

MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

Course Outline

Course Title: Engine Repair

Submitted By: Frank D. Malone

Semester Course Prefix and Number: MEST 2256

Approval Date: Nov. 2008

Old Quarter Course Prefix and Number: MEST 1256

Revision Date: Oct 2011

Number of Credits: 4

Number of Lecture Credits: 1

Semester(s) Offered: Fall

Number of Lab Credits: 3 Number of Lab Hours: 6

Class Size: 24

Number of Studio/Demonstration/Internship Credits: 0

Negotiated by AASC on:
(date) November 2008

Course Purpose Code:

- 0 – Developmental Courses
- 1 – Non-transferable, General Education
- 2 – Technical course related to career programs
- 3 – College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
- 4 – Other college course not considered a part of general education (MNTC) (e.g. computer science, health, physical education)
- 5 – Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements or intended for transfer.
- 9 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:

The focus of this course is to introduce the student to engine repairs related to mobile equipment. Students will learn internal combustion engine theory, variations among different engine designs, and proper engine maintenance, diagnostic, and repair procedures.

Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s): MEST 1245 MEST Fundamentals

Reading Prerequisite: None

Composition Prerequisite: None

Mathematics Prerequisite: None

Career Programs and Transfer Majors Accessing this Course:

Mobile Equipment Service Technician

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable:

(Notes: No more than two goals may be met by any one course. Curriculum Committee review and the Chief Academic Officer's approval are required.)

- 0. None
- 1. Communications
- 2. Critical Thinking
- 3. Natural Sciences
- 4. Mathematical/Logical Reasoning
- 5. History and the Social and Behavioral Sciences
- 6. The Humanities and Fine Arts
- 7. Human Diversity
- 8. Global Perspectives
- 9. Ethical and Civic Responsibility
- 10. People and the Environment

Learning Outcomes: (including any relevant competencies listed in the Minnesota Transfer Curriculum)

Upon completion of this course, the student will be able to:

- 1.) Describe two-stroke and four stroke engine theory.
- 2.) Identify various engine types and arrangements.
- 3.) Define intake and exhaust systems
- 4.) Define lubrication systems.
- 5.) Define cooling systems.
- 6.) Identify various fuel systems.
- 7.) Explain engine tune-up techniques related to different engine types.
- 8.) Perform basic engine repair procedures.
- 9.) Describe how to diagnose and test engine problems.
- 10.) Exhibit proper use of engine test equipment and service tools.
- 11.) Demonstrate proper use of hand, power, and precision measurement tools.
- 12.) Perform tasks cooperatively.
- 13.) Demonstrate proper safety procedures.

Student Assessment Methods:

Homework, Lab Assignments, Hands-on Tests, Written Tests

Use of Instructional Technology: (includes software, interactive video and other instructional technologies):

PowerPoint Presentations, Video Presentations, Equipment Specific Diagnostic Software, Personal Computers, Internet.

Outline or Statement of Major Course Content:

See Course Description above

Additional Special Information: (special fees, directives on hazardous materials, etc.)

None

Transfer Information: (Please list colleges/majors that accept this course in transfer.)

Approvals:

Body	Representative Signatures	Date
Curriculum Committee		
Faculty Association		
Academic Affairs Standards Committee		
Chief Academic Officer		

Distribution: Original – Administrative Office

Copies: Curriculum Committee Chair, AASC Chair, Transfer Specialist, Originating Faculty Member, Scheduler, Records, Student Services, Learning Center, Library

Revised: October 2006