

Program Code	Program Description	Program Year	Program Semester
MPFP	Motive Power Fundamentals-Parts and Counter Personnel	1	2
MPTN	Motive Power Technician - Service and Management	1	2

Academic Year: 2022-23

Term : Winter 2023

Course Name: Suspension, Steering & Brakes1

Course Code: AMST 1030

Credit Value: 6

Faculty	Email	Office	Phone	Comments
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Classroom Instruction	Lab/ Workshops/ Fieldwork	Field Placement/ Work Placement	Clinical Placement	Small Group Tutorial	Independent Learning	Total
48	32	0	0	0	0	80

Prerequisites/Corequisites/Equivalent Courses

PR/CO/EQ	Course Code	Course Name	Conditions
PR	AMST 1026	Applied Work Practices 1	with a minimum grade of 50
CO	N/A		
EQ	N/A		

This Course is A Prerequisite For:

Course Code	Course Name
AMST 2016	Suspension, Steering and Brakes 2

1. Calendar Description

Students demonstrate a basic working knowledge of the construction, operating principles, testing and servicing of suspension, steering and hydraulic and air brake systems.

2. Course Learning Outcomes: Upon successful completion of the course, the student will be able to

- 1 Describe the construction and function of basic brake components and systems. Perform service procedures on vehicle brake systems and components.
- 2 Describe the construction and function of vehicle bodies and frames.
- 3 Describe the construction and function of suspension systems. Perform service procedures on suspension systems and components.
- 4 Describe the construction and function of steering systems. Perform service procedures on steering systems and components.

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Dean/Chair Approval:

Date: 1/20/2023

5 Describe the construction and function of wheels and tires. Perform service procedures on wheels and tires.

3. Essential Employability Skills Outcomes: This course will contribute to the achievement of the following essential employability skills

Taught	Assessed	Essential Employability Skill
[x]	[]	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.
[]	[x]	4. Apply a systematic approach to solve problems.
[]	[]	5. Use a variety of thinking skills to anticipate and solve problems.
[]	[x]	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 contribution of others.
[]	[]	9. Interact with others in groups or team in ways 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 one's own actions, decisions, and consequences.

4. General Education:

This course is not identified as a General Education course.

5. Prior Learning Assessment and Recognition:

Students may apply to receive credit by demonstrating achievement of the course learning outcomes through previous life and work experiences.

This course is eligible for challenge through the following method(s) indicated

Challenge Exam - Written	Challenge Exam - Oral	Portfolio	Skills Demonstration
[]	[]	[]	[]

PLAR

 PLAR Advising
 613-969-1913, ext. 2330
 pathways@loyalistcollege.com

6. Textbooks

N/A

Materials and Supplies**7. Evaluation: Students will demonstrate learning in the following ways**

Course Learning Outcomes/Essential Employability Skills	Evaluation Type(s)	Weighting
Describe the construction and function of basic brake components and systems. Perform service procedures on vehicle brake systems and components.	Research activity Practical application	20
Describe the construction and function of vehicle bodies and frames.	Research activity Practical application	10
Describe the construction and function of suspension systems. Perform service procedures on suspension systems and components.	Research activity Practical application	20
Describe the construction and function of steering systems. Perform service procedures on steering systems and components.	Research activity Practical application	20
Describe the construction and function of wheels and tires. Perform service procedures on wheels and tires.	Research activity Practical application	20
Apply a systematic approach to solve problems.	Practical application	5
Locate, select, organize, and document information using appropriate technology and information systems.	Practical application	5

8. Other:

While every effort will be made to adhere to approved outlines, please recognize that courses may be delivered alternatively, or differently during periods of extenuating circumstances, such as that of a health crisis (e.g., pandemic). During such periods, the college may face challenges in both the methods and timeline for delivery, necessitating changes to the outline to ensure the continued health and well-being of all concerned. Some hours may be captured via independent study and other modalities during these times. Methods of evaluation may also be adjusted. Your understanding and patience in the acceptance of any required changes is appreciated; be assured that such decisions will be made with course completion integrity in mind.

Loyalist College has a Violence Prevention policy:

All College members have a responsibility to foster a climate of respect and safety, free from violent behavior and harassment.

- Violence (e.g. physical violence, threatening actions or harassment) is not, in any way, acceptable behavior.
- Weapons or replicas of weapons are not permitted on Loyalist College property.
- Unacceptable behavior will result in disciplinary action or appropriate sanctions.
- More information can be found in the "Student Manual". This document was prepared in accordance with AOP 204: Course

Outlines and AOP 224: Evaluation and Student Performance. For more information please see the policy section at www.loyalistcollege.com.

Attendance:

Attendance contributes to student success. Students are encouraged to make all efforts to attend all classes and arrive at each class on time. If a student is late arriving, they should enter with minimal disruption. If a student needs to leave a class early, they should leave with minimal disruption. Loyalist College recognizes that as adult learners, students will make individual decisions regarding attending classes. Loyalist College expects that students understand and accept that there may be consequences resulting from their decision not to attend or to arrive late. Students are advised to review their individual course outlines and program manuals to be aware of faculty attendance expectation and inform faculty of known absences as required.

-Excerpt from AOP 209 Student Code of Conduct – Positive Learning & Living Environment

All Human Rights Code related requests for accommodation will be given meaningful consideration.

9. Curriculum, Delivery, Learning Plan and Learning Outcomes:

Course Learning Outcomes/Essential Employability Skills	Related Elements of Performance	Learning Activities/Resources
Describe the construction and function of basic brake components and systems. Perform service procedures on vehicle brake systems and components.	Identify and inspect brake system components and sub assemblies Use appropriate tools, equipment and processes to remove replace and assemble components Recognize the design features and operation of fluid, pumps, valves and actuators Disassemble and assemble components to required specifications by applying safe workshop skills and knowledge Describe the construction of hydraulic brake system components Inspect and test hydraulic brake system components using prescribed tools and equipment	Class Discussion Research assignment Practical assignment
Describe the construction and function of vehicle bodies and frames.	Identify various frame types and explain their construction and application Identify a variety of suspension types and components	Class Discussion Research assignment Practical assignment
Describe the construction and function of suspension systems. Perform service procedures on suspension systems and components.	Identify suspension system components Describe the construction of suspension system components Explain the operation of suspension system components Know the definitions and applications for the following terms; Hooke's law Center of gravity Sprung and Un-sprung weight Characteristic and applications for materials used within suspension systems	Class Discussion Research assignment Practical assignment

	Disassemble, inspect, test, and assemble suspension system components and sub-assemblies with the prescribed tools and equipment Inspect and test suspension systems as prescribed by the manufacturer and in compliance with provincial and federal laws	
Describe the construction and function of steering systems. Perform service procedures on steering systems and components.	Identify steering system components Describe the construction of steering system components Explain the operation of steering and suspension system components Inspect and test steering systems as prescribed by the manufacturer and in compliance with provincial and federal laws	Class Discussion Research assignment Practical assignment
Describe the construction and function of wheels and tires. Perform service procedures on wheels and tires.	Fundamentals and construction of radial tires and rims Diagnose, inspect, test and repair wheels and tire assemblies using prescribed tools and equipment	Class Discussion Research assignment Practical assignment
Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.	Communicate effectively within the classroom and lab environment with professors and peers using appropriate terminology	Class Discussion Research assignment Practical assignment