

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES & SKILLED TRADES DIVISION
POWERSPORTS TECHNOLOGY
COURSE SYLLABUS
December 10, 2025

I. CATALOG DESCRIPTION

Course Number: MSTT1112
Course Title: Engine Repair I
Prerequisite(s): AUTT1007 and AUTT1110

Catalog Description: Introduction to basic engine design and components in two-cycle and four-cycle engine operation. Hands-on experience in rebuilding two and four-cycle engines.

Credit Hours: 3.0
Class Hours: 15
Lab Hours: 90
Total Contact Hours: 105

II. COURSE OBJECTIVES: *Course will:*

- A. Cover engine theory and design.
- B. Cover gasket and seal installation.
- C. Cover coolant and oil leaks.
- D. Cover single cylinder.
- E. Cover engine removal of engines from chassis.
- F. Cover mounting engine on a stand and removal of accessories.
- G. Cover engine disassembly, cleaning and inspection of parts.
- H. Cover diagnosing and measuring of engine.
- I. Cover engine reassembly.
- J. Cover test runs.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

A. STUDENT LEARNING OUTCOMES: *Student will be able to:*

- 1. Explain the theory and operation of a two-stroke and a four-stroke engine.
- 2. Perform gasket and seal installation.
- 3. Diagnose and repair coolant and oil leakage problems with single cylinder motorcycle engines.
- 4. Safely remove single cylinder engines from chassis.
- 5. Properly mount an engine on a stand and remove accessories in an orderly manner.
- 6. Follow service information regarding engine disassembly.
- 7. Properly clean and inspect parts, using solvent machine, steam cleaner, glass bead machine and/or high-pressure washer.
- 8. Diagnose and measure engine parts for abnormal wear.
- 9. Properly reassemble single cylinder engines, remount engine in chassis and make ready to run.
- 10. Successfully test run engine checking for performance, leaks and unusual noises.

B. GENERAL EDUCATION LEARNING OUTCOMES

GELO #3: Critical Thinking & Problem Solving

- 1. Collect, identify, interpret and analyze data.
- 2. Synthesize information to arrive at reasoned solutions to problems.
- 3. Evaluate ideas presented in writing, medial, speech, or artistic presentations.

4. Evaluate the validity of arguments, alternatives, data, outcomes and/or impacts of actions.
5. Acquire and integrate knowledge and construct relationships across disciplines.

IV. CONTENT/TOPICAL OUTLINE

- A. Course introduction
- B. Required tools
- C. Motorcycles and engines

V. INSTRUCTIONAL MATERIALS

Required text(s): Modern Motorcycle Technology with workbook, Edward Abdo

VI. METHODS OF PRESENTATION

A. Methods of presentation typically include a combination of the following:

1. Lecture
2. Small and large group discussions
3. Video presentation
4. Slides
5. Demonstrations
6. Observation
7. Handouts
8. Guest speakers

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:

1. Accumulative
2. Average test scores from written tests
3. Skill exhibit
4. Class/lab attitude and participation

VIII. SPECIFIC COURSE REQUIREMENTS

A. Student Must:

1. Complete all tests, projects, assignments and notebook (if required).