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 2106

NUMBER OF CREDITS: 3cr.

COURSE TITLE: Advanced Powertrain Theory

CATALOG DESCRIPTION: This course covers the theory of operation of various power shift transmissions, power flow, and terminologies as related to various manufactures. This course covers the theory of operation of electro hydraulic systems. This program will cover a wide variety of power train systems from Ag equipment, industrial, and truck when and where they are available.

AUDIENCE: First Year Diesel 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: DSL 1120, DSL 1125, DSL 1130 or any basic powertrain course that has been approved by the diesel instructors.

LENGTH OF COURSE:

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

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 about power shift, shuttle transmissions, hydro/IVT and other new systems
   b. To learn about electrical hydraulics and testing different systems
   c. To learn about high pressure and low pressure standby
   d. To learn about new computer controlling powertrain systems

2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. The students will have to look up information on the units that they are working onto find what needs to be fixed.
   b. The students will have to study their book for assignments to turn in on time
c. The students will need to study power flow in their power train that they are assigned.

3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   A. Participation in class discussion.
   B. Complete written reports and assignments
   C. To improve oral communication skills through class presentations

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   A. To understand the roles of the technician in communicating with a diverse population
   B. To work effectively in teams comprised of diverse backgrounds
   C. To express personal philosophies on diverse issues

TOPICS TO BE COVERED: the student will overhaul and rebuild several transmissions and drive train components.

LIST OF EXPECTED COURSE OUTCOMES: The student will receive a passing grade when they have completed their project to the instructor’s satisfaction

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

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
X Reading                  X Tests                     □ Individual Projects
□ Oral Presentations      □ Worksheets                □ Collaborative Projects
X Textbook Problems       X Papers                    □ Portfolio
□ Group Problems          □ Term Paper
□ Other (describe below)

EXPECTED STUDENT LEARNING OUTCOMES:

"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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