Faculty are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT. Diesel COURSE NUMBER: DSL 2170

NUMBER OF CREDITS: 2cr. 1lecture 1 lab

COURSE TITLE: Electronics Diagnoses of Power Train

CATALOG DESCRIPTION: This course will cover electronic troubleshooting and Diagnoses of the power train. Many of transmission today are mechanical systems that are shifted electrically though the use of a ECM that will communicate with engine controller. The data bus needs to be understood for proper diagnoses and repair. The students will make the proper connections and determine what if any problems are present.

AUDIENCE: Diesel Truck, and Diesel Tech Students

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)
Area: by meeting the following competencies:
Area: by meeting the following competencies:
Area: by meeting the following competencies:

PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE:

LENGTH OF COURSE: 48 hours

THIS COURSE IS USUALLY OFFERED:
Every other year fall spring summer undetermined X

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: The academic objectives of this course are:
a. To learn electrical and electronic control systems for the power train.
b. To learn the diagnostic procedures to analyze problems in the system.
c. To hook the scan tool or computer to the system and take readings of the unit.
2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. To analyze the different systems and how they work.
   b. To troubleshoot the operation of the electrical and electronic system and make a diagnoses on proper repairs.
   c. To order the right needed parts to make repairs.
   d. To think through proper repair procedures to have the system operate like new.

3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   a. Talking to the customer or instructor and finding out what the problem is.
   b. Explaining to the customer or instructor what they found and how they intend to make repairs.
   c. Fill out a work order listing needed parts and explaining needed repairs.
   d. When the job is done there will be a oral or written report on the out come of the job.

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   a. Understanding the roles of the technician in the communicating with a diverse population.
   b. Working effectively in teams comprised of diverse backgrounds.
   c. Express personal philosophies on diverse issues.

TOPICS TO BE COVERED: Electrical and Electronics, power train controlled system the relationship of how one system works with the others.

LIST OF EXPECTED COURSE OUTCOMES: The students will be come more familiar with the power train, electrical and electronic system by working on and with them one more time.

LEARNING/TEACHING TECHNIQUES used in the course are:
X Collaborative Learning    X Problem Solving
X Student Presentations     X Interactive Lectures
☐ Creative Projects         ☐ Individual Coaching
X Lecture                   X Films/Videos/Slides
X Demonstrations            ☐ Other (describe below)
X Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
X Reading                   X Tests                   X Individual Projects
☐ Oral Presentations       X Worksheets              X Collaborative Projects
X Textbook Problems        X Papers                  ☐ Portfolio
X Group Problems           ☐ Term Paper
☐ Other (describe below)
EXPECTED STUDENT LEARNING OUTCOMES: The student will gain a 2.0 or higher GPA after completing this course of study.

"This course will cover the characteristics of hazardous wastes and its safe handling, storage, and disposal."

The information in this course outline is subject to revision

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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