

Cuyamaca College Automotive Technology
Course Syllabus
AT-130
Brakes and Brake License
Fall 2009

Instructor: Jim Custeau
Office: K-123
Office hrs: 1:00 – 2:00pm Tuesday and Thursday; 10:00 – 11:30am Monday and Wednesday
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Course Description

Detailed study of automotive brake system service procedures. Laboratory experience covers drum and disc brake system inspection, adjustment and repair procedures. Antilock brake systems. Students will be required to complete associated tasks in the shop as required to complete associated tasks in the shop as specified by NATEF (National Automotive Technical Education Foundation). Preparation for state of California official brake adjusters license and ASE A-5 Certification.

Course Objectives

1. To develop safe work habits
2. To relate brake system theory to practical application.
3. To perform various brake repairs to industry standards.
4. To prepare for acquisition of California State Brake License and ASE certification.

Required Textbook

Automotive Chassis Systems, Halderman, 4th edition (with work sheets)
(ISBN# 9780136017462)

Materials to be supplied by student:

1. Basic hand tools (see handout)
2. Safety glasses
3. Vehicles requiring brake inspection and repair (optional)
4. Notebook and paper
5. Calculator

Assignments:

- A. Complete all reading assignment
- B. Participate in discussions & take notes during class lectures
- C. Complete required lab assignments
- D. Maintain a notebook, which includes all completed lab assignments, classroom notes, handouts, returned tests & quizzes, and homework
- E. Complete SP/2 Safety and Pollution Prevention On-line training (by September 29, 2008) see details at end of this Syllabus.

Attendance:

Students must attend all class sessions unless there is an illness or other excusable absence. It is the responsibility of students to make-up all missed work. Your attendance is a high priority –

STUDENTS WHO MISS 4 OR MORE CLASSES FOR UNEXCUSABLE REASONS MAY BE DROPPED FROM THE COURSE.

Shop Work:

You will be performing “live” work on automotive braking systems. Most of these vehicles will return to “on – highway” use. Therefore, it is essential that all work be done in a thorough and safe manner. All repairs must be inspected by the instructor prior to vehicle release. Remember – a mistake made during brake system repair could lead to serious injury or death.

Tests:

Test question will come from assigned reading materials and lectures. A course calendar which indicates lecture topics, test dates, and reading assignments is attached to this syllabus. Please keep it handy for reference throughout the semester.

The midterm exams will cover all new materials not included on the previous exam. The final exam will cover all materials presented since the start of the semester – this test will emphasize new materials not covered in the second exam.

Grading:

a.	*Midterm tests (2)	25%
b.	Final exam	20%
c.	ASE tasks & (shop work)	25%
d.	**Shop performance test	30%

*Written tests will include multiple choice, true-false and short answer questions

** Shop performance test will evaluate your abilities in the area of brake repair and use of brake measuring and repair tools and equipment.

A = 90-100%

B = 80-90%

C = 70-80%

D = 60-70%

F = below 60%

Course Certificate

Students who earn a “C” grade or better will be issued a departmental certificate indicating successful completion of the course

College Policies & Student Conduct:

This course adheres to the policies outlined in the Cuyamaca College Catalog. For further information see "Academic Policies and Student Code of Conduct" sections in the college catalog.

Students who violate student code of conduct as outlined in the college catalog will be penalized.

Academic Accommodations for Students with Disabilities

Academic accommodations are available for students with disabilities. Please identify yourself to me and/or to Disabled Students Programs and Services staff so that the appropriate accommodations can be ensured. If you suspect that you have a learning disability or require services for any other type of disability see Disabled Students Programs and Services in the "A" building or call 660.4239

You must be officially enrolled in this course in order to attend. All students must be enrolled by September 4, 2009. (You are not officially enrolled until you add the class and pay your fees)

SP/2 safety and hazardous waste training Requirements

- As a student in the Automotive Technology program at Cuyamaca College you will be required to complete the Safety and Pollution Prevention web-based courses and pass the end of course tests.
- You are required to complete these requirements by the beginning of the 6th week of classes – September 28, 2009.
- Students who do not complete the above requirement by September 28, 2009 will be denied access to the shop until such time that they have complete and passed the SP/2 Safety and Pollution prevention courses.
- It will take you approximately 1.5 – 3 hours to complete this required training.
- Credit is earned after successfully completing each module and passing the final exam for each course.
- The credit for this training is valid for one year from date of completion.

If you added the class during the first week of class, please provide your instructor with your name (printed) and the last 4 digits of your student ID number so that we can process your account.

To access this training go to the following website:

<http://www.sp2.org/login.php>

User Name is:

Password is:

Enter your personal PIN # (see below)

PIN # is the initials of your first and last name followed by the last 4 digits of your Student ID number.

Example: john cross Student ID#: 125478 - Pin # is jc5478

Auto 130 Course Calendar

Section: 1002

Instructor: Jim Custeau

Room: K-104

Days: Tuesday, Thursday; 8:00am – 12:05 pm

Week #	Date	Lecture Topic	Reading Assignment
1	8-25	Introduction / SP2 training introduction	Hand – outs (purchase the text)
	8-27	Hand Tools / Shop Tour and Safety Test	Chapter 1, 2
2	9-1	History and Principles of Brakes	Chapter 3, 4,10
	9-3	Basic Hydraulics	Chapter 5, 7 (bring calculator)
	9-4	LAST DAY TO ADD SEMESTER LENGTH CLASSES	
3	9-8	Introduction to Brake Machine & Micrometers	Chapter 15
	9-10	Brake Inspections	Handouts
4	9-15	Wheel Bearing Service	Chapter 9
	9-17	Drum Brake Service	Chapter 11
5	9-22	Hydraulic System Service / Parking Brakes / Review for Test #1	Chapter 5,7,14
	9-24	Test #1	
	9-28	SP2 Training must be complete by this date	Shop access denied if not complete
6	9-29	Discuss Test #1	
	10-1	Disc Brake Theory and Service	Chapter 12,13
7	10-6	Power Brake Operating Principles	Chapter 16
	10-8	Power Brake Service/ On the car brake lathe	Chapter 16
8	10-13	Trailer Brakes / Review for Test #2	Handouts
	10-15	Test #2	
	10-16	Last Day to apply for Fall '08 Degrees/Certificates	
9	10-20	Discuss Test #2	
	10-22	ABS Components and operation	Chapter 18
10	10-27	4 – Wheel Antilock Systems diagnosis	Chapter 19
	10-29	4 – Wheel Antilock Systems diagnosis	Chapter 19
11	11-3	NATEF Tasks	
	11-5	ASE Test Preparation	
12	11-10	NATEF Tasks	
	11-12	NATEF Tasks	
	11-12	LAST DAY TO DROP SEMESTER LENGTH CLASSES	
13	11-17	NATEF Tasks	
	11-19	NATEF Tasks	
14	11-24	NATEF Tasks	
	11-26	Holiday - Thanksgiving	
15	12-1	Preparation for Performance Testing	Handouts
	12-3	Performance Testing	
16	12-8	Performance Testing	
	12-10	Shop Clean-up & Review for Final Exam	
17	12-15	Tuesday – Final Exam (8:00am – 10:00am)	
	12-17	Thursday – Review Final Exam and Issue Certificates (8:00am – 9:00am)	