

COURSE PREFIX / NO: **AUT 147**
COURSE TITLE: **FUEL SYSTEMS**
LEC HRS / WEEK: **3.0**
LAB HRS / WEEK: **3.0**
CREDIT HRS / SEMESTER: **4.0**

[DL ATTENDANCE/VA STATEMENT](#)
[TEXTBOOK INFORMATION](#)

COURSE DESCRIPTION

This course is a study in basic fuel delivery systems, including types of fuel, fuel pumps, principles of carburetion, computer controlled carburetor operation and service, and introduction to fuel injection systems. Symptoms and diagnosis of malfunctioning systems are emphasized.

COURSE COMPETENCIES

Upon successful completion of this course, the student should be competent to perform the following tasks:

Module 1. Fuel Delivery Systems

1. Inspect fuel tank and fuel cap, fuel lines, fittings, and hoses; perform necessary action.
2. Check fuel for contaminants and quality; determine necessary action.
3. Inspect and test mechanical and electrical fuel pumps and pump control systems; perform necessary action.
4. Replace fuel filters.

Module 2. Carburetor Fuel Systems

1. Diagnose hot or cold no-starting, hard starting, poor drivability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire, power loss, stalling, poor mileage, dieseling, emissions problems on vehicles with carburetor-type fuel systems; determine necessary action.
2. Inspect and test cold enrichment system and components; perform necessary action.
3. Check idle speed and fuel mixture.
4. Adjust idle speed and fuel mixture.

Module 3. Fuel Injection Systems

1. Diagnose hot or cold no-starting, hard starting, poor drivability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire, power loss, stalling, poor mileage, dieseling, and emissions problems on vehicles with injection-type fuel systems; determine necessary action.
2. Inspect and test fuel pressure regulation system and components of injection-type fuel systems; perform necessary action.
3. Remove, service and install throttle body; adjust related linkages.
4. Inspect, test and clean fuel injectors.
5. Inspect throttle body, air induction system, intake manifold and gaskets for vacuum leaks and/or unmetered air.
6. Remove, inspect, and text vacuum and electrical circuits, components and connections of fuel system; perform necessary action.

COURSE REQUIREMENTS

Students are responsible for attaining competencies through completion of the following course requirements:

ATTENDANCE:

Students will be bound by the policies stated in the York Technical College Student Handbook. Students must attend 80% of the hours assigned the class for a semester to receive credit for the course. In case a student does miss a class, the student is responsible for obtaining the material that was covered during the absence. If a student is aware that a class will be missed, then the student should notify the instructor at the earliest possible date. Students with unexcused absences during tests will be allowed to make up tests at the discretion of the instructor. The student has the burden to be sure that some arrangement has been made with the instructor for taking a make-up test.

ACADEMIC HONESTY

York Technical College adheres to the South Carolina Tech Student code, approved by the State Board for Technical and Comprehensive Education on March 13, 1974(revised last April, 25 1984). Copies of this code are available in the Library and from Student Services. Any student involved in cheating or any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action. See the student handbook section “Student Life” subheading “Student Conduct” for further details.

PARTICIPATION IN CLASS

Students will be expected to participate in class discussions, to demonstrate problem solving techniques, to complete tests, homework, lab experiments, lab reports and other assigned work.

EVALUATION STRATEGIES / GRADING

The grading scale will be as follows:

Grade Points

A	90-100
B	80-89
C	70-79
D	60-69
F	00-59

Evaluation Method

Tests may be written or oral and may contain questions that are true or false, short answer, multiple choice, fill in the blank and/or problems. Students should refer to the instructor for the number of tests to be given and the material to be covered on each test. Each test will be of equal weight unless otherwise indicated by the instructor. Lab grades will be based on the completion of the Course Competencies, team work, safety, class participation, and housekeeping.

Final grades will be determined as follows:

Module 1.	Tests	11%
Module 1.	Lab	22.33%
Module 2.	Test	11%
Module 2.	Lab	22.33%
Module 3.	Test	11%
Module 3.	Lab	<u>22.33%</u>
Total Grade		100%

ENTRY-LEVEL SKILLS

Students should demonstrate hand eye coordination, manual dexterity, and be able to work in an industrial environment.

PREREQUISITES

None

CO-REQUISITES

None