
Various automotive components commonly used for measuring and repairing.

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V. EVALUATION PROCESS/GRADING SYSTEM

- © The student will be tested by a theory test showing his/her ability to define and explain the use of the tools required to perform the measuring tasks and repair tasks performed. The theory test will account for 50% of the students final mark in this module. Practical testing based on 50% of final mark will be used to determine the students proficiency in using the tools.

VL SPECIAL NOTES:

- Special Needs
If you are a student with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext. 493, 717, 491 so that support services can be arranged for you.
- Retention of Course Outlines
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other post-secondary institutions.
- Disclaimer for Meeting the Needs of the Learners
- Substitute Course Information is available at the Registrar's Office.
- Any Other Special Notes appropriate to your course.

VH. 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: