



# COURSE OUTLINE

## MPF121

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<b>Course Code: Title</b>	MPF121: AUOTOMOTIVE VEHICLE SYSTEMS MAINTENANCE
<b>Program Number: Name</b>	4041: AUTOMOTIVE REPAIR
<b>Department:</b>	MOTIVE POWER
<b>Semester/Term:</b>	18W
<b>Course Description:</b>	This course is an automotive workplace preparation course. You will perform entry level automotive maintenance tasks. Topics will include: vehicle component and systems identification, wheels and tires, vehicle lubrication and maintenance inspections, seasonal inspection programs and oil life and tire monitor system reset procedures. Work ethics and customer satisfaction will be stressed.
<b>Total Credits:</b>	2
<b>Hours/Week:</b>	4
<b>Total Hours:</b>	32
<b>Prerequisites:</b>	MPF103
<b>Vocational Learning Outcomes (VLO's):</b>	<p><b>4041 - AUTOMOTIVE REPAIR</b></p> <p>#1. Identify basic motive power system problems by using critical thinking skills and strategies and by applying fundamental knowledge of motor vehicle operation, components, and their interrelationships.</p> <p>#2. Identify, inspect, and test basic engine components and systems in compliance with manufacturer's recommendations.</p> <p>#3. Identify, inspect, and test basic electrical, electronic, and emission components and systems in compliance with manufacturers recommendations.</p> <p>#4. Identify, inspect, and test basic drive train components and systems in compliance with manufacturers recommendations.</p> <p>#5. Identify, inspect, and test basic suspension, steering, and brake components and systems in compliance with manufacturers recommendations.</p> <p>#6. Disassemble and assemble components to required specifications by applying workshop skills and knowledge of basic shop practices.</p> <p>#7. Use a variety of test equipment to assess basic electronic circuits, vehicle systems, and subsystems.</p> <p>#9. Communicate information effectively, credibly, and accurately by producing supporting documentation to appropriate standards.</p> <p>#10. Use information technology and computer skills to access data concerning repair</p>
<b>Please refer to program web page for a complete listing of program outcomes where applicable.</b>	

procedures and manufacturer's updates.  
 #11. Prepare logs, records, and documentation to appropriate standards.  
 #12. Apply business practices and communication skills to improve customer service.

**Essential Employability Skills (EES):**

- #1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.
- #2. Respond to written, spoken, or visual messages in a manner that ensures effective communication.
- #3. Execute mathematical operations accurately.
- #4. Apply a systematic approach to solve problems.
- #5. Use a variety of thinking skills to anticipate and solve problems.
- #6. Locate, select, organize, and document information using appropriate technology and information systems.
- #7. Analyze, evaluate, and apply relevant information from a variety of sources.
- #8. Show respect for the diverse opinions, values, belief systems, and contributions of others.
- #9. Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.
- #10. Manage the use of time and other resources to complete projects.
- #11. Take responsibility for ones own actions, decisions, and consequences.

**Course Evaluation:**

**Other Course Evaluation & Assessment Requirements:**

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.

**Evaluation Process and Grading System:**

Evaluation Type	Evaluation Weight
Assignments	10%
Employabilty Skills	10%
Shop	35%
Tests	45%

**Books and Required Resources:**

Automotive Technology: A Systems Approach by Bennett  
 Publisher: Thomson Nelson Learning Canada Edition: 3rd Canadian  
  
 Heavy Duty Truck Systems by Bennet  
 Publisher: Thomson Nelson Learning Canada Edition: 6th

**Course Outcomes and Learning Objectives:**

**Course Outcome 1.**

Motive Power Information Technology

## **Learning Objectives 1.**

Potential Elements of the Performance:

- Access manufactures service information
- Prepare documentation explaining a repair procedure
- Document vehicle maintenance inspection results
- Prepare a proper vehicle Work Order

## **Course Outcome 2.**

Work Practices

## **Learning Objectives 2.**

Potential Elements of the Performance:

- Perform safe lifting procedures and a two post hoist
- Perform safe lifting procedures and a four post hoist
- Safely lift and support and vehicle using a floor jack and jack stands
- Repair a damaged thread
- Identify hand tools

## **Course Outcome 3.**

Electricity

## **Learning Objectives 3.**

Potential Elements of the Performance:

- Demonstrate proficiency at using a DVOM
- Perform a wiring repair
- Test starting and charging systems
- Perform battery load test
- Perform battery charging technique

## **Course Outcome 4.**

Brakes

## **Learning Objectives 4.**

Potential Elements of the Performance:

- Inspect and report on braking system condition
- Service disc and drum brakes
- Report on fluid condition
- Repair a brake line
- Repair a fuel line

## **Course Outcome 5.**

Steering and Suspension

### **Learning Objectives 5.**

Potential Elements of the Performance:

- Repair a tire
- Balance tires
- Inspect condition of shocks and struts
- Lubricate steering and suspension components

## **Course Outcome 6.**

Engines

### **Learning Objectives 6.**

Potential Elements of the Performance:

- Perform a vehicle maintenance inspection including engine oil and filter change
- Service a cooling system
- Remove and replace engine accessory drive belts
- Test engine oil pressure

## **Course Outcome 7.**

Fuel systems

### **Learning Objectives 7.**

Fuel systems

Potential Elements of the Performance:

- Replace fuel filters
- Repair gas lines
- Test fuel pressure

**Date:**

Monday, December 18, 2017

Please refer to the course outline addendum on the Learning Management System for further information.