**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

# **GENERAL COURSE INFORMATION**

Course Number: AUTO 1122

Course Title: Engine Performance II

Credit Hours: 3

Prerequisite: AUTO 1120 Engine Performance I

Division/Discipline: Workforce Training and Economic Development/Automotive Technology

Course Description: In this course students will explore theory, evaluate performance, and service the emission control system of the automobile.

# **INSTRUCTOR INFORMATION**

# **COLLEGE POLICIES**

Students and faculty of Barton Community College constitute a special community engaged in the process of education. The College assumes that its students and faculty will demonstrate a code of personal honor that is based upon courtesy, integrity, common sense, and respect for others both within and outside the classroom.

Plagiarism on any academic endeavors at Barton Community College will not be tolerated. The student is responsible for learning the rules of, and avoiding instances of, intentional or unintentional plagiarism. Information about academic integrity is located in the Student Handbook.

The College reserves the right to suspend a student for conduct that is determined to be detrimental to the College educational endeavors as outlined in the College Catalog, Student Handbook, and College Policy & Procedure Manual. (Most up-to-date documents are available on the College webpage.)

Any student seeking an accommodation under the provisions of the Americans with Disability Act (ADA) is to notify Student Support Services via email at [disabilityservices@bartonccc.edu](mailto:disabilityservices@bartonccc.edu).

# **COURSE AS VIEWED IN THE TOTAL CURRICULUM**

Engine Performance II is the second in a series of courses pertaining to the engine fuel, ignition, and emission control system of the automobile; and is a prerequisite to Engine Performance III.

# **ASSESSMENT OF STUDENT LEARNING**

Barton Community College is committed to the assessment of student learning and to quality education. Assessment activities provide a means to develop an understanding of how students learn, what they know, and what they can do with their knowledge. Results from these various activities guide Barton, as a learning college, in finding ways to improve student learning.

Course Outcomes, Competencies, and Supplemental Competencies:

1. Evaluate tailpipe emissions, and perform the necessary repair.

Linked External Standards: NATEF 8.A.12, 8.A.13, 8.B.1, 8.B.2, 8.B.3, 8.E.5, 8.E.6, 8.E.7, 8.E.8, 8.E.12

1. Analyze engine mechanical integrity; perform necessary service.
2. Analyze exhaust gas recirculation treatment systems; perform necessary service.
3. Analyze air injection reaction treatment systems; perform necessary service.
4. Analyze exhaust catalyst treatment systems; perform necessary service.
5. Evaluate engine management systems, and determine the necessary repair.

Linked External Standards: NATEF 8.A.12, 8.B.1, 8.B.2, 8.B.3, 8.B.8, 8.D.1,

1. Evaluate engine management sensors, and perform necessary service.
2. Evaluate performance of various engine management actuators; perform necessary service.
3. Evaluate vehicle on-board diagnostic status; perform necessary service.
4. Formulate a step-by-step approach to analyze/diagnose engine management and emission control systems.

Linked External Standards: NATEF 8.B.1, 8.B.2, 8.B.3, 8.B.4, 8.B.5, 8.B.8, 8.B.9, 8.B.10, 8.D.1, 8.E.11, 8.E.12

1. Duplicate engine performance/emission system malfunction
2. Retrieve diagnostic trouble codes.
3. Evaluate system integrity – visual inspection.
4. Evaluate related technical service bulletins.
5. Analyze and perform required service/repairs.
6. Verify correct repair
7. Document test results and repairs.
8. **INSTRUCTOR'S EXPECTATIONS OF STUDENTS IN CLASS**

# **TEXTBOOKS AND OTHER REQUIRED MATERIALS**

# **REFERENCES**

# **METHODS OF INSTRUCTION AND EVALUATION**

1. **ATTENDANCE REQUIREMENTS**
2. **COURSE OUTLINE**