



**I. COURSE DESCRIPTION:**

Drive Train Systems is designed to provide the proper maintenance and repair procedures for students working on the Braking Systems of Commercial Vehicles and Equipment. On this course students will learn about the different types of drive trains used the components that make up the drive train of various types of vehicles and equipment and their proper maintenance and repair procedures. Students will be taught Basic Principles of the Purpose, Construction and Operation of both Hydraulic and Pneumatic Braking Systems used on Heavy Equipment and On Road Truck and Trailers The students will also be taught how to safely and properly troubleshoot both Hydraulic and Pneumatic Systems for proper brake operation and adjustment

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

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

- Define the purpose, construction and operation of Hydraulic and Pneumatic Braking Systems
- Perform the required troubleshooting procedures for both Hydraulic and Pneumatic Brake Systems
- Describe the purpose, construction and differences of the types of foundation brakes used for Hydraulic and Pneumatic Systems.
- Perform proper brake adjustment Procedures for both Hydraulic and Pneumatic brake systems according to Manufacturer Specifications
- Identify proper Safety Procedures for the safe handling of brake fluids, brake dust, found in Hydraulic brake systems.
- Perform Proper Safety Procedures while raising, supporting and working on Heavy Equipment and Trucks using Hydraulic and Pneumatic Brake Systems.

**III. TOPICS:**

1. Basic Hydraulics
2. Basic Pneumatics
3. Hydraulic Brake System Components and operation
4. Pneumatic Brake System Components and operation
5. Servicing Hydraulic Brake Systems
6. Servicing Pneumatic Brake Systems

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

Hand outs provided by instructor as well as text books requested by department as per booklist.

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

***Students will be tested on the material covered per apprenticeship curriculum by multiple choice questions, assignments, and practical tests. The weigh factor for each area of testing will be as follows***

Theory Tests	50 %
Practical Tests	30 %
Assignments	20 %

This evaluation can change depending on the emphasis placed on each of the above testing procedures.

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<b><i>Grade Point Equivalent</i></b>
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:**

**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.

**VII. COURSE OUTLINE ADDENDUM:**

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