SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

SAULT
COLLEGE

COURSE OUTLINE

COURSE TITLE:	Truck Coach Chassis and Suspension Systems		
CODE NO. :	MPF129	**SEMESTER:**	TWO
PROGRAM:	Heavy Equipment & Truck Repair Motive Power – Advance Repair		
AUTHOR:	Roberto Taranto		
DATE:	January 2012	**PREVIOUS OUTLINE DATED:**	January 2011
APPROVED:	*"Corey Meunier"* **CHAIR**		_____ **DATE**
TOTAL CREDITS:	ONE		
PREREQUISITE(S):	MPF 103		
HOURS/WEEK:	2 hr per 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 this course, the student will learn about the types of chassis, frames the suspension systems and tire and wheel assemblies used for On Road Truck, Tractor, and Tractor Trailer Systems. The Students will be able to identify and describe the various types of the above systems and there purpose. Students will perform visual inspections and routine service and maintenance checks for lose and worn components of frames and chassis, suspensions, tires and wheel assemblies. Students will be required to outline the proper safety procedures for performing the above tasks according to the both 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 student will demonstrate the ability to

1. Properly identify 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
- Identify 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
- List the type and size of the tire and rim assemblies

2. Perform 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. Perform 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. Perform 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. Perform visual inspection and normal serving 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: 5th 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:

Grade	**Definition**	*Grade Point Equivalent*
A+	90 – 100%	4.00
A	80 – 89%	
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.

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.

VII. COURSE OUTLINE ADDENDUM:

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