

University of New Mexico, Valencia

Basic Automotive Brakes

Syllabus

UNM Valencia, AUTT 115 Brake Systems

Summer 2018, Tuesdays and Wednesdays 9:00 A:M to 12:30 P:M

Instructor J. Anthony Chavez

Office Hours 9:A:M to 12:30 P:M Monday thru Thursday and by appointment

Class held at Valencia High School in the Auto Classroom702 and the Shop

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Course Description

To Review basic Brake System Theory and learn the testing and overhaul procedures for Brake system components.

Prerequisite

Basic knowledge of Auto Shop Safety and Hand Tools.
Safety is the # 1 priority must follow rules that are posted.

Objectives

(Upon successful completion of this course the student will:)

1. Explain the need and methods for maintaining a safe working area.
2. List and discuss some safety requirements for working with brake fluid.
3. Wear proper clothing and equipment in the shop.
4. Describe the hazards of asbestos materials..
5. Discuss some of the safety concerns associated with antilock brake and air bag system.
6. Explain the hydraulic and mechanical principles of a brake system.
7. Identify the major parts of an automotive brake system.
8. Define the basic functions of the major parts of a brake system.
9. Compare Drum and Disc brakes
10. Explain the operation of power brakes.
11. Correctly answer ASE certification test questions

Course Content and Scope

- A. Topics: The Topics to be addressed in this course are:
1. Brake system diagnosis and repair using various test equipment and repair methods
 2. Proper use of electrical test equipment to diagnose brake components.

3. Proper overhaul and replacement of brake components.
- B. Appropriate Readings.
1. Readings may be assigned from college level material such as books, reports, Professional journals, and similar materials associated with the course material.
- C. Writing Assignments.
- Typical writing assignments may include.
1. Completing assigned papers or reports.
 2. Providing written answers to assigned questions.
 3. Performing arithmetic calculations as assigned.
- D. Appropriate outside assignments
- Students are expected to spend a minimum of 2 hours outside of class in preparation for each hour of theory in class. Appropriate assignments include:
1. Preparing writing assignments.
 2. Studying as needed to perform successfully in class.

Teaching Methods:

May Include:

1. Lecture with, or without, various visual aids.
2. Group problem solving, discussions, debate, and /or critique.
3. Demonstration.
4. Computer assisted instruction.
5. Hands-on shop assignments.

Grading/Evaluation policy:

A student's grade will be based on multiple measures of performance, and will reflect the level of accomplishment of the objectives set forth above as well as the level of understanding of the topics enumerated under "Content and Scope". A final Grade of "C" or better will indicate that the student has the ability to successfully apply the principles taught in this course to subsequent courses, to the work-place, or to personal goals as appropriate. The assessment process will also measure independent critical thinking skills and will reflect the student's ability to demonstrate their accomplishments by.

1. Performing on written or oral examinations.
2. Performing on outside assignments including shop assignments.
3. Contributing to class discussion.
4. Maintaining attendance per current policy.
5. Hands-on diagnosis and repair.
6. Completion of assigned ASE/NATEF task lists.

Appropriate text and material:

Automotive Brake Systems.

Classroom and Shop Manuals.

Safety Glasses (Mandatory)

Personal tools (Optional)

Tools / Equipment / Shop

1. All tools are to be checked out.
2. All tools will be cleaned when checked back in.
3. No tools will be taken home or out of shop.
4. It is the responsibility of the student to maintain and keep the shop clean and orderly.