



## I. **COURSE DESCRIPTION:**

In this course the student will learn basic aspects of four different but related trade areas: Automotive, Marine and Small Engines, Heavy Equipment and Truck Coach. The course will cover the shop and safety practices related to all of the trades and the student will learn to use the appropriate tools used in a safe working manner. The student will learn about the types of internal combustion engines used in these trade areas and learn to do basic maintenance to the engines. He or she will also learn about the electrical, fuel, gear train, suspension steering and braking systems used in the different types of vehicles and equipment used in the Motive Power Trades Areas. The student will be introduced to the computerized aspects involved in the Motive Power Trades from ordering of parts and supplies to the electronic computerized controls and diagnostics used on today's vehicles and equipment.

## II. **LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

1. ***Use the appropriate shop equipment and hand tools associated with the Motive Power Trade areas taught in a safe and proper manner.***

Potential Elements of the Performance:

- demonstrate the ability to use shop hoists
- choose the proper tool for the task to be performed
- demonstrate the ability to work safely in a Motive Power Shop environment

2. ***Demonstrate basic theoretical knowledge of the topic areas covered in the four Motive Power Trade Areas listed;***

Potential Elements of the Performance:

- identify the differences between the types of engines used in the Motive Power Trade areas
- list the major electrical / electronic components of today's vehicles and equipment
- locate and identify the vehicles or equipments transmission and drive axles
- list and identify the steering system and suspension system of different types of equipment and vehicles
- identify the type of braking system relative to the vehicle or equipment used in each trade area
- compare the sub-systems of each trade related vehicle or equipment and identify the similar mechanical and electrical components and

their intended use

-use electronic and hard copy manuals to locate and identify electrical and electronic components on various types of equipment and vehicles

-use electronic parts and service system to provide identification and service procedures for automotive systems

**3. *Perform basic shop tasks associated with the theory related to each topic area in a safe working manner according to manufactures service procedures***

Potential Elements of the Performance:

-perform basic electrical tests on automotive batteries using proper testing tools and safety equipment

-perform visual checks on different types of vehicles and equipment lighting systems

-perform minor repairs to the vehicle lighting and electrical systems

-perform simple visual and mechanical tests to ensure that the sub systems; suspension, steering and brakes are working in a safe manner

**III. TOPICS:**

1. Trade Practices and procedures; as related to the motive power trades including: Automotive Technicians, Truck and Coach Technicians, Heavy Equipment Technicians, Truck and Coach Technicians, Heavy Equipment Technicians and Marine and Small Engine Technicians
2. Engine Types and Sub Systems: Overview of each Trade Area and the types of engines used and the subsystems of each
3. Motive Power Electrical Systems
4. Motive Power Fuel Systems
5. Motive Power Gear Train Systems
6. Motive Power Suspension, Steering and Brake Systems

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

- work boots and safety glasses required for all shop classes
- coveralls or other suitable clothing required for shop classes
- binders, pencils, pens, students responsibility
- no text book relevant for this course and handouts will be provided for course related topics

**V. EVALUATION PROCESS/GRADING SYSTEM:**

The final grade for this course will be based on the results of classroom, assignments and shop evaluations weighed as indicated:

- Classroom – 60% of the final grade is comprised of term tests.
- Assignments – 10% of the final grade is comprised of a number of technical reports.
- Shop – 30% of the final grade is comprised of attendance, punctuality, preparedness, student ability, work organization and general attitude.

(Students will be given notice of test and assignment dates in advance)

The following semester grades will be assigned to students:

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

### Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

### 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 postsecondary institutions.

### Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

### Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

### Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade “C”, (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations. Announcements, news, the academic calendar of events, class cancellations, your learning management system (LMS), and much more are also accessible through the student portal. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

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.