

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



**SAULT
COLLEGE**

COURSE OUTLINE

COURSE TITLE: Frame, Steering & Suspension Systems
CODE NO. : MSE230 and MSE717 **SEMESTER:** TWO
PROGRAM: Motive Power Fundamentals – Small Engine Repair (5084)
Small Engine Mechanic – Level 2 Apprenticeship (6091)
AUTHOR: Gord Strachan
DATE: January 2014 **PREVIOUS OUTLINE DATED:** January 2013
APPROVED:

“Corey Meunier”

CHAIR

DATE

TOTAL CREDITS: TWO

PREREQUISITE(S):

HOURS/WEEK:

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For additional information, please contact Corey Meunier, Chair
School of Technology & Skilled Trades
(705) 759-2554, Ext. 2610

I. COURSE DESCRIPTION:

Upon successful completion of the reportable subject, the student is able to diagnose and recommend repairs to frames, steering and suspension in accordance with government safety regulations, manufactures' 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. *Perform Inspection and testing Procedures on Suspension Systems.*Potential Elements of the Performance:

- Define the fundamentals of suspension systems.
- Describe the construction features, types and applications of suspension systems and components.
- Explain the principles of operation of solid and independent suspension systems and components.
- Perform inspection and testing procedures on suspension system, components and sub-assemblies.

2. *Perform Inspection and Testing Procedures on Steering Systems.*Potential Elements of the Performance:

- Define the purpose and fundamentals of manual steering systems.
- Describe the construction features, types and applications of manual steering systems and components.
- Explain the principles of operation of manual steering systems and components.
- Perform inspection and testing procedures of manual steering systems.
- Perform steering system service procedures.
- Perform steering system alignment procedures.

3. *Perform Inspection and Testing Procedures on Tires and Wheels.*Potential Elements of the Performance:

- Describe the purpose, types and application of tires and wheels.
- Describe the construction features of tires and wheels.
- Explain the principles of operation of tires and wheels.
- Perform the dismantling, inspection, testing and assembly of tires, wheels and rims.

III. TOPICS:

1. Suspension System Fundamentals and Design
2. Steering Systems
3. Tires and Wheels

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	40%
Application Experiences	30%
Final Assessment	30%

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
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 be 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 notes 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.