

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE: Drive Train Systems

CODE NO. : CVC 606 **LEVEL:** 1

PROGRAM: Commercial Vehicle – Common Apprenticeship (6080)

AUTHOR: John Avery

DATE: June/08 **PREVIOUS OUTLINE DATED:**

APPROVED: “Corey Meunier”
CHAIR **DATE**

TOTAL CREDITS: 4

PREREQUISITE(S):

HOURS/WEEK: 33 hours total during 8 week period

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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:

Drive Train Systems is designed to provide the proper maintenance and repair procedures for students working on 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 how to safely and properly diagnose, disassemble, re-assemble and repair or replace clutches and clutch components, transmissions and components, drive shaft components and single reduction drive axle assemblies and components according to Manufacturer Specifications.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Define the purpose, construction and operation of push type clutches and flywheels
2. Perform the required diagnosis, repair procedures and adjustments for push- type clutch assemblies
3. Define the purpose, construction and operation of the types of gears and gearing reductions used in CVE applications
4. Describe the purpose, construction and operation of single countershaft transmissions used in CVE applications
5. Describe the purpose, construction and operation of the single reduction drive axle assemblies used in CVE applications
6. Perform the proper maintenance procedures for single countershaft transmissions and drive axle assemblies
7. Identify the proper type of lubricants and lubrication methods used in the drive train systems and assemblies according to Manufacturer Specification
8. Perform disassembly and assembly of single countershaft transmissions and single reduction drive axles using Manufacturer Specifications and Manuals

III. TOPICS:

1. Push-Type Clutch and Flywheel assemblies
2. Fundamentals of Gears and Gearing
3. Single Countershaft Manual Transmissions
4. Drive Shafts, Power Take-Off Shafts and Universal Joints
5. Single Reduction Drive Axle Assemblies

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:

Grade	Definition	Grade Point Equivalent
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:

Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 2703 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 postsecondary institutions.

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*. Students who engage in academic dishonesty will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. 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.

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.

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

VII. PRIOR LEARNING ASSESSMENT:

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

VIII. ADVANCE CREDIT TRANSFER:

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.