

Imperial Valley College Syllabus-Automotive Electronics AUT 150

Basic Course Information

Semester	Spring 2015	Instructor's Name	Jose Lopez
Course Title & #	AUT 150	Instructor's Email	Jose.lopez@imperial.edu
CRN #	10808	Webpage (Optional)	
Room	1102-1103	Office	1102
Class Dates	Feb 17, 2015- June 12, 2015	Office Hours	None
Class Days/Times	W-8:35a.m- 11:45a.m T-R-10:15a.m- 11:40am	Office Phone #	760-355-6361
Units	4 Units	Who Students Should Contact If Emergency Or Other Absence	Instructor: 760-355-6362

Course Description

This course is designed for technicians or students, certified or not, who want to service the automotive electronic circuitry. The course provides a solid core of electronics based on microprocessor technology. Students will diagnose the various systems that include: engine computer control, transmission computer control, suspension antilock brake system, and automotive instrumentation. Upon completing this course, students will be prepared to take the Automotive Service Excellence ASE examinations.

Student Learning Outcomes

IVC as an institution has adopted five students learning outcomes (SLO'S). They are interconnected with each other. They will be inherent throughout this course:

1. Communication
2. Skills
3. Critical thinking Skills
4. Information literacy
5. Global awareness

Course Objectives

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

1. To prepare graduates for employment as automotive mechanics, parts and supply house technicians, and service station mechanics and operator. 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 electrical/electronic equipment.
- B. Have a good understanding of the electrical/electronic system and their elements.
- C. Describe the functions of the electrical/electronic terms.
- D. Describe the proper steps and procedures to test and repair electrical circuit.

Textbooks & Other Resources or Links

Modern Automotive Technology Books and Workbook

Author: James E. Duffy

Course Requirements and Instructional Methods

Lectures, textbook/workbook, assignments, worksheets, video guide, internet information, live demonstrations, quizzes, mid-term and final tests

. 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

Required Information—discretionary language

This section is where faculty would list their grading practices and grading scale, including point values and totals. Consider adding final grade calculation, rubrics, late assignments, and other grading practices.

Attendance

Required language

- 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

Required Information --Discretionary language

This is where an instructor explains his/her policy on these matters. Here is some suggested language:

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor. **Consider:** specifics for your class/program
- 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.
- 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.

Academic Honesty

Required Language

- 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 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 School 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 Help – Discretionary Section and Language

The instructor can add the information pertinent to his or her class here. Some suggested language:

- Blackboard support center:
<http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543>
- Learning Labs: There are several 'labs' on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Study Skills Center (library). Please speak to the instructor about labs unique to your specific program.

- **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)

Required Language: 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, if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Required Language: Students have counseling and health services available, provided by the pre-paid Student Health Fee. We now also have a fulltime mental health counselor. For information see <http://www.imperial.edu/students/student-health-center/>. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

Student Rights and Responsibilities

Required Language: Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities, please refer to the IVC General Catalog available online at http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

Information Literacy

Required Language: Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at <http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/>

Anticipated Class Schedule / Calendar

Required Information –Discretionary Language and Formatting: The instructor will provide a tentative, provisional overview of the readings, assignments, tests, or other activities for the duration of the course. The faculty may find a table format useful for this purpose.

Spring 2015

Week	Objectives	Instruction	Work Assignments	Class Quiz	Text book/ assignments and Exams
1 st	Electronic Course: ASE Material & Preparations Electrical/Electronics and measurements Electronic projects Electrical/Electronic Formulas	Equipment Testers Circuit bags Worksheets Components	Workbook	1	Safety Exam Textbook
2 nd Part 1	Chapter 1 The Automotive parts, assembly, and systems.	Demonstration of Components	Do activity Page 9-14	1	Do Review ASE chapter 1 Questions page 21 Textbook
Part 2	Chapter 2 Automotive careers and ASE Certification	Booklet ASE Examples	Do Activity on page 15-18	1	Do Review ASE Questions pages 32-33
3 rd Part 1	Chapter 3 Basic hand tools and safety rules	Basic Video Tools	Do Activity on pages 19-22	1	Textbook Chapter 3 Review ASE Questions pg.46
Part 2	Chapter 4 Safety procedures for tools	Tools/Equipment	Workbook Do Activity pages 23-30	1	Textbook Chapter 4 Review ASE Questions pg.59
Part 3	Chapter 8 Basic Electricity and Electronics AC and DC Voltage, Current Flow	Resistance Ohm's Law Series, Parallel and series parallel circuit	Workbook Do activity pages 37-40	1	Textbook Chapter 8 Review ASE Questions pg.110
4 th Part 1	Chapter 28 Automotive Batteries Battery parts	Batteries Load tester	Workbook	1	Textbook Do Review ASE Questions

Part 2	Maintenance free Temperature Safety practices		Do activity chapter 28 pages 151-154		Chapter 28 page 482
	Chapter 29 Battery Testing and Service	Ammeters	Workbook Do activity Chapter 29 pages 155-158	1	Textbook Do Review ASE Chapter 29 Questions Pages 496-
5 th	Chapter 30 Starting System Fundamentals	Principal of Electric Motor	Workbook Do activity Chapter 30 page 159-162	1	Textbook Do Review ASE Questions page 511
6 th	Chapter 31 Starting System Testing and Repair	Solenoids, Relays Neutral Switch Voltage drop	Workbook Do activity chapter 31 page 163- 170	1	Textbook Do Review ASE Questions Chapter 31 page 529-530
7 th	Chapter 32 Fundamentals	Charging System	Workbook Do activity Chapter 32 Page 171-176	1	Textbook Do Review ASE Questions Chapter 32 page 546-547
8 th	Chapter 33 Charging System Diagnosis, Testing, and Repair	Diagnosis Inspection Output test Test	Workbook Do activity page 117-182 Chapter 33	1	Textbook Do Review ASE Questions page 564 Chapter 33
9 th	Chapter 34 Ignition System Fundamentals	Operation Type of Ignition Ignition Circuits	Workbook Do Ignition Fundamentals pages 183-188		Do Review ASE Questions page 593
10 th	Chapter 35 Ignition System problems, testing, and Repair	Diagnose Faculty Ignition Ignition System and Repair	Workbook Do Ignition System problems page 189-196 Chapter 35	1	Textbook Do- Review ASE Questions pages 625-626 Chapter 35
11 th	Chapter 36 Lights, Instrumentation, Wipers, and Horn operation and Service		Workbook Do activity pages 197-200 Chapter 36	1	Textbook Do Review ASE Questions page 664 Chapter 36

12 th	Chapter 37 Sound System and Power Accessories	Radio Power window Defogger Power Lock System	Workbook Do activity Chapter 37 pages 201-204	1	Textbook Do Review Questions page 691-692
13 th	Chapter 38 Hybrid Drive System Operation and Repair (CLASSROOM	Major parts Construction Safety Measures LECTURE	Workbook Do activity Chapter 38 page 205-208 ACTIVITIES)	1	Textbook Do Review ASE Questions pages 721-722
14 th	Chapter 17, 18, and 19 Computer System	Workbook Activities Do: Activity pages 77-82, 83-88, 89-94			Textbook Activities Read: ASE Questions pages 259-260, 279-281, 296-297
15 th	ASE PREPARATIONS	ASE EXAMS	AND FINAL	Exam	Preparation
16 th	REVIEW WORKSHEETS	AND	FINALS		