IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Spring 2023**	Instructor Name:	**Ricardo Pradis**
Course Title & #:	**Auto Techniques & Applications AUT-135**	Email:	**ricardo.pradis@imperial.edu**
CRN #:	**10916**	Webpage (optional):	
Classroom:	**BLDG 1100**	Office #:	**1100 bldg.**
Class Dates:	**Feb 13 – June 9**	Office Hours:	**M-W 12:30 – 1:00 pm**
Class Days:	**Monday's & Wednesday's**	Office Phone #:	**760-355-6403**
Class Times:	**1:00 – 1:35 Lec.** **1:45 – 4:55 Lab.**	Emergency Contact:	**760-355-6403**
Units:	**3.0**	Class Format:	**Face to Face**

Course Description

This course is designed for students that already complete classes in brakes, suspension, wheel alignment, and basic automotive electronics or students who are currently employed in the automotive field. This course consists of reviews of hand-on using worksheets related to diagnose brake repair, steering/suspension repair and four-wheel alignment. In addition, the student will be using the latest diagnostic equipment and service techniques of the automotive field. May be taken for a maximum of 6 units. (Nontransferable, nondegree applicable) (Nontransferable, AA/AS degree only)

Course Prerequisite(s) and/or Corequisite(s)

None

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes.

Course Objectives

1. Diagnosis and repair hydraulic system.
2. Diagnosis and repair drum brake.
3. Diagnosis and repair disc brake.
4. Diagnosis and repair power assist units
5. Diagnosis and repair miscellaneous (wheel bearing, parking brakes, electrical etc.)
6. Diagnosis and repair anti-lock brake systems (ABS).
7. Diagnosis and repair steering systems.
8. Diagnosis and repair front and rear suspension system.
9. Diagnosis adjustment and repair wheel alignment.

10. Diagnosis and repair wheel and tire.
11. Diagnosis general electrical system.
12. Diagnosis and service batteries, starting system and charging system.
13. Diagnosis and repair: gauges, warning devices, and driver information systems.
14. Diagnosis and repair accessories

Textbooks & Other Resources or Links

Textbook: Modern Automotive Technology 10th edition ISBN: 978-1-64564-688-4

Course Requirements and Instructional Methods

Method of Instruction:
Methods of instructions may include, but are not limited to, the following: lectures, textbook worksheets, hands-on worksheets, internet readings, large and small group discussions, audiovisual aids, and demonstrations.

Course Grading Based on Course Objectives

Criteria:

1. Grading system:
    - A=90%-100% of points= Excellent
    - B=80%-89% of points= Good
    - C*=70%-79% of points= Satisfactory
    - D= 60%-69% of points= Pass, less than satisfactory
    - F= Less than 60% of points= Failing
2. Very important:
    - **Mid-Term** will be given on April 5.
    - **Final-Exam** will be given on June 7.
    - There are no make-up exams unless you have a very good reason and make arrangements with the instructor before the exam.
    - Final grades can be raised or lowered based on your preparation and participation in class. It benefits you to be engage and participative.

Grades:

	Points
Book worksheets, quizzes.	140
Lab activity, hands-on worksheets.	240
Mid-term	60
Final-exam	60
Total points	500

Course Grade:

The course grade is based on total points accumulated during the semester. There is a total of 500 points available. Grades are determined by dividing the total points you earn by the total points available to get your percentage. (Total points may vary if I change the assignments in a particular week).

Grading of Hands-on Assignments:
The most common problem students experience is not being detailed enough in their answers and not spending the right amount of time in the repair procedures. Always be as specific as you can and use examples from your readings. Make sure to answer all parts of the questions. Points will be deducted for inadequate responses. Feedback will be given after each assignment and, hopefully, you will improve as you proceed with the course. The following grading rubric is used when grading assignments.

	Grading Rubric for Hands-on Assignment	Points
A	Focused and clearly organized. Contains critical thinking and content analysis. Convincing evidence is provided to support conclusions. Ideas are clearly communicated. Clearly meets or exceeds assignments requirements.	18-20
B	Generally focused and contain some development of ideas, may be simplistic or repetitive. Evidence is provided which supports conclusions. Meet assignments requirements.	16-17
C	May be somewhat unfocused, underdeveloped, or rumbling. But does have some coherence. Some evidence is provided which support conclusions. Meets minimum assignment requirements.	14-15
D	Unfocused, underdeveloped. Minimal evidence is used to support conclusion. Does not respond appropriately to the assignment.	12-13
F	Minimal effort by the student. Unfocused, underdeveloped. Evidence is not used to support conclusion. Block overall understanding. Does not meet assignment requirements.	0-11

Course Policy

- 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.

- 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.

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.

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Other Course Information

Automotive Technology Classroom & Shop Policy

Shop/ Lab Area

- Safety test must be passed to work in the shop and complete required lab exercise.
- Safety glasses are required to be worn at all times while in the shop area, safety glasses are the student responsibility (students not wearing safety glasses will be ask to leave the class for that day no exceptions).
- Clean up your area and any other lose debris or trash.
- Wear all required safety protection and comply with posted signs.
- No shorts or open toe foot wear, always be prepared to go into the lab area.
- Comply with tool check out policy and return tools clean.
- Do not perform any work on any vehicle outside the assigned task without permission from your instructor.

Parking:

No student parking by the building, the only exception is on lab time if your vehicle is a project (instructor approved). Speed limit must be kept at or under 5MPH, no loud music.
Parking permit is required at all times.

Projects:

All projects are to be taken with the student's unless otherwise approve by the instructor.
All approve projects must be removed from campus prior to finals.

All projects must have a written work order (R/O).

Shop Maintenance:

All work will cease 20 minutes prior to end of class.

All work areas must be cleaned.

Tools must be cleaned and returned to the tool room.

Any broken or missing tools must be reported immediately. Tools are student's responsibility.

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit http://www.imperial.edu/studentresources or click the heart icon in Canvas.

Anticipated Class Schedule/Calendar

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 1 Feb 13-16	Syllabus & Introduction, Ford Service Training. Chapter 5 Auto Shop Safety	Pages 55-66
Week 2 Feb 21-23	Chapter 1 Introduction to Automotive Lab: Identify major components, use of lift.	Pages 3-19
Week 3 Feb 27- March 3	Chapter 74 Tire, wheel, and wheel bearing diagnosis. Lab: inspect tires and wheel bearing service	Pages 1119-1138
Week 4-5-6 March 6-10 March 13-17 March 20-24	Chapter 81 Brake system diagnosis, service, and repair Lab. Brake system problem diagnosis, brake vibration, grabbing brakes, pulling brakes, spongy brake pedal, low brake pedal, braking noise, installing master cylinder, brake disc measurements, resurfacing disc brakes.	Pages 1249-1272
Week 7-8-9 March 27-31 April 3-7 April 17-21	Chapter 76 Suspension System Diagnosis & Repair Lab: Shock Absorber Service, Suspension Spring Service, Ball joint Service, Suspension Bushing Service, MacPherson Strut Service, Computerized Suspension Diagnosis. MID-TERM	Pages 1159-1179
Week 10-11 April 24-28 May 1-5	Chapter 79 Wheel Alignment Lab: Wheel Alignment Principles, Pre-alignment Inspection, Adjusting Wheel Alignment, Wheel Alignment Tools and Equipment, Alignment Machines, caster, camber, and toe adjustments.	Pages 1213-1228
Week 12 May 8-12	Chapter 31 Starting System Diagnosis, Testing, & Repair. Lab: Diagnose and Repair a Starting System.	Pages 400-411
Week 13 May 15-19	Chapter 33 Charging system diagnosis and repair Lab: Remove and Reinstall an Alternator. Rebuild an Alternator.	Pages 422-432
Week 14	Chapter 36	Pages 460-484

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
May 22-26	Lights, Instrumentation and Wipers Lab: inspect lighting systems, perform light system service. inspect dash Instrumentation, windshield wipers, & horns.	
Week 15 May 30- June 2	Chapter 37 Power accessories and sound systems Lab: Inspect Radios, Power Windows, Door Locks, Trunk Release, Cruise Controls, Power Mirrors, Driver Information Center.	Pages 485-503
Week 16 June 5-9	FINAL-EXAM	Exam

*****Subject to change without prior notice*****

Work-based Learning

Career possibilities in the automotive industry:

Work-based learning (WBL) allows student to apply classroom content in professional settings while gaining real-work experiences. These opportunities will provide you with a deeper, more engaging and relevant learning environment. Some examples of WBL assignments are job shadowing, informational interviews, and guest speakers. In this course, you will be working on workplace simulations and will be using Ford Service Training online program. It is intended to provide students with simple knowledge (basic) to complex skills (advance) training.

Contact:

Office Phone: (760) 355-5721

Email: careerservicescenter@imperial.edu

Hours of Operation:

Monday - Friday; 8:00 a.m. to 5:00 p.m.