



# Broward Community College

## Course Outline

---

**LAST REVIEW:** 2005-2006

**NEXT REVIEW:** 2010-2011

**STATUS:** A

**COURSE TITLE:** Brake Systems and Chassis Repair

**COMMON COURSE NUMBER:** AER2598C

**CREDIT HOURS:** 4

**CONTACT HOUR BREAKDOWN**

*(per 16 week term)*

**CLOCK HOURS:**

*(Voc. Course ONLY)*

Lecture: 64      Lab: 48

Clinic:              Other: 73

**PREREQUISITE(S):**

**COREQUISITE(S):**

**PRE/COREQUISITE(S):**

**COURSE DESCRIPTION:** A course to teach the principles and operations of brake systems, disc systems, split systems, hydraulic cylinders, valving systems, traction control systems and to provide practical experience in the repair of these systems. Topics include basic brake theory, drum brake systems, split systems, disc brake systems, hydraulic cylinders, machining and measuring techniques, power boosters, and road test procedures. Special emphasis will be given to safety procedures, and specific tools, and equipment to be used.

**Unit 1.      Brake System Theory**

**Unit 2.      Brake System Maintenance**

## I. Course Overview:

Upon successful completion of this course, the students should be able to discuss the principles, operation, and maintenance of automotive brake systems.

## II. Units:

### Unit 1. Brake System Theory

#### General Outcome:

- 1.0 The students should be able to discuss the construction and operation of automotive brake systems.

#### Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 1.1 Describe the construction and operation of an automotive hydraulic system.
- 1.2 Describe the construction and operation of a drum brake.
- 1.3 Describe the construction and operation of a disk brake.
- 1.4 Describe the construction and operation of a power brake booster.
- 1.5 Describe the construction and operation of an electronically controlled anti-lock brake systems, including integral and non-integral systems and their applications to 2 and 4 wheel drive automobiles and light trucks.
- 1.6 Describe the construction and operation of an electrically controlled traction control system including systems with electronic (cableless) throttle systems.

**Unit 2. Brake System Maintenance**

General Outcome:

2.0 The students should be able to perform maintenance and repair procedures on automotive brake systems and traction control systems and traction control systems.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

2.1 Perform scheduled maintenance on calipers, rotors, drums, pads and linings, master and wheel cylinders, power brake boosters, valves and switches, electronic brake control devices, and parking brakes.

2.2 Diagnose malfunctions in an automotive brake system.

2.3 Repair, replace, adjust, or overhaul all brake system components, as appropriate, including drum and disc machining.

General Outcome

3.0 The students should be aware of environmental and safety concerns.

3.1 Demonstrate awareness of federal, state, and local regulations.

3.2 Depressurize accumulators, employing appropriate safety procedures.