Imperial Valley College
Summer 2013

Mechanical Automatic Transmissions
AUT 220
Syllabus

Instructor: **José López** Office: **1102**

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Class begins: **June 24, 2013** Ends: **August 1, 2013**

Time: **M -TH 4:00-9:50 pm**

TEXTBOOK

Modern Automotive Technology Book & Workbook, 7th edition
Author: James E. Duffy

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

Course Goals and 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 Automatic Transmission system and its components
C. Describe the power flow systems of the automatic Transmissions
D. Describe the proper steps and procedures to disassembly and assembly Automatic Transmissions.

Students with disabilities

Any student with a documented disability who may need educational accommodations should notify his/her instructor or the Disabled Student Program and Services 9DSPS) office as soon as possible.

The 9DSPS) is located in building 2117, Health Services Building, or may contact them at 760-355-6312. For first aid call the nurse at 760-337-0300.

Student Responsibilities

Each student is required to comply with the schedule established by IVC and the automotive program. Students should attend class each a day class is in session. If for any reason a student is absent she/he is responsible for making up any missed work. It is recommended that students call the office to inform the instructor is she/he is ill or bring a doctors release note. Four tardies =one absence, four absences and you will be dropped from the class or given an incomplete (IC) for the course. It is also recommended for each student to bring classroom and shop manual along with pencil and paper.

Basic Rules and Shop Safety

1. No music allowed in the auto shop.
2. No smoking in the shop area.
3. No work should be redone without the instructor's permission.
4. No parking inside the shop during lecture time.
5. No tolerance for sexual harassment.
6. No long breaks (10 minutes per class hour).
7. Every student is required to wear safety glasses.
8. No helpers or visitors during lab activities.
9. The student cannot leave early without the instructor's permission.
10. No cell phones during class section.
11. Each student should clean the work area.

Summer Class Schedule 2013

- Classes begin: Jun 24
- Late Registration: Jun 26
- Deadline to drop full-term classes: July 23
- Holiday Independence day: July 24
- Priority Registration for Fall 2013 Begins
- Final exams: July 31

Assignments and activities consist of:

- Text book
- Reviews
- Videos
- Laboratory Activities
- Service manuals
- Hands-on each section
- Other Materials

Grading System

There will be a mid-term and a final exam. Each will be worth 25% of your grade. 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 the class.

Percentage	Scores	Letter Grade
25% Completed Assignments	90-100%	**A**
25% Quizzes	80-90%	**B**
25% Mid-Term	70-79%	**C**
25% Final Exam	60-69%	**D**
	50-59%	**F**

Assignments and Exams:

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

Outline and Activities

NOTE: LECTURE ON CHAPTERS WILL BE SUBJECT TO CHANGES
Assignments due every Thursday

WEEKS	INTRODUCTION AUTOMATIC TRANSMISSION	CLASS ACTIVITIES	QUIZ	HOMEWORK/ EXAMS
1st **Part I**	**Orientation:** - Safety - Orientation type of Automatic Transmissions - Fluid coupling/Torque converter - Function of clutches/bands in Automatics - Power flows - Three/four speeds - Maintenance/adjustments - Service/Diagnostics	**Videos 1,2,3**	**1**	**Safety Test**

1st **PART II**	**Chapter 1 –The automobile** - Parts, assembly, and systems Hybrid vehicle	**Open Activity** Workbook -Identify the following parts, assemblies and systems -Pages 9-14 **Instructor** -Show students a part component, assembly, and system (out of vehicle)	Quiz #1	**Textbook Chapter I** Review the main components and systems of the automobile. Pages 1-20
1st **PART III**	**Chapter 3** - Basic hand tools - Identify common hand-tools - Safety rules and tools - Use hand tools safely	**Open Activity** Workbook -Basic tools Chapter 3 -Pages 19-22 **Demonstration** -Basic equipment		**Textbook Chapter 3** Review ASE questions on pages 46
2nd Week	**Chapter 4** - Power tools/equipment - Types of tools/equipment - Safety procedures for tools/equipment	**Open Activity** Workbook -Power tools and equipment – pages 23-30	Quiz basic tools	**Textbook Chapter 4** Review ASE questions
	Chapter 6 - Automotive Measurements and Math - Measuring tools - Other Measurements and measurement tools Using basic mathematic	**Open Activity** Workbook Answer pages 31-34 **Demonstration:** -Shop measurement Using ruler -Using convertion charts -Using micrometer and caliper -Using a dial indicator -Using a temperature Thermometer		**Textbook chapter 6** Review ASE questions Page 84
3rd Week	**Chapter 57 Automatic Transmissions Fundamentals** - Basic Automatic Transmission - Hydraulic system - Parking pawl - Automatic Transmission Control - Continuously variable transmission - Complete Transmission assembly - Highway History	**Open Activity** Workbook -Answer Pages 293-296 **Demonstrations and worksheets** -Torque converter -Planetary gear -Drum/clutch assembly -Valve Body Assembly -Electronic Unit		**Textbook Chapter 57** Review ASE questions page 1108-1109

4th Week **Part I**	**Chapter 58 Automatic Transmissions Service** - Automatic Transmission Identification - Automatic Transmission Diagnosis - Automatic maintenance - Major Transmission Service - Automatic Transmission and Transaxle Diagnosis	**Open Activity** Workbook -Answer Pages 297-300 **Demonstrations and worksheets** -Transmission Diagnosis -Preliminary checks -Electrical connections -Shop testing -Road testing -Pressure tests -Air test -Maintenance -Adjustments -Transmission removal		**Textbook Chapter 58** Review ASE questions Pages 1127-1128
Part II	**Review Chapters 57-58**	Lab Activity review		**MID-TERM EXAM**
5th Week **Part I**	**Chapter 64 Transaxle and Front Drive Diagnosis and Repair** - Diagnose common transaxle and drive axle problems - Remove and install a transaxle assembly - Replace CV-Joint on front drive axles	**Open Activity** Workbook -Answer Pages 327-330 **Demonstrations and worksheets** -Remove Drive Shaft -Universal Joint Service -CV-Joint service		**Textbook Chapter 64** Review questions ASE Pages 1234-1235
Part II	**Chapter 80 – Career Success** - Traits of desirable employees - Earning types of shops - Getting a job as an automobile technician	**Open Activity** Workbook -Answer Pages 401-402 **Discussion** -Types of career		**Textbook Chapter 80** Review ASE questions Pages 1562-1563
6th Week	**Review and Preparation for ASE Exam and Final Exam**			