**Virginia Western Community College**

 **AUT 265**

 **AUTOMOTIVE BRAKING SYSTEMS**

**Prerequisites**

None

**Course Description**

Presents operation, design, construction, repair, and servicing of braking system, including anti-lock brake systems (ABS). Explains uses of tools and test equipment, evaluation of test results, estimation of repair cost for power, standard and disc brakes.

**Semester Credits: 4 Lecture Hours: 3 Lab/Clinical/Internship Hours:**  3

**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:**

* List the parts of the braking system
* Discuss mechanical & hydraulic Advantage
* Describe, diagnose, and replace or repair valves
* Replace and/or repair brake lines
* Identify various brake fluids and applications
* Demonstrate bleeding procedures of hydraulic lines
* Perform repair and/or maintenance to drum and disc style braking systems
* Adjust brakes, to include drum, disc, and emergency/parking brakes
* Diagnosis and Service Antilock Braking Systems (ABS)
* 70% of students completing AUT 266 will demonstrate how to diagnose, repair/replace all aspects of the braking system by receiving a score of 70% or higher on the ASE entry-level certification test on brakes or the final exam

**Topical Description**

 Chapter Title

week 1 93 Braking System Principles

week 2 94 Brake Hydraulic Systems

week 3 95 Hydraulic Valves and Switches

week 4 96 Brake Fluids and Lines

week 5 97 Brake Bleeding and Adjustments

week 6 & 7 100 Drum Brakes Diagnosis and Repair

week 8 & 9 102 Disc Brakes Diagnosis and Repair

week 10 103 Parking Brake Operation and Repair

week 11 105 Power Brake Unit Operation, Diagnosis, & Service

week 12 & 13 107 ABS diagnosis and Repair

week 14 108 Electronic Stability Control Systems

week 15 ASE test Preparation and Study Guide Review

week 16 Final Exam

**Notes to Instructors**

* CDX testing should be administered in sections every 2 weeks.
* ABS interaction with onboard computer systems discussions during Chapters 106, 107, &108.
* The use of an ASE online test preparation quiz, If time permits could help students with later ASE certification options.
* Practical Exam given on week 16.