

**Basic Course Information**

Semester	Fall 2015	Instructor's Name	Jose Lopez
Course Title & #	AUT 120	Email	<a href="mailto:Jose.lopez@imperial.edu">Jose.lopez@imperial.edu</a>
CRN #	10874	Webpage (optional)	
Room	1102-1103	Office	Part-Timers: Room N/A
Class Dates	Aug 17, 2015 – Dec 11, 2015	Office Hours	n/a for part-time faculty
Class Days/ Times	<b>R</b> - 06:00PM - 08:05PM Room-1100-1103. <b>S</b> - 08:00AM - 02:25PM Room - 1200-1201	Office Phone #	(760)355-6361
Units	4 Units	Who Students Should Contact If Emergency Or Other Absence	Instructor: (760)355-6362

**Course Description**

Recommended Preparation: AUT 110 or 2 years of high school in auto mechanics. Review and advanced study of internal combustion engine and service procedure in the use of automotive machine shop tools and machines for rebuilding the engine. (CSU)

**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 engine block, cylinder head, and valve train components; determine necessary action. (IL01, IL02, IL03)
2. Repair and replace engine assembly components. (IL01, IL02, IL03)
3. Disassemble, clean, and inspect engine parts and accessories. (IL01, IL02, IL03)
4. Assemble engines and their related parts.
5. Diagnose engine noise and vibration problems; determine needed repair. (IL01, IL02, IL03)
6. Disassemble, clean, and inspect cylinder heads. (IL01, IL02, IL03)

**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 stands, air tools, hydraulic jacks, and car lifts.
  - B. Have a thorough 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 engine section.

## Textbooks & Other Resources or Links

Modern Automotive Technology (classroom) 7<sup>th</sup> edition – ISBN 978-1-61960-370-7

Modern Automotive Technology (workbook) 7<sup>th</sup> edition By James E. Duffy - ISBN 978-1-161960-375-2

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 the 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](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. There will be a mid-term and final exam. Each will be worth 25% of your grade. The mid-term will have 50 questions on ASE type, the final exam will have 100 ASE type questions. Quizzes will make up 25% of your grade. The last 25% of your grade will be on projects assigned as part of the lab section of class.

<u>Percentages</u>	<u>Scores</u>	<u>Letter grade</u>
25% Completed Assignments	130-115%	A
25% Quizzes	114-99%	B
25% Mid-term exams	98-83%	C
25% Final Exam	82-67%	D
30% Class Participation	66-00%	F

#### Assignments and Exams:

Exams will consist of information from class lectures, reading assignments, homework, videos, and class/lab activities.

❖ Assignments are due every Thursday.

Note: Time can be flexible with lectures, class assignments, lab activities or exams.

**Make sure to:**

❖ 1. To bring your textbook every section of lecture

2. To bring a notebook and pencils

Exams will consist of: class notes, class lectures, homework, videos and class/lab activities.

3. To BE ON TIME FOR CLASS.

4. To participate during lecture and lab activities

5. No late assignments or exams

**Basic Rulers ad Shop Safety:**

❖ No music allowed in the auto shop

❖ No parking in front of the gate

❖ No work should be done without instructor's permission

❖ No parking inside the shop during lecture time

❖ No long breaks (should be 10 minutes per hour class)

❖ Each student should clean the work area

❖ The student can not leave early without instructors permission

❖ No cell phones during class session

❖ No helpers or visitors during lab activities

❖ Safety glasses are required

Fall 2015 Important Dates:

❖ Late Registration	August 17-29
❖ Ticketing for parking violation starts	August 31
❖ Deadline to make up incomplete grade	September 25
❖ Financial Aid return to Title IV drop deadline	October 21
❖ <b>Deadline to drop full term classes</b>	<b>November 7**</b>
❖ Holidays	November 11 /26/28
❖ Last week of classes including final examinations	December 7-11

**NOTE: LECTURE ON CHAPTERS WILL BE SUBJECT TO CHANGES**

**Fall Class Schedule 2015**

<b>Weeks</b>	<b>Introduction Engine Technology</b>	<b>Class activities Workbook</b>	<b>Quiz/Exams</b>	<b>Homework From Class Textbook</b>
<i>Week 1</i>	-Course introduction -ASE sections/exams - Safety shop -Tools/equipment -Engine repair, inspection, worksheets -Other demonstrations	ASE Booklets Safety videos Engine Condition Videos 1,2,3 Workbook	Safety exam	
<i>Week 2</i>	<b>Chapter 1.</b> The Automotive Parts.	Do activity pg. 11-18 Demonstrations	2	Review ASE Questions pg.27-28
	<b>Chapter 3. Hand tools</b> -Identify common hand tools -Safety rules for hand tools -Basic tools for engine repair	Workbook Do activity on Pages.23-28	3	Textbook Ch.3 Review ASE Questions pg. 56-57
<i>Week 3</i>	<b>Chapter 4.</b> Basic hand tools -Identify common hand tools -Safety rules for hand tools -Basic tools for manual drive train/axle	Workbook # 4 Do activity on Pages 29-33	4	Textbook ch.4 Review ASE Questions pg. 72
<i>Week 4.</i>	<b>Chapter 6.</b> Automotive Measurement and math -Masuring system -Measuring tools -Other measurement	Workbook Pages 39-42 -measurements -micrometers -calipers -dial indicators -meters	5	Textbook ch.6 Review ASE Questions pg.100-101
<i>Week 5</i>	<b>Chapter 7.</b> Service Info and Work-orders -Computer source <b>Chapter 8. Fastener/Gaskets</b> -Class activity	Workbook pg. 43-45 computer activity	6	Textbook ch.7 Review ASE Questions pg.114
<i>Week 6</i>	<b>Chapter 10.</b> Career success - -Class activity <b>Chapter 11.</b> Engine Fundamentals	Workbook Do Pages 57-61 Engine Fundamentals	7	Textbook ch.11 Review ASE Questions pg.176-177

	-Parts of the engine The four strokes -Engine terms			
<i>Week 7</i>	<b>Chapter 12. Chapter Engine Design Classifications.</b> -Compare gasoline and diesel engines -Compare two and four stroke cycle engines	Workbook Pages 63-67	8	Textbook ch.51 Review ASE Questions pg.190
<i>Week 8</i>	<b>Chapter 13.Engine top end construction.</b> -Valves, seals, cylinder head -Valve spring and accessories _ Valve lifters, rock arm assemblies -Intake/exhaust manifold	Workbook-Chapter13 Do pages 69-74	9	Textbook ch.13 Review ASE Questions pg. 205
<i>Week 9</i>	<b>Chapter 14.Engine botton construction</b> Pistons, rings, bearings	Workbook ch. 14 Pages 75-81	10	Textbook ch.14 Review ASE Questions pg.222-223
<i>Week 10</i>	<b>Chapter 15. Engine front end</b> -Construction -Vibration damper -Camshaft drives -Timing gear, timing chain -Timing belt assembly _Cover, oil slinger, other related components	Workbook, ch 15 Engine front End	11	Textbook ch.15 Review ASE Questions pages 223-224
<i>Week 11</i>	<b>Chapter 16. Engine size and performance measurements:</b> -Compression ratio and how it effects engines -Engine torque and horse power	Workbook ch. 16 Engine Size and Measurements Pages 87-91	12	Textbook ch.16 Review ASE Questions Pages 241

<p><b>Week 12</b></p>	<p><b>Chapter 48.Engine mechanical problems</b>                  -Engine repair                  Engine noise                  -Gas/diesel engine compression testing                  -Wet compression                  -Mechanical problems</p>	<p>Workbook ch.48                   Review Chapters:                  11,12,13,14,15</p>		<p>Textbook ch.48</p>	
<p><b>Week 13</b></p>	<p>Chapter 49 - Lubrication System</p>	<p>Workbook   <b>Chapter # 49</b>  <b>Pg. 309-314</b></p>			
<p><b>Week 14</b></p>	<p>Chapter 50 - Lubrication System Diagnosis</p>	<p><b>Chapter # 50</b>  <b>Pg. 315-321</b></p>			
<p><b>Week 15</b></p>	<p>Chapters 56 - 57</p>	<table border="1"> <tr> <td data-bbox="643 968 862 1125"> <p><b>Chapter # 56</b>  <b>Pg. 363-370</b>  <b>Chapter # 57</b>  <b>Pg. 371- 377</b></p> </td> </tr> </table>	<p><b>Chapter # 56</b>  <b>Pg. 363-370</b>  <b>Chapter # 57</b>  <b>Pg. 371- 377</b></p>		<p><b>Class Activities and Reviews</b></p>
<p><b>Chapter # 56</b>  <b>Pg. 363-370</b>  <b>Chapter # 57</b>  <b>Pg. 371- 377</b></p>					
<p><b>Week 16</b></p>	<p>Assembly Installing engine.                  General Reviews A.S.E.                  Exams   <p style="text-align: center;"><b><u>Final Exam</u></b></p> </p>				