AUTO 125

Automotive Brakes

Syllabus

Instructor: David Martinez Office: 1102 Office Ph.: 355-6362

Semester begins: Aug 19, 2013 Ends: Dec 7, 2013

Course Description:

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

- Explain the forces and factors involved when braking a vehicle
- Describe brake system materials, hydraulic components, and mechanical parts
- State how disk brakes and drum brakes operate
- Describe how various power brake systems and antilock brake systems operate
- Tell how to service brake hydraulic systems
- Give steps of performing disk brake overhaul and drum brake overhaul
- Solve brake troubleshooting problems
- Give examples of power brake system anti-lock brake system service operations

STUDENT RESPONSABILITIES:

Each student is required to comply with the schedule established by Automotive Program at Imperial V alley College. Students are required to attend class each day class is in session. If for any reason a student is absent s/he is responsible for making up any missed lecture of lab assignments. It is recommended that students call the office or leave a message at 760-355-6361 to inform the instructor if s/he is ill and/ or bring a doctor's note upon returning to class.

4 tar dies = 1 absence

4 Absences = you will be dropped or given an "IC" incomplete

STUDENT LEARNING OUTCOMES: IVC as an Institution has adopted five Student Learning Outcomes (SLO'S). They are interconnected with each other. The will be inherent throughout this course:

1. Communication
2. Skills
3. Critical Thinking Skills
4. Information Literacy
5. Global Awareness

Grading System:

There will be a Mid-term and a Final exam. Each will be worth 25% of your grade. Quizzes will make up 25% of your grade. The last 25% of your grade will be based on completion of projects assigned as part of the lab section of the class.

Percentage	Scores	Letter Grade
25% completed Assignments	91-100%	A
25% Quizzes	80-90%	B
25% Midterm Exam	70-79%	C
25% Final Exam	60-69%	D
	Less than 60%	F

(Lectures on Chapters are subject to change)

Fall 2013 Important Dates

Late Registration	Aug 19-31
Ticketing for parking violation starts	Sep 3
Deadline to make up incomplete grade	Sep 27
Financial aid return to/ little IV Drop Deadline	Oct 24
Deadline to drop full term classes	Nov 9
Holidays	Nov 11, Sep 29-30
Last week of classes including final examination	Dec 2-7

NON-DISCRIMINATION / SEXUAL HARRASMENT

All forms of harassment are contrary to basic standards of conduct between individuals are prohibited by state and federal law. As well as this policy and will be be tolerated. The district is committed to providing an academic and work environment that respects the dignity of individuals and groups. The district shall be free of sexual harassment and all forms of sexual intimidation and explotation. Emergency numbers 911 and for First Aid Ext. 6310-0300

	• Explain the hydraulic Mechanical principles Of brake systems • Identify the major Parts of an automotive Brake system • Discuss drum and Disc brakes • Discuss the operation Of parking brakes	worksheets Review with the class	Review questions Quiz# 3 pg. 1391-1392
4th Week	Brake Service		
5th Week	Chapter 6 • Micrometers Telescoping gauges And small hole gauges • Vernier calipers • Feeler gauges	Study guide worksheets and review pgs. 31-34	Class book Review questions pg. 83 Quiz# 4
6th Week	Chapter 9 • Fastners, Threaded fastners • Key and pins, Snap rings, rivets • Adhesives, sealants, Seals • Gaskets	Study guide worksheets review with the class pgs. 41-42	Class book Review questions pg. 125
7th & 8th Week	Chapter 72 • Diagnosis of common Brake problems • Inspection and Maintenance of brake sys. • Describe basic procedures For servicing a master cylinder And a brake booster	Study guide worksheets and review with the class pgs. 365-372	Quiz# 5 Review questions pg. 1418
9th Week	Mid-Term Exam		

COURSE GOALS AND OBJECTIVES

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

A. Comply with all safety shop procedures associated with stands, air tools, hydraulic jacks, and car lifts.
B. Have a thorough understanding of the brake system and it's components
C. Describe power brake systems and anti-lock operation
D. Describe the proper steps and procedures of disc brake and drum brake overhaul

STUDENTS WITH DISABILITIES

Any student with a documented disability who may need educational Accommodations should notify his/her instructor or the Disabled Student Program and Services (DSPS) office as soon as possible. The (DSPS) is located in building 2117, Health Services Building, or may contact them at (760) 355-6312. For first aid call the nurse at (760) 337-0300

BASIC RULES AND SHOP SAFETY

1. No music allowed in the auto shop
2. No smoking in the shop area
3. No work should be redone without the instructor's permission
4. No parking inside the shop during lecture time
5. No tolerance for sexual harassment
6. No long breaks (10 minutes per class hour)
7. Every student is required to wear safety glasses
8. No helpers or visitors during lab activities

NOTE: Lecture on chapters will be subject to changes.

OUTLINES AND ACTIVITIES

WEEKS	INTRODUCTION MANUAL	ACTIVITIES CLASS	QUIZ	HOMEWORK/ EXAMS
1st	Orientation; • Safety • Types of brakes systems • Safety and brake fundamentals • Principles of braking and Drum/disc brakes • Parking, hydraulic, Power Brake boosters • Anti-lock braking system, Brake service and repair	Show Safety Videos		Video Safety Test
Part II	Chapter 5-Automotive Safety • Describe the typical Layout and sections Of an auto shop • List the types of Accidents that Occur in an auto shop	Pgs. 27-30 Study Guide		Class Book Review questions pgs. 68-69
2nd Week	Chapter 3-Automotive Tools • Identify common Automotive hand tools • Select the right tool for A given job (Homework) • Use hand tools safely	Study guide worksheets and review with the class pg. 19-22	Quiz# 1 Quiz# 2	Class book Review questions pg. 45-46
3rd Week	Chapter 71 Brake Systems	Study guide		

10th & 11th Week	Chapter 73 • Identification of the Major parts of the Brake system • Describe the operation Of anti-lock brake sys. • Diagnosing anti-lock Brake systems • Repairing anti-lock Brake systems	Study guide worksheets and review with the class pgs. 373-376	Quiz# 6	Review questions pg. 1442
12th Week	Chapter 65 • Tire types and basic • Thread patterns • Tire markings • Tire service • Improvement And advance	Study guide worksheets and review with the class pg. 331-336	Quiz# 7	Class book Review questions 1254-1255
13th Week	Chapter 17 • Computer control system • Components of A computer • Sensors • Electronic control Module operation • Actuators	Study guide worksheets pgs. 77-82	Quiz#8	Class book Review questions Pg. 259
14th Week 15th Week	Chapter 18 • On-board diagnostics • Diagnostic troubles codes • Activating self-diagnostic system Preparation for Automotive Service Excellence (ASE) Brake exam	Study guide Pgs. 83-88	Quiz# 9	Homework Review Pg. 279
16th Week	Review and Preparation for Final Exam			