**Virginia Western Community College**

 **AUT 126**

 **Auto Fuel and Ignition Systems**

**Prerequisites**

AUT 241

**Course Description**

Studies automobile ignition and fuel systems, their functions in operation of engine. Includes carburetors, fuel pumps, ignition systems, troubleshooting, engine test and adjustment, tune-up.

**Semester Credits: 5 Lecture Hours: 2 Lab/Clinical/Internship Hours:**  6

**Required Materials**

**Textbook:**

Fundamentals of Automotive Technology, Principles, and Practice, 2nd Edition, ISBN: 978-1-284-10995-5

**Other Required Materials:**

* Safety Glasses
* Closed-toe shoes
* Publisher’s online material
* ASE Online Prep Tests

**Course Outcomes**

**At** the completion of this course, the student should be able to:

* Explain, diagnose, and replace and/or repair the components within the automotive ignition systems.
* Identify and demonstrate the operation of a fuel injection system
* Test and adjust evaporative emission control systems
* Explain engine performance troubleshooting techniques and repair on computer controlled electronics.
* Test fuel and ignition systems using various scan tools for repair of onboard computer systems
* 71% of students completing AUT 126 will demonstrate how to diagnose, repair, and/or replace the components within the automotive ignition system by receiving a score of 70% or higher on the ASE entry-level certification test on engine performance or the final exam

**Topical Description**

Week Chapter Title

1 Ch. 69 Ignition System Components

2 Ch. 70 Ignition System Repair and Diagnosis

3 & 4 Ch. 71 Computer Fundamentals

5 Ch. 77 Fuel Pumps, Lines, and Filters

6 & 7 Ch. 78 Fuel Injection Components and Operation

8 Ch. 80 Electronic Throttle Control Systems

9 & 10 Ch. 81 Fuel Injection Diagnosis and Repair

11 & 12 Ch. 87 Onboard Diagnosis

13 & 14 Ch. 88 Scan Tools and Engine Performance Diagnosis

15 ASE test preparation & study guide review

16 Final Exam

\*Each week 30 minutes will be devoted to supervise on line interactive study in associated topics.

**Notes to Instructors**

* Practical exam is given on week 16.
* If schedule allows, ASE test preparation quiz is helpful to students in determining future certification options.