



COURSE OUTLINE: MPF121 - AUTO VEH SYST MAINT.

Prepared: Dan Tregonning

Approved: Greg Farish, Chair, Aviation Technology - Flight

Course Code: Title	MPF121: AUOTOMOTIVE VEHICLE SYSTEMS MAINTENANCE
Program Number: Name	4041: AUTOMOTIVE REPAIR 4044: MOT POWER ADV REPAIR
Department:	MOTIVE POWER
Semesters/Terms:	21W
Course Description:	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.
Total Credits:	2
Hours/Week:	4
Total Hours:	32
Prerequisites:	MPF103
Corequisites:	There are no co-requisites for this course.
Vocational Learning Outcomes (VLO's) addressed in this course: Please refer to program web page for a complete listing of program outcomes where applicable.	4041 - AUTOMOTIVE REPAIR VLO 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. VLO 2 Identify, inspect, and test basic engine components and systems in compliance with manufacturer's recommendations. VLO 3 Identify, inspect, and test basic electrical, electronic, and emission components and systems in compliance with manufacturers recommendations. VLO 4 Identify, inspect, and test basic drive train components and systems in compliance with manufacturers recommendations. VLO 5 Identify, inspect, and test basic suspension, steering, and brake components and systems in compliance with manufacturers recommendations. VLO 6 Disassemble and assemble components to required specifications by applying workshop skills and knowledge of basic shop practices. VLO 7 Use a variety of test equipment to assess basic electronic circuits, vehicle systems, and subsystems. VLO 9 Communicate information effectively, credibly, and accurately by producing supporting documentation to appropriate standards. VLO 10 Use information technology and computer skills to access data concerning repair procedures and manufacturer's updates.

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2020-2021 academic year.



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4044 - MOT POWER ADV REPAIR

- VLO 1 Analyse, diagnose, and solve various motive power system problems by using problem-solving and critical thinking skills and strategies and by applying fundamental knowledge of motor vehicle operation, components, and their interrelationships.
- VLO 3 Diagnose and repair engine systems in compliance with manufacturer's recommendations.
- VLO 4 Diagnose and repair electrical, electronic, personal safety, and emission components and systems in compliance with manufacturer's recommendations.
- VLO 5 Diagnose and repair drive train components and systems in compliance with manufacturer's recommendations.
- VLO 6 Diagnose and repair suspension, steering, and brake components and systems in compliance with manufacturer's recommendations.
- VLO 7 Disassemble and assemble components to required specifications by applying workshop skills and knowledge of basic shop practices.
- VLO 10 Communicate information effectively, credibly, and accurately by producing supporting documentation to appropriate standards.
- VLO 11 Use information technology and computer skills to support work in a motive power environment.
- VLO 12 Prepare, support, maintain, and communicate data from log, record, and documentation systems.
- VLO 14 Assist in quality-control and quality-assurance programs and procedures.
- VLO 16 Complete all assigned work in compliance with occupational, health, safety, and environmental law; established policies and procedures; codes and regulations; and in accordance with ethical principles.

Essential Employability Skills (EES) addressed in this course:

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

Course Evaluation:

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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.

Books and Required Resources:

Automotive Technology: A Systems Approach by Bennett
Publisher: Thomson Nelson Learning Canada Edition: 4th Canadian

Heavy Duty Truck Systems by Bennet
Publisher: Thomson Nelson Learning Canada Edition: 7th

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Motive Power Information Technology	• Access manufactures service information • Prepare documentation explaining a repair procedure • Document vehicle maintenance inspection results • Prepare a proper vehicle Work Order
Course Outcome 2	Learning Objectives for Course Outcome 2
Work Practices	• 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	Learning Objectives for Course Outcome 3
Electricity	• 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	Learning Objectives for Course Outcome 4
Brakes	• Inspect and report on braking system condition • Service disc and drum brakes • Report on fluid condition • Repair a brake line • Repair a fuel line

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	Course Outcome 5	Learning Objectives for Course Outcome 5										
	Steering and Suspension	• Repair a tire • Balance tires • Inspect condition of shocks and struts • Lubricate steering and suspension components										
	Course Outcome 6	Learning Objectives for Course Outcome 6										
	Engines	• 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	Learning Objectives for Course Outcome 7										
	Fuel systems	• Replace fuel filters • Repair gas lines • Test fuel pressure										
Evaluation Process and Grading System:	<table><tr><td>Evaluation Type</td><td>Evaluation Weight</td></tr><tr><td>Assignments</td><td>10%</td></tr><tr><td>Employability Skills</td><td>10%</td></tr><tr><td>Shop</td><td>35%</td></tr><tr><td>Tests</td><td>45%</td></tr></table>		Evaluation Type	Evaluation Weight	Assignments	10%	Employability Skills	10%	Shop	35%	Tests	45%
Evaluation Type	Evaluation Weight											
Assignments	10%											
Employability Skills	10%											
Shop	35%											
Tests	45%											
Date:	September 2, 2020											
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.											

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