# 7/25/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 3 September 2020

Term and Year of Implementation: Spring 2021

**Course Title:** Engine Performance

**BRCC Course Rubric:** AUTO 1806

**Previous Course Rubric**:

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 2-8-6

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 30-120-150

**Louisiana Common Course Number:**

**CIP Code:** 47.0604

**Course Description:** Introduces the operation and service of fuel injection systems, ignition systems, and emission systems as related to current day automobiles. Includes advanced diagnostic techniques and equipment for, and repair of automotive computer controlled fuel delivery, fuel injection, ignition, and emission systems. This course covers a portion of the Automotive Service Excellence (ASE) certification criteria A8.

**Prerequisites:**  AUTO 1103 and AUTO 1614

**Co-requisites:** MVSB 1703 and AUTO 1252

**Suggested Enrollment Cap:** 20

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Demonstrate the writing, math, science, and interpersonal skills needed to become a successful Automotive Technician.

2. Describe the operation of automotive fuel systems and emission control systems.

3. Demonstrate the proper operation of scan diagnostic equipment.

4. Describe strategy-based diagnosis, computer-controlled fuel delivery, fuel injection, ignition systems, and emission theory.

5. Perform a fuel injection diagnosis following safe work practices.

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Assessment measures may include, but are not limited to presentations, portfolios, collaborative projects, in-class activities, observations, skill performances, class participation, lab reports, lab activities, homework, assignments, quizzes, written exams, and industry-standard proficiency exams.

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

1. Career Professionalism

a. Writing Skills Needed by Automotive Technicians

b. Applied Math and Science for Automotive Technicians

c. Interpersonal Skills Needed by Automotive Technicians

2. Automotive fuel systems

3. Engine mechanical integrity

4. Gasoline and alternative fuels

5. Emission control systems

6. Scan diagnostics

7. Strategy based diagnosis

8. Current ramping

9. Sensor diagnosis

10. Fuel delivery and fuel injection diagnosis

11. Ignition theory and diagnosis

12. Emission system theory and diagnosis