COURSE OUTLINE: MPF131 - MOTIVE POWER ENV TY

Prepared: Jamie Schmidt
Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	MPF131: MOTIVE POWER ENVIRONMENTAL TECHNOLOGY
Program Number: Name	4041: AUTOMOTIVE REPAIR 4044: MOT POWER ADV REPAIR
Department:	MOTIVE POWER
Semesters/Terms:	21W
Course Description:	Various applications and developments in the area of technology have an increasing impact on all aspects of human endeavour and have numerous social and economic implications. This course will examine the Motive Power industry and its effect on our environment and economy. You will study the fundamentals of new and emerging environmental technology such as: bio mass fuels, electric and hybrid vehicles. You will be exposed to emerging views and gain an understanding of the impact of the social characteristics of transportation technology and its relation to the environment. This course will explore the impacts of these concepts and practices on everyday life.
Total Credits:	3
Hours/Week:	0
Total Hours:	24
Prerequisites:	There are no pre-requisites for this course.
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 11 Prepare logs, records, and documentation to appropriate standards. **4044 - MOT POWER ADV REPAIR** 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 15 Develop and use personal and professional strategies and plans to improve professional growth, job performance, and work relationships. 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.

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.

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 5 Use a variety of thinking skills to anticipate and solve problems. 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 ones own actions, decisions, and consequences.
General Education Themes:	Social and Cultural Understanding Personal Understanding Science and Technology
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
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.

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Outline the global trends relating to various fuel sources.	1.1 Understand the environmental impacts of fossil fuels 1.2 Debate the impacts of biofuels as an energy trend. 1.3 Discover the social and economic realities of alternative fuels 1.4 Examine the development and infrastructure required for technologies relating to the use of hydrogen as a fuel source.

	1.5 Discuss the circumstances relating to global sources of fossil fuels.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
2. Discover the benefits and consequences of electricity for transportation	2.1 Examine the consequences of using various means of generating electricity (i.e.: coal, uranium , solar ,wind ,water) 2.2 Predict the impact on infrastructure requirements for implementation
Course Outcome 3	**Learning Objectives for Course Outcome 3**
3. Compare the environmental impacts of the Motive power industry	3.1 Discuss the effects of ozone depleting substances on the environment 3.2 Understand the effects of mismanagement of waste products. 3.3 Connect the effects of vehicle emissions on environmental effects such as global warming,acid rain, ground and water pollution.
Course Outcome 4	**Learning Objectives for Course Outcome 4**
4. Adopt a responsible work ethic relating to the global carbon footprint of the Motive Power industry.	4.1 Understand the significance of ongoing maintenance of emission control systems. 4.2 Compare the life cycle assessments of products used in the Motive Power industry from cradle to grave 4.3 Integrate the historical perspective of Motive power into an understanding of changes necessary to reduce the carbon footprint of the industry.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	40%
Presentations	60%

Date: September 2, 2020

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