

**University of Arkansas - Fort Smith
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General Syllabus

ASTE 13304 Braking Systems

Credit Hours: 4

Lecture Hours: 2

Laboratory Hours: 4

Prerequisite or corequisite: ATDI 12304 Theory and Maintenance

Effective Catalog: 2018-2019

I. Course Information

A. Catalog Description

A study of the functions of braking systems. Students gain experience in working with all types of braking systems to include drum type, four-wheel disc, anti-lock brake, S-cam service brakes, and air brake systems.

B. Additional Information

Shop or laboratory work gives the students hands-on experience. Students learn maintenance troubleshooting and repair of brake systems. Students may work on components supplied by the instructor or on operational vehicles. A progress sheet is supplied to keep track of your progress and must be handed in at the end of the semester.

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Perform Hydraulic System Diagnosis and Repair
2. Perform Drum Brake Diagnosis and Repair
3. Perform Disc Brake Diagnosis and Repair
4. Perform Power Assist Unit Diagnosis and Repair
5. Perform Air Brake Diagnosis and Repair
6. Perform Miscellaneous (Wheel Bearings, Parking Brakes, Electrical, Electronic Diagnoses and Repair)
7. Perform Shop Organization and Safety Functions
8. Take a customer's complaints

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Communication Skills (written and oral)

Students must deal effectively with customers' complaints and ask effective questions to elicit more information.

Analytical Skills

Critical Thinking Skills: Students must analyze data gathered from customer complaints, inspections, tests, etc. in order to diagnose braking system problems.

III. Major Course Topics

- A. Hydraulic System
- B. Drum Brakes
- C. Disc Brakes
- D. Power Assist Unit
- E. Air Brake Systems
- F. Wheel Bearings, Parking Brakes, Electrical, Electronic Shop
- G. Organization and Safety