

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



**CICE COURSE OUTLINE**

**COURSE TITLE:** Truck Coach Chassis and Suspension Systems

**CODE NO. :** MPF129 **SEMESTER:** Winter  
**MODIFIED CODE:** MPF0129

**PROGRAM:** Heavy Equipment & Truck Repair  
Motive Power – Advance Repair

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**MODIFIED BY:** Rachel Valois, Learning Specialist, CICE Program

**DATE:** Jan. 2013 **PREVIOUS OUTLINE DATED:** Jan. 2012

**APPROVED:** “Angelique Lemay” Jan. 2013

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*Dean, School of Community Services  
and Interdisciplinary Studies*

**DATE**

**TOTAL CREDITS:** ONEONE

**PREREQUISITE(S):** MPF0103

**HOURS/WEEK:** 2 hrs per week theory — 1 hr per week shop

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*For additional information, please contact the Dean, School of Community Services and Interdisciplinary Studies*  
*(705) 759-2554, Ext. 2603*

**I. COURSE DESCRIPTION:**

Upon successful completion of this course, the CICE student will learn about the types of chassis, frames of suspension systems and tire and wheel assemblies used for On Road Truck, Tractor, and Tractor Trailer Systems. Students will explore the various types of the above systems and their purpose. Students assist with performing visual inspections and routine service and maintenance checks for loose and worn components of frames and chassis, suspensions, tires and wheel assemblies. Students will be aware of the proper safety procedures for performing the above tasks according to the Sault College Motive Power Department as well as any vehicle manufacturers' safety regulations and specifications.

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

Upon successful completion of this course, the CICE student, along with the assistance of a Learning Specialist, will demonstrate the basic ability to

- 1. *Discover the chassis styles, frame types used, suspension components, and the tire and wheel assembly type used on a specific type of truck, tractor and tractor trailer unit.***
  - Identify the figuration style of cab and chassis (eg) Truck or Tractor or Tractor Trailer
  - Examine frame style of vehicle (eg) C-channel, box, X-style, steel frame, aluminum frame, double frame or single frame construction
  - Note the type of suspension system used (eg) Air Ride, Multiple Leaf, Rubber Block, Independent
  - Recognize the type and size of the tire and rim assemblies
  
- 2. *Assist with performing an inspection of the frame and suspension for:***
  - Cracks in the frame rails and cross member
  - Loose fasteners holding the cross members to frame.
  - Loose or damaged shocks
  - Broken leaf spring, loose U-bolts, worn bushings
  - Shifted axel assemblies
  
- 3. *Assist with performing a proper circle check and inspection.***
  - Check tire pressures and valve stem location.
  - Check wheel assemblies visually for loose fasteners.
  - Check drive wheel ends for lubrication leaks.
  - Check tires for tread wear and unusual wear patterns
  - Check dual wheel configurations for proper size tires and tread design

4. ***Assist with performing service checks on front axles.***
  - Inspect front wheels hubs for lube level and seal leaks
  - Inspect tie rod ends for excessive wear and looseness
  - Inspect king pins and king pin bushings turning ease and excessive wear
  
5. ***Assist with performing visual inspection and normal servicing of fifth wheel assemblies***
  - Check for loose mounting hardware
  - Check mounting bushings for excessive wear
  - Check sliding fifth wheel for proper operation
  - Visually check jaws for loose or broken components
  - Check fifth wheel plate for gouges and cracks.

### III. TOPICS:

1. Chassis styles, frame types used, suspension components, and the tire and wheel assembly types.
2. Perform inspection of the frame and suspension.
3. Perform a proper circle check and inspection.
4. Perform service checks on front axles.
5. Perform visual inspection and normal serving of fifth wheel assemblies.

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

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

Text Book: Heavy Duty Truck Systems

Edition: 5<sup>th</sup> ed., 12959#

Author: Bennett

Publisher: Thomson Nelson Learning Canada

Pens, Pencils, Calculator and 3 Ring Binder

\*Shop Coat or Coveralls

\*CSA Approved Work boots

\*CSA Approved Safety Glasses

(\*These Items are Mandatory For The Shop)

**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%	
A	80 – 89%	4.00
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.	



**Professor Parsons  
Student Assessment Procedure  
For  
Motive Power**

**THEORY ASSIGNMENTS and REPORTS**

Theory assessment is based on regularly scheduled tests and assignments and final exam. Attendance and home work checks are recorded and used as an aid for counseling.

The following grades will be assigned for **Theory Assignments and Reports:**

A+	90 to 100
A	85
A-	80
B +	79
B	75
B-	70
C +	69
C	65
C-	60
D	50
F (Fail)	49 or less.

**Assignments will be graded as follows:**

- a) One day after the original due date – 70% maximum.
- b) Two or more days after the original due date – 50% maximum.

**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.

**It is the departmental policy that once the classroom door has been closed, the learning process has begun. Late arrivers will only be granted admission to the room at the Instructors discretion.**

**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. The professor, in conjunction with a Learning Specialist, will periodically assess the necessity of any further modifications to the course outline.

**VII. COURSE OUTLINE ADDENDUM:**

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



**SAULT  
COLLEGE**

**Professor Parsons'  
Motive Power Program  
Policies and Procedures**

- 1.** During your program, you are considered to be a member of the Motive Power Department. As such, your actions and behavior, both in the college and the community reflect on this Department. We trust that your influence will be positive.
- 2.** College policy prohibits the consumption of food and drink in the classrooms and shop. Smoking is allowed only outside of the building in designated smoking areas. **No smokeless tobacco is allowed in theory class or shop class.**
- 3.** CSA approved Safety Glasses and Safety Boots must be worn in the Shop at all times. This means going to and from all of the classrooms located in the shop. It is the responsibility of the **STUDENT** to wear them. You will be marked absent if the aforementioned policy is not adhered to.

**Note; All safety glasses and boots must meet Sault College CSA approval rating.**

**NO GLASSES-NO BOOTS-NO ENTRY!!**

**4. SAFETY**

- 4.1** Students must not enter the shop area or commence work before their scheduled time.
- 4.2** Students must not work alone or in an unsupervised area.
- 4.3** Students must have lift truck training prior to operating those units.
- 4.4** Students must have equipment training and Technologist/Professor approval before operating any equipment.
- 4.5** Students must not use or operate equipment that is found to be unsafe or damaged. All such equipment must be reported to the Professor or Technologist who will replace and/or repair the said equipment.



- c) Remain in the class during clean-up and assist in the cleaning and shutting down of their shop/classroom.
- 7.2** Students are expected to conduct themselves in a manner that does not interfere with or obstruct the overall learning environment.
- 7.3** The following activities are not allowed in the shop/classrooms:
- a) Horseplay.
  - b) Making unnecessary noise.
  - c) Swearing.
  - d) Abusive behavior.
  - e) Smoking, chewing smokeless tobacco, beverages and eating.

## **8. ASSIGNMENTS AND THEORY TESTS**

- 8.1** Students are required to hand in assignments or write theory tests on the day and at the time specified/scheduled. See item #18 in the aforementioned document.
- 8.2** Assignments will be graded as follows:
- a) One day after the original due date – 70% maximum.
  - b) Two or more days after the original due date – 50% maximum.

**NOTE:** The only exception of Policy # 8 shall be those arising from personal emergencies (i.e. car accident, family death, serious illness, employment reasons) and the student supplies a written statement to that effect. See item #18.

- 9.** Please, coffee breaks only 10 to 12 minutes **MAXIMUM. NOTE: Individual Professors will address each class with their expectations. Some may only allow 10 minutes.**
- 10.** Please refrain from loitering in “C” wing hallways, around shop hallway entry doors and outside entrance doorways/walkways.
- 11.** Being under the influence of alcohol or drugs during any shop or theory class will not be tolerated and the student will be excused from class at the Professor’s discretion.
- 12.** Please remember that you must attend all related subject areas and pass successfully to obtain a Certificate or Diploma.
- 13.** If you miss a test with an **“unexcused absence”** (as deemed legitimate by your professor) you will **NOT** be allowed to write that

test. Only if; a doctors note, airline ticket, etc., or circumstances arising from a family emergency; and legitimate written proof can be presented to the professor. See item number 18 below for clarification.

- 14.** If a class is missed or going to be missed it is your responsibility to notify in writing (see item #18 below) your Professor and make arrangements for handouts and notes taken while you are away.
- 15.** **The use of Lap Tops, cell phones/PDA's, electronic information/image capturing, recording device for any form of communication or recording (voice, text, recording, image, etc...) during theory class or shop is strictly prohibited. Cell phones/PDA's must be silenced during regular class and shop times and must be turned off and kept out of sight during all classes and test sittings. Failure to follow the latter requirement during a test sitting will result in a grade of 0 (zero) being assigned and if not out of sight or being used during class, the unit WILL be confiscated for the duration of the class.**

**NO EXCEPTIONS**

- 16.** Students may not wear earphones/headphones of any kind (i.e. for playback of recorded music/voice) during theory classes, shop classes and test sittings. This does not include hearing aids as required by hearing impaired students.
- 17.** **NO Lap Top Computers** will be allowed in any class unless proper documentation is provided that the computer is required for learning assistance.
- 18.** **Any request to deviate from the aforementioned course outline requirements must be made to the Professor in writing or via Sault College email. If permission is granted it must also be granted in writing or via Sault College email. Verbal requests/permissions are not acceptable. It is the student's responsibility to maintain a copy of all such requests and associated permissions.**

**Student Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Students refusing to sign this form will not be allowed to register or continue in their course.



**CICE Modifications:****Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

**A. Tests may be modified in the following ways:**

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

**B. Tests will be written in CICE office with assistance from a Learning Specialist.*****The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

**C. Assignments may be modified in the following ways:**

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

***The Learning Specialist may:***

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

**D. Evaluation:**

Is reflective of modified learning outcomes.