SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	Transmissions		
CODE NO. :	MSE180 and MSE622	**SEMESTER:**	ONE
PROGRAM:	Motive Power Fundamentals – Small Engine Repair (5084) Small Engine Mechanic – Level 1 Apprenticeship (6090)		
AUTHOR:	Gord Strachan		
DATE:	October 2014	**PREVIOUS OUTLINE DATED:**	October 2013

APPROVED:

"Corey Meunier"

CHAIR **DATE**

TOTAL CREDITS: TWO

PREREQUISITE(S):

HOURS/WEEK:

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Technology & Skilled Trades
(705) 759-2554, Ext. 2610

I. COURSE DESCRIPTION:

Upon successful completion of the reportable subject, the student is able to recommend repair of transmissions and auxiliary systems in accordance with government safety regulations, manufacturers' recommendations and specifications and approved industry standards.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Define the Fundamentals of Clutch Systems.

Potential Elements of the Performance:

- Define the history, purpose, types and application of clutch systems.
- Describe the construction features of clutch system components.
- Explain the operating principles of clutch systems.
- Describe the dismantling, inspection and reassembly procedures of clutch systems and components.
- Describe manufacturers' maintenance procedures for clutch systems and components.

2. Define the Fundamentals of Gear Theory.

Potential Elements of the Performance:

- Define the fundamentals of gears.
- Describe the construction features, types and applications of gears.

3. Repair Manual Shift Gear Boxes.

Potential Elements of the Performance:

- Describe the fundamentals of manual shift gear boxes.
- Describe the construction features of manual shift gear box components.
- Explain the operating principles of manual shift gear boxes.
- Perform the dismantling, inspection, testing and reassembly of manual shift gear boxes.

4. Describe the Maintenance Procedures for Final Drive Units.

Potential Elements of the Performance:

- Describe the history, purpose, function, types and application of final drive units.
- Describe the construction features of final drive unit components.
- Explain the principles of operation of final drive units.
- Outline the dismantling, inspection, testing and reassembly of final drive units.
- Describe manufactures'' maintenance procedures for final drive units.

III. TOPICS:

1. Clutch Systems
2. Gear Theory
3. Manual Shift Gear Boxes
4. Final Drive Units

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Title: Understanding the Outboard Motor
Edition: 3rd
Author: Stagner
Publisher: Pearson Education

Title: Boat Owner's Mechanical and Electrical Manual
Edition: 3rd
Author: Calder
Publisher: McGraw Hill

Title: Small Gas Engines
Edition: 10th
Author: Roth
Publisher: Goodheart-Willcox

Title: Small Gas Engines (workbook)
Edition: 10th
Author: Roth
Publisher: Goodheart-Willcox

CSA Certified 6 inch Leather Safety Boots
CSA Certified & Impact Resistant Safety Glasses
Coveralls (non-flammable material - i.e. cotton
Shop Coat (optional)

V. EVALUATION PROCESS/GRADING SYSTEM:

Theory Testing	40%
Application Experiences	30%
Final Assessment	30%

The following semester grades will be assigned to students:

Grade	**Definition**	*Grade Point Equivalent*
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

CR (Credit)	Credit for diploma requirements has been awarded.
S	Satisfactory achievement in field /clinical placement or non-graded subject area.
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.
NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

VI. SPECIAL NOTES:

Attendance:
Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

Attendance is mandatory except with a valid excuse. If late you will marked absent for the whole hour. For every unexcused absence you will be deducted 1% per class period. Previous notification or a call the day of absence is required for excusal.

If you miss a test with an unexcused absence you will not be allowed to write that test.

If a class is missed or going to be missed it is your responsibility to notify your instructor and make arrangements for handouts and noted taken while you were away.

CSA approved safety glasses and safety boots must be worn in the shop at all times. Please have safety boots and safety glasses available because you may not have a lot of warning when going into the shop.

CELL PHONES OR PAGERS MUST BE TURNED OFF IN ANY CLASS.

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.