

### Basic Course Information

|                   |                           |                     |                              |
|-------------------|---------------------------|---------------------|------------------------------|
| Semester:         | FALL 2019                 | Instructor Name:    | Julio Hernandez              |
| Course Title & #: | AUT 125 Automotive Brakes | Email:              | julio.hernandez@imperial.edu |
| CRN #:            | 11219                     | Webpage (optional): | N/A                          |
| Classroom:        | 1102                      | Office #:           | N/A                          |
| Class Dates:      | 8/19 - 12/14              | Office Hours:       | N/A                          |
| Class Days:       | MON - LEC / WED - SHOP    | Office Phone #:     | N/A                          |
| Class Times:      | 6-9:10 PM                 | Emergency Contact:  | (760) 355-6361               |
| Units:            | 4                         |                     |                              |

### Course Description

*This course covers the principles of instruction in disassembly, inspection, installation and adjustments of the modern brake system. Laboratory activities stress brake system diagnosis, repair, machining and overhaul procedures and proper use of tools and equipment utilized in the industry. Upon successful completion of this course, students are prepared to take the automotive service excellence (ASE) test.*

### Student Learning Outcomes

*Upon course completion, the successful student will have acquired new skills, knowledge, and/or attitudes as demonstrated by being able to:*

1. Diagnose brakes and hydraulic valves components; determine necessary action. (IL01, IL02, IL03)
2. Repair and replace brake system assembly components. (IL01, IL02, IL03)
3. Disassemble, clean and inspect brake parts and accessories. (IL01, IL02, IL03)
4. Assemble brakes and their related parts (IL01, IL02, IL03)
5. Diagnose brake noise and vibration problems; determine needed repair. (IL01, IL02, IL03)
6. Disassemble, clean and inspect wheel and master cylinders. (IL01, IL02, IL03)

### Course Objectives

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

*1. Be prepared graduates for employment as automotive mechanics, parts and supply house technicians, and service station mechanics and operators. The training program is intended to meet the entry level skill needs in the occupational field of Automotive Technology (mechanics)*

*A. Comply with all safety shop procedures associated with stands, air tools, hydraulic jacks, and car lifts.*

B. Have a through understanding of the engine system and its components

C. Describe the two and four cycles of the engine

D. Describe the proper steps and procedures to disassembly and assembly section.

### Textbooks & Other Resources or Links

*Fundamentals of Automotive Technology. Van Gelder (2nd or 3rd editions) textbook + workbook;*  
*Fundamentals of Automotive Technology. Author: Van Gelder*

### Course Requirements and Instructional Methods

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

### Course Grading Based on Course Objectives

A = 90-100% **Excellent**

B = 80-89% **Good**

C = 70-79% **Satisfactory**

D = 60-69% **Pass, less than satisfactory**

F = 59% & below, **Failing**

The course grade will be determined by various factors such, as class participation, classroom assignments, chapter reviews & drawing project, midterm & final exams. The grading range is as follows:

Auto shop assignments 25%

Quizzes and/or homework 25%

Midterm Exam 25%

Final Exam 25%

### Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See [General Catalog](#) for details.

- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

## Classroom Etiquette

Make sure to:

1. Bring your textbook every section of lecture
2. Bring a notebook and pencils
3. Be on time for class
4. Participate during lecture/lab activities
5. No late assignments

Basic Rules and shop safety:

1. No music allowed in the auto shop
  2. No parking in front of the gate
  3. No work should be done without instructor's permission
  4. No parking inside the shop during lecture time.
  5. No long breaks (should be 10 minutes per class hour)
  6. Each student should clean the work area
  7. The students can't leave early without instructor's permission
  8. No cell phones during class session
  9. No helpers or visitors during lab activities
  10. Safety glasses are required along with safety work clothing, no sandals, loose clothing, or jewelry allowed.
- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
  - Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the instructor.
  - Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.
  - Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

## Online Netiquette

- What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.
- Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use

appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!!)].

## Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- **Plagiarism** is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
- **Cheating** is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the [General Catalog](#) for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

## Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- **CANVAS LMS.** Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **Learning Services.** There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).

- **Library Services.** There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.

### **Disabled Student Programs and Services (DSPS)**

Any student with a documented disability who may need educational accommodations should notify the instructor or the [Disabled Student Programs and Services](#) (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

### **Student Counseling and Health Services**

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center.** A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services.** Short-term individual, couples, family and group therapy are provided to currently enrolled students. Contact the [IVC Mental Health Counseling Services](#) at 760-355-6196 or in room 2109 for more information.

### **Veteran's Center**

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

### **Extended Opportunity Program and Services (EOPS)**

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our

culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, [lourdes.mercado@imperial.edu](mailto:lourdes.mercado@imperial.edu).

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, [alexis.ayala@imperial.edu](mailto:alexis.ayala@imperial.edu).

### **Student Equity Program**

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.
- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

### **Student Rights and Responsibilities**

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

### Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

### Anticipated Class Schedule/Calendar

| Date or Week           | Activity, Assignment, and/or Topic   | Chapter          |
|------------------------|--|------------------|
| Week 1<br>8-19/ 8-21   | Syllabus<br>Course Intro + Auto Shop Safety  | Ch. 3, Ch. 4     |
| Week 2<br>8-26/ 8-28   | Auto Shop Tools + Equipment  | Ch. 6, Ch. 7     |
| Week 3<br>9-2/ 9-4     | Auto Brakes Measuring Tools + Math<br>(micrometers: mechanical, digital, drum micrometers) | Ch. 6 + Handouts |
| Week 4<br>9-9/ 9-11    | Service Info + Work Orders + Diagnostic Procedure  | Ch. 5            |
| Week 5<br>9-16/ 9-18   | Principles of Braking  | Ch. 43           |
| Week 6<br>9-23/ 9-25   | Hydraulics & Power Brakes Theory   | Ch. 44           |
| Week 7<br>9-30/ 10-2   | Midterm Exam   |                  |
| Week 8<br>10-7/ 10-9   | Tire & Wheel Assemblies  | Ch. 37           |
| Week 9<br>10-14/ 10-16 | Wheel Bearings, Axles, Seals   | Ch. 48, Ch. 34   |

|                                   |   |        |
|-----------------------------------|---|--------|
| Week 10<br>10-21/ 10-23           | Servicing Hydraulic Systems +<br>Power Brakes | Ch. 45 |
| Week 11<br>10-28/ 10-30           | Disc Brakes                                   | Ch. 46 |
| Week 12<br>11-4/ 11-6             | Drum Brakes                                   | Ch. 47 |
| Week 13<br>11-11 (Holiday)/ 11-13 | Electronic Brake Control<br>Systems (A.B.S.)  | Ch. 49 |
| Week 14<br>11-18/ 11-20           | Course Review                                 |        |
| Week 15<br>11-25/ 11-27           | Holiday Week (No Classes)                     |        |
| Week 16<br>12-2/ 12-4             | Final Exam                                    |        |
| Week 17<br>12-9/ 12-11            | Shop Hands-on Final Exam                      |        |

**\*\*\*Tentative, subject to change without prior notice\*\*\***