MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

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 College-wide Curriculum Committee.

DEPT. Diesel                          COURSE NO. DSL2145
COURSE TITLE  Advance Engine Theory
CATALOG DESCRIPTION This course reviews the theory and operation of specialty areas of diesel engine rebuilding. This course will take the students through all facets of repair. This course explains the procedures of various engine-machining processes

This course will also explain the function of the diesel combustion, chamber designs, value train operation, rings, cylinders, pistons, crankshafts, connecting rods, and components that compliment each other so that the student can properly troubleshoot and diagnose customer complaints.

AUDIENCE  2nd year Diesel Students

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)
Area : by meeting the following competencies:
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PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE:

LENGTH OF COURSE 4cr

THIS COURSE IS USUALLY OFFERED:
Every year X   Every other year □
Fall □   Spring X   Summer □   Undetermined □

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

1. ACADEMIC CONTENT:
   A. To learn the operation of the diesel engine how it differs from the basic engine and related components.
   B. To troubleshoot and understand the internal operation.
   C. To learn how one system differs from the other.
   D. To begin the change from basic mechanical to the electronic and more advanced engines
   E. To understand the rebuild and remanufacturing of the larger diesel engines.
THINKING SKILLS:
A. To troubleshoot the effect on performance of the engine dependent on operation.
B. To troubleshoot the repair necessary to get the proper operation of the system.
C. To troubleshoot timing operation when set properly and improperly.

COMMUNICATIONS SKILLS:
A. Participation in class discussion.
B. Complete written reports and assignments
C. To improve oral communications skills through class presentations.

HUMAN DIVERSITY:
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: Engine Rebuilding and the operations of rebuilding and related components.

LIST OF EXPECTED COURSE OUTCOMES:
LEARNING/TEACHING TECHNIQUES used in the course are:
- Collaborative Learning
- Student Presentations
- Creative Projects
- Lecture
- Lab
- Interactive Lectures
- Individual Coaching
- Films/Videos/Slides
- Demonstrations
- Textbook Problems
- Group Problems
- Other (describe below)

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

"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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