

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE: AUTOMATIC TRANSMISSIONS/CONTROL SYSTEMS

CODE NO.: MVM113

SEMESTER: 32 Week Program

PROGRAM: MOTOR VEHICLE MECHANIC PRE-APPRENTICE PROGRAM

AUTHOR: THOMAS COOK

DATE: FEBRUARY 97

PREVIOUS OUTLINE DATED: N/A

APPROVED



DEAN

DATE

TOTAL CREDITS: 8

PREREQUISITE(S): ONTARIO SECONDARY SCHOOL DD?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

MVM113
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I. COURSE DESCRIPTION: This course will help a student learn the basic knowledge and skills to confidently troubleshoot and repair clutches, drive shafts, manual transmissions, transaxles and automatic transmissions and transaxles.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1) Troubleshoot and repair clutch assemblies and linkages.

Potential Elements of the Performance:

- 1) Describe the parts of clutch linkage and clutch assemblies.
- 2) Demonstrate proficiency in using the tools and skills in troubleshooting, removing and replacing clutch assemblies.
- 3) Demonstrate the proper way of adjusting clutch linkage.
- 4) Road test vehicle for proper performance with the instructor.

2) Troubleshoot and repair manual shift transmissions.

Potential Elements of the Performance:

- 1) Describe the working parts of standard shift transmission and front wheel drive standard transmission.
- 2) Demonstrate proficiency in troubleshooting, dismantling, inspection and reassemble of standard shift transmissions and standard transaxles.
- 3) Describe and demonstrate the working knowledge of removal and installation of standard rear wheel drive transmission and standard shift transaxle.
- 4) Demonstrate a working knowledge of the removal and installation of axle drive gear and differential assemblies.

3) Troubleshoot and repair front wheel drive lines.

Potential Elements of the Performance:

- 1) Describe a working knowledge of the basic design of drive lines.
- 2) Demonstrate the working knowledge of the removal, installation of and service procedures of drive lines.
- 3) Service align and balance drive shaft assemblies.
- 4) Demonstrate the working knowledge of the removal, installation and service of front wheel drive wheel bearings.
- 5) Describe the proper use of tools required to service front wheel drive bearings and half shafts.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE

(Continued)

- 4) Troubleshoot and repair complete torque converters.

Potential Elements of the Performance:

- 1) Demonstrate the working knowledge of the construction, operating principles, testing and servicing of lock up torque converters.
- 2) Describe the construction of lock up torque converter, sensors and controls.
- 3) Explain the principles of operation of lock up torque converters, sensors and controls.
- 4) Describe manufacturers maintenance procedures for torque converters sensors, and control and perform assigned operation.

- 5) Troubleshoot and repair complete automatic transmissions.

Potential Elements of the Performance:

- 1) Demonstrate a working knowledge of the construction, operating principles, testing and servicing of rear and front wheel drive automatic transmissions.
- 2) Explain the construction of automatic control systems, pumps, gear sets, driving and holding devices.
- 3) Explain the principles of operation of automatic transmissions control systems, pumps, gear sets, driving and holding devices.
- 4) Inspect, test and diagnose automatic transmissions with the prescribed service tools and equipment.
- 5) Describe manufacturer's maintenance and repair procedures for automatic transmissions and perform assigned operations.

III. TOPICS:

- 1) Mechanical Skills
- 2) Reading Skills
- 3) Students will also be responsible to accessing shop manuals.

Power Train
COURSE NAME

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IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Text (Supplied by College)
Coveralls
Safety Glasses - CSA Approved
Regulation Safety Boots - CSA Approved, Minimum 6"

V. EVALUATION PROCESS/GRADING SYSTEM

Random tests and quizzes
Weekly tests
Shop Practices
Attendance

VI. 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 Learner

Substitute Course Information is available at the Registrar's Office

Any Other Special Notes appropriate to your course

VII. 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: