IMPERIAL VALLEY COLLEGE
Industrial Technology Division
Automotive Department

Course title:	**Engine Technology AUT-110**
Semester:	**Spring 2013**
Class Schedule:	**Tuesday 8:30 – 11:45 am** **Thursday 8:30 – 11:45 am** **Friday 8:30 – 10:20 am**
Location:	**Lecture room 1100** **Laboratory room 1102**
Instructor:	**Ricardo Pradis**
Phone:	**(760) 355-6403**
Email:	**ricardo.pradis@imperial.edu**
Coordinator:	**Jose Lopez (760) 355-6362**
Secretary/Division:	**Frances Gomez (760) 355-6361**

Course Description:
For the student with little or no internal combustion engine background Design, construction, and mechanical function of internal combustion engines including lubricating, cooling, fuel, and electrical systems, and an understanding of the basic sciences relevant to such topics as internal combustion and energy conversion

Institutional Student Learning Outcomes (ISLO)

Student learning outcomes are written statements that represent faculty and departmental learning goals for students. After successful completion of the program or degree at Imperial Valley College, students are expected to have measurable improvement in the following areas:

- ISLO 1: Communication Skills
- ISLO 2: Critical Thinking Skills
- ISLO 3: Personal Responsibility
- ISLO 4: Information Literacy
- ISLO 5: Global Awareness

AUT-110 Engine Technology will provide students with learning opportunities to improve in four of the Institutional Learning Outcomes: Communication Skills (SLO1), Critical Thinking (SLO2), Personal Responsibility (SLO3), and Information Literacy (SLO4).

Course Objectives- Upon successful completion of this course, the student will be able to:

1. Identify the various tools used to service automobiles
2. List the different types of measuring instruments
3. Differentiate between various engine types
4. Describe the construction and operation of the major engine components
5. List the sequence of events in two-and four-cycle engine operation
6. Remove, repair and reinstall cylinder heads and gaskets
7. Disassemble, inspect and measure engine block
8. Assemble engine block assembly
9. Perform lubrication system check
10. Perform cooling system check

Grading Criteria:

1. Attendance: First day of class, regular attendance, and withdrawal after exceeding the number of class hours per week.
2. Tardiness: Three times equals one absent.
3. Student Conduct: Upon entry into IVC constitutes the student's acceptance of the standards of student conduct and the regulations publish by the college.
4. Each student is responsible for making up schoolwork missed because of absences.
5. 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
6. Very important:
    - **Mid-Term** (60 points) will be given on March 8. It will be a multiple choice test **Bring your Scantron, and pencil.**
    - **Final-Exam** (60 points) will be given on May 10. It will be a multiple choice test **Bring your Scantron and pencil.**
    - 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
C	Minimal effort by the student. Unfocused, underdeveloped. Evidence is not used to support conclusion. Block overall understanding. Does not meet assignment requirements.	0-11

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.

Student Responsibility:

1. Participate in class turn in all your completed assignments to the instructor.

2. Scantron answer sheets and #2 pencils will be used on test days. You may get this from the bookstore.

3. If you are having trouble with the course and/or personal problems, communicate with the instructor as soon as possible so as to get the help needed.

4. If you have any form of disability, please inform the instructor so that you can get the assistance you may need. Please contact DSPS office as soon as possible: 355-6312, 2100 Bldg. I have made every effort to ensure that this course is accessible to all students, including students with disabilities. If you encounter any problem during this course, please contact me immediately.

5. Please, no food, smoking, or visitors during class.

6. Anyone using a cell phone/pager or other communication device, or carrying a device that makes noise, during class will be ask to leave and will receive only partial points.

7. Students have the right to experience a positive learning environment; students who disrupt that environment can be asked to leave the class. Please refer to catalog for more information. Swearing, negative remarks and discriminatory statements will not be tolerated. If someone says anything to you that makes you feel uncomfortable or that you feel is inappropriate contact your instructor immediately.

8. It is the responsibility of the student to officially withdraw from the course through the Office of Admission and Records, if you stop actively participating in the course, it does not mean I will drop you, but I can drop you at my own discretion. The last day to drop with a W is May 15, 2010. You must officially drop the course yourself before the dead line or you will receive a grade on your official transcript.

Course Instructional Schedule and Learning Activities

Week 1: Class orientation, safety procedures, demonstrations, shop activities and safety test.

Week 2-3-4:
Chapter 7: Engine Fundamentals
Review questions pg.83
Worksheet chapter 7
Quiz chapter 7
Lab Activity: perform cylinder compression test, perform engine vacuum test, disassemble, clean, and inspect engine

Week 5-6:
Chapter 9: Engine Top End Construction
Review questions pgs. 104-105
Worksheet chapter 9
Lab Activity: disassemble, inspect, repair and reassemble a cylinder head

Week 7-8:
Chapter 10: Engine Bottom End Construction
Review questions pgs. 121-122
Worksheet chapter 10
Lab Activity: disassemble, inspect, repair and reassemble an engine block

Week 9: Mid-term

Week 10-11:
Chapter 11: Engine Removal, Disassembly, and Cleaning
Review questions pg. 129
Worksheet chapter 11
Lab Activity: remove engine (front or rear wheel drive) prepare for disassembly and reinstall

Week 12:
Chapter 12: Engine Top End Service
Worksheet chapter 12
Lab Activity: identified the procedures involved in engine top end service

Week 13:
Chapter 13: Engine Bottom End Service
Worksheet chapter 13
Lab Activity: identified the procedures involved in engine bottom end service

Week 14:
Chapter 14: Engine Lubrication
Worksheet chapter 14
Lab activity: perform an engine lubrication system inspection

Week 15:
Chapter 15: Engine Cooling System
Worksheet chapter 15
Lab Activity: perform an engine cooling system inspection

Week 16:
Final-Exam

Equipment and Supplies:

1. Textbook & Workbook: Modern Automotive Technology 7th Edition James E. Duffy
2. Pen and pencils.
3. Standard writing paper.
4. Personal Protective Equipment:
    - Safety glasses,
    - Work footwear,
    - Proper shirt and pants.

Safety Requirements

For every task performed in the Engine Technology course the following safety requirements must be strictly enforce:

Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations.

Instructor Office Hours:

Monday:	**10:30 – 11:30 am**
Wednesday:	**10:30 – 11:30 am** **5:30 – 6:30 pm**
Friday:	**10:30 am – 11:30 am**
By Appointment:	**Contact me at 760-355-6403 or ricardo.pradis@imperial.edu**

In Case of Emergency:

If you have a life-threatening illness or injury that requires an ambulance, **call 911immediately** Emergency costs are not covered by Student Health Services.

The Student Health Fee allows the students to receive health services on campus an at various health centers in the community. For more information refer to the catalog.