

# Imperial Valley College Syllabus-Basic Shop Skills AUT 075

## Basic Course Information

Semester	Fall 2014	Instructor's Name	Jose Lopez
Course Title & #	AUT 075	Instructor's Email	<a href="mailto:Jose.lopez@imperial.edu">Jose.lopez@imperial.edu</a>
CRN #	10819	Webpage (Optional)	
Room	1102-1103	Office	1102
Class Dates	Aug 18, 2014- Dec 13, 2014	Office Hours	None
Class Days/Times	F-8:30a.m- 11:50a.m	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 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) certification examination in brakes.

### Student Learning Outcomes

IVC as an institution has adopted five student-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:

- 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 its components
- C. Describe the power brake systems and anti-lock operation
- D. Describe the proper steps and procedures of disc brake and drum brake overhaul

### Textbooks & Other Resources or Links

Modern Automotive Technology Book and Workbook  
Author: James E. Duffy

### 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.

**Core Content To Be Covered In All Sections:**

CORE CONTENT	Class Activities	Quiz	Homework/ Exams	APPROX % OF COURSE
<p><b>Week 1:</b></p> <ol style="list-style-type: none"> <li>1. Basic Industrial and Automotive Terminology.</li> <li>2. Hand tool nomenclature and utilization.</li> <li>3. Hand power tool nomenclature and utilization.</li> <li>4. Machine tool nomenclature.</li> <li>5. Identification of machinery.</li> <li>6. Identification of automotive nomenclature.</li> <li>7. Identification of woods, metals and plastics.</li> </ol>	<p>Videos 1,2,3</p> <p>-Booklets</p> <p>-Tools for powertrain</p> <p>-DYNO Operation</p> <p>-Transmission Activities</p>		<p>Safety test</p> <p>Textbook and workbook</p>	<p>5.00%</p>
<p><b>Week 2:</b></p> <p>Chapter 1 The Automobile Parts, assembly; and systems Hybrid vehicle</p>	<p><u>Open activity workbook</u></p> <p>Identify the following parts, assemblies and systems pages 9-14</p> <p><u>Instructor</u></p> <p>Show students a part component, assembly, and system (out of vehicle)</p>		<p>Textbook Chapter 1</p> <p>Review the main components and systems of automotive. Pages 1-20</p>	<p>6.00%</p>
<p><b>Week 3:</b></p> <p>Part 1</p> <p>Chapter 3</p> <ul style="list-style-type: none"> <li>• Basic hand tools</li> <li>• Identify common hand tools</li> <li>• Safety rules for hands tools</li> <li>• Use hand tools safely</li> </ul>	<p><u>Open Activity Workbook</u></p> <p>Basic tools Chapter 3 pages 19-22</p> <p><u>Demonstration</u></p> <p>Basic tools for transmission overhaul</p>		<p>Textbook Chapter 3</p> <p>Review ASE questions on pages 46</p>	<p>6.00%</p>

<p>Part 2 Chapter 4</p> <ul style="list-style-type: none"> <li>• Power tool/Equipment</li> <li>• Types of tools/Equipment</li> <li>• Safety procedures for tools/equipment</li> </ul>	<p><u>Open Activity workbook</u> Power tools and equipment pages 23-30 <u>Demonstration</u> Basic equipment</p>	<p>Quiz Basic tools</p>	<p>Textbook Chapter 4 Review ASE questions</p>	
<p><b>Week 4:</b> Chapter 6 Automotive Measurement and math</p> <ul style="list-style-type: none"> <li>• Measuring tools</li> <li>• Other measurement and measuring tools</li> <li>• Using basic mathematic</li> </ul>	<p>Open activity workbook Answer pages 31-34 Demonstration: -Shop measurement -Using ruler -using conversion charts -Using a micrometer and caliper -Using a dial indicator -Using a temperature unit -Using a digital multimeter</p>			<p>7.00%</p>
<p><b>Week 5:</b> Chapter 4 and Tools Part 1</p> <ul style="list-style-type: none"> <li>-Basic Hand Tools-Nomenclature and Utilization.</li> <li>-Wrenches-Nomenclature and Utilization.</li> <li>-Sockets and Drivers-Nomenclature and Utilization</li> <li>-Measuring Tools-Nomenclature and Utilization.</li> <li>-Threading Tools-Nomenclature and Utilization</li> <li>-Pipe and tubing Tools-Nomenclature</li> </ul>				<p>7.00%</p>
<p><b>Week 6:</b> Chapter 4 Part 2 Grinders and Accessories-Nomenclature and Utilization</p>				<p>7.00%</p>

<b>Week 7:</b> Pullers-Nomenclature and Utilization				6.00%
<b>Week 8:</b> Drills and Accessories-Nomenclature and Utilization				7.00%
<b>Week 9:</b> Grinders and Accessories-Nomenclature and Utilization	Lab activity Review			6.00%
<b>Week 10:</b> Special Purpose Tool-Nomenclature and Utilization Miscellaneous Tools-Nomenclature and Utilization	Provide live demonstrations of different types of tools			6.00%
<b>Week 11:</b> Automotive/Industrial Terminology Wood and Plastics Terminology Power Tools-Nomenclature and Utilization	<u>Open Activity Workbook</u> <u>Demonstration and work sheets</u> pliers, screwdriver, sockets			5.00%
<b>Week 12:</b> Machine Tools-Nomenclature Only Safety (will also be included as an integral part of each unit)				7.00%
<b>Week 13:</b> Chapter 80 Career success -Traits of desirable employees -Earning types of shops -Getting a job as an automotive technician	<u>Open activity</u> workbook Answer pages 401-402 <u>Discussion</u> Types of career			7.00%
<b>Week 14:</b> Chapter 2 Lecture-practical Exams	Demonstrations with: Questions examples live demonstrations		Preparation for ASE Exam	7.00%
<b>Week 15:</b> Preparation for final Exam and worksheets				6.00%
<b>Week 16:</b> Transmission worksheets reviews demonstration				5.00%
<b>TOTAL</b>				100%

**Assignments:**

Out-of-class:

Research and automotive career of your choice. Prepare a written report covering such topics as duties, working conditions, pay range, and opportunities for advancement. Interview a manager of a parts department for local store. Reports on the duties perform.

Reading and Writing:

Research to find out the overall impact hybrid vehicles could have on our environment, including issues such as vehicle emissions and the consequences of weather certain parts can be recycle.

### Academic Honesty

- Plagiarism is to take and present 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 correctly 'cite a source', 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, or assisting others in using materials, which 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) use of a commercial term paper service

### Additional Help – Discretionary Section and 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 Learning Services (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 learning 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. If you feel you need to be evaluated for educational accommodations, the DSP&S office is located in Building 2100, telephone 760-355-6313.

### Student Counseling and Health Services

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

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](http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762)

### Information Literacy

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- Library Services: There is more to our library than just books. You have access to tutors in the learning center, study rooms for small groups, and online access to a wealth of resources.

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## Information Literacy