

AUTO 220
Mechanical Automatic transmissions
Syllabus

Instructor: Jose Lopez

Office: 1102

E-mail:

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Semester Begins: August 20, 2012

Ends: December 9, 2012

Textbook:

Modern Automotive technology 7th edition

Course description:

Design Construction, mechanical and hydraulic function and repair of the Automatic Transmission.

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

Student with Disabilities:

Any Student with a documented disability who may need educational accommodations should notify his or her instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. The DSP&S program is located in building 2117, Health Sciences Building, or you may contact them at (760) 355-6312.

Student Responsibilities:

Each student is required to comply with the schedule established by Automotive Program at Imperial Valley College. Students are required to attend class each day class is in session. If for any reason a student is absent he/she is responsible for making up any missed lecture or lab assignments. It is recommended that students call the office or leave a message at (760) 355-6361 to inform the instructor if he/she is ill and/or bring a doctor's note upon returning to class.

FALL SEMESTER 2012 IMPORTANT DATES AND DEADLINES

NOTE: The deadlines below are for full-term classes. Deadlines for short-term classes vary with the length of the class. Most deadlines are mandated in the CA Code of Regulations and are a percentage of the length of the class.

Beginning March 15	New and returning students may file admission application
July 16 – July 30	Priority registration for continuing and re-enrolling students. NEW: Students may register for a maximum of 16 units during the Priority Registration period.
July 30	Registration begins for students new to IVC and continues for current and former IVC students.
July 31	Students on Academic and/or Lack-of-progress Probation may enroll in up to 8 units.
August 6	Unit cap is now increased to 19 units for all students.
August 2	Registration begins for students concurrently enrolled in grades K-12
August 19	Residency determination date
August 20	Classes begin. Beginning on first day each class meets, add authorization code from instructor required to register for that class, filled or open
August 20 – September 1	Late Registration. Beginning on first day each class meets, add authorization code from instructor required to register for that class, filled or open.
September 1	Deadline to register for full-term courses Deadline to drop full-term classes without owing fees and/or be eligible for refund. Deadline to select P/NP grading option for courses with that option (see section on <i>Change Grading Options</i>). Does not pertain to Non-credit Program courses.
September 3	Deadline to drop without course appearing on transcript (without receiving W). Note: fees will be charged and no refunds given for courses dropped on September 2 or 3. See Sept. 1.
September 3	Holiday – Labor Day; no classes
September 4	Census
September 4	Ticketing for parking violations in student spaces on main campus begins. Note: tickets are issued for reserved (faculty/staff), disabled, metered, 15-minute, and no-parking spaces year around.
September 28	Deadline to make up incomplete grade (I) granted Spring or Summer 2012
October 24	Financial Aid Return to Title IV drop deadline.
November 1	Deadline to submit <i>Petition for Graduation</i> for degree to be awarded Fall 2012. Completed petition must be received in Admissions & Records Office by this date. Students must meet with a Counselor and have an evaluation completed and petition signed before this date.
November 12	Holiday – In Honor of Veterans' Day; no classes.
November 10	Deadline to drop full-term classes
November 22 – 24	Holiday – Thanksgiving – No Classes Thursday, Friday, and Saturday.
December 3-7	Last week of classes including final examinations.
December 10 – January 11	No Classes (College closed December 17 through January 1).
January 14 – May 10, 2013	Spring Semester 2013.
May 11, 2013	Commencement

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>Percentage</u>	<u>Scores</u>	<u>Letter grade</u>
25% Completed Assignments	100-90%	A
25% Quizzes	89-80%	B
25% Mid-term exams	79-70%	C
25% Final Exam	69-60%	D
	59-50%	F

Assignments and Exams:

Exams will consist of information from class lectures, reading assignments, books, videos, and lab activities. The instructor will be providing demonstrations and revising assignments.

Assignments due every Thursday.

Note: Time can be flexible with lectures, Lab activities or exams.

Outline and Activities

<u>Week:</u>	<u>INTRODUCTION AUTOMATIC TRANSMISSION</u>	<u>CLASS ACTIVITIES</u>	<u>QUIZ</u>	<u>HOMEWORK/EXAMS</u>
1st week	<ul style="list-style-type: none"> ▪ Safety ▪ Orientation type of Automatic Transmissions ▪ Fluid coupling/Torque converter ▪ Function of clutches/bqnds in Automatics ▪ Power flows ▪ Three/four speeds ▪ Maintenance/Adjustments ▪ Service/Diagnostics 	Videos 1,2,3		Safety test

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<p>2nd week</p>	<p>Chapter 1 <u>The automobile</u> Parts, assembly, and systems Hybrid vehicle</p>	<p><u>Open activity</u> <u>Workbook</u> identify the following parts, assemblies and systems Pages 9-14 <u>Instructor</u> Show students a part component, assembly, and system (out of vehicle)</p>		<p>Textbook Chapter 1 Review the main components and systems of the Automobile. Pages 1-20</p>
<p>3rd week PART I</p>	<p>Chapter 3 ▪ Basic hand tools ▪ Identify common hand-tools ▪ Safety rules for hand tools ▪ Use hand tools safely</p>	<p><u>Open Activity</u> <u>Workbook</u> Basic tools Chapter 3 pages 19-22 <u>Demonstration</u> Basic tools</p>		<p>Textbook Chapter 3 Review ASE questions on pages 46</p>
<p>Part II</p>	<p>Chapter 4 ▪ Power tools/ equipment ▪ Types of tools/equipment ▪ Safety procedures for tools/equipment</p>	<p><u>Open activity</u> <u>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>4th week</p>	<p>Chapter 6 <u>Automotive measurement and math</u> ▪ Measuring tools ▪ Other measurement and measuring tools ▪ Using basic mathematic</p>	<p><u>Open activity</u> <u>Workbook</u> Answer pages 31-34 <u>Demonstration:</u> ▪ Shop measurement ▪ Using ruler ▪ Using conversion charts ▪ Using a micrometer and caliper ▪ Using a dial indicator ▪ Using a temperature</p>		<p>Textbook chapter 6 Review ASE questions page 84</p>

		Unit		
		<ul style="list-style-type: none"> ▪ Using a digital Multimeter 		
5 th week	Chapter 57 Automatic Transmission fundamentals <ul style="list-style-type: none"> ▪ Basic Automatic Transmission ▪ Hydraulic system ▪ Parking pawl 	<u>Open Activity Workbook</u> Answer pages 293-296 <u>Demonstrations and worksheets</u>		Textbook Chapter 57 Review ASE questions page 1108-1109
6 th week	Part I <ul style="list-style-type: none"> ▪ Automatic Transmission power flow ▪ Electronic Transmission Control 	<ul style="list-style-type: none"> ▪ Torque converter ▪ Planetary gear ▪ Drum/clutch assembly ▪ Band and Devices Assembly ▪ Pump assembly ▪ Valve body Assembly ▪ Electronic Unit 		
7 th week	Chapter 58 Automatic Transmission Service <ul style="list-style-type: none"> ▪ Automatic Transmission Identification ▪ Automatic Transmission Diagnosis ▪ Automatic maintenance 	<u>Open Activity Workbook</u> Answer pages 297-300 <u>Demonstration and worksheets</u>		Textbook Chapter 58 Review ASE questions pages 1127-1128
8 th week	Part II <ul style="list-style-type: none"> ▪ Continuously variable transmission ▪ Complete Transmission assembly ▪ Highway History 	<ul style="list-style-type: none"> ▪ Transmission Diagnosis ▪ Preliminary checks ▪ Electrical connections ▪ Shop testing ▪ Road testing ▪ Pressure tests ▪ Air test ▪ Maintenance ▪ Adjustments ▪ Transmission removal 		
9 th week	Review Chapters 57-58	Lab Activity Review		<u>Mid TERM-EXAM</u>

<p>11th week</p>	<p><u>Chapter 64</u> Transaxle and Front drive diagnosis and repair</p> <ul style="list-style-type: none"> ▪ Diagnose common transaxle and drive axle problems ▪ Remove and install a transaxle assembly ▪ Replace CV-Joint on front drive axles 	<p><u>Open Activity Workbook</u></p> <p>Answer pages 327-330</p> <p><u>Demonstration and worksheets</u></p> <ul style="list-style-type: none"> ▪ Remove Drive shaft ▪ Universal Joint Service ▪ CV-Joint service 	<p>Textbook Chapter 64</p> <p>Review ASE questions pages 1234-1235</p>
<p>12th week</p>	<p><u>Chapter 6</u> Automotive Measurement and math</p> <ul style="list-style-type: none"> ▪ Measuring systems ▪ Measuring tools ▪ Other measurements ▪ Using basic mathematics ▪ Workplace skills 	<p><u>Open Activity Workbook</u></p> <p>Answer pages 31-34</p> <p><u>Demonstration and worksheets</u></p> <ul style="list-style-type: none"> ▪ Shop ▪ Measurement ▪ Using conversion charts ▪ Using a micrometer and caliper ▪ Using a dial indicator ▪ Using a temperature ▪ Using a digital multimeter 	<p>Textbook Chapter 6</p> <p>Review ASE questions page 84</p>
<p>13th week</p>	<p><u>Chapter 80</u> Career success</p> <ul style="list-style-type: none"> ▪ Traits of desirable employees ▪ Earning types of shops ▪ Getting a job as an automobile technician 	<p><u>Open activity Workbook</u></p> <p>Answer pages 401-402</p> <p><u>Discussion</u></p> <p>Types of career</p>	<p>Textbook Chapter 80</p> <p>Review ASE questions pages 1562-1563</p>