



### Basic Course Information

Semester:	<b>Spring 2025</b>	Instructor Name:	<b>Pat Barbee</b>
Course Title & #:	<b>AUT 220 Mechanical Automatic Transmissions</b>	Email:	<b>Pat.barbee@imperial.edu</b>
CRN #:	<b>21051</b>	Webpage (optional):	
Classroom:	<b>1602/1101</b>	Office #:	<b>1104 A</b>
Class Dates:	<b>February 10<sup>th</sup>- June 6th</b>	Office Hours:	<b>5:00 to 6:00</b>
Class Days:	<b>Monday/Wednesday</b>	Office Phone #:	
Class Times:	<b>6:00 P.M. to 10:25 P.M.</b>	Emergency Contact:	<b>Tisha Nelson – Staff Support Technician (760) 355-6361</b>
Units:	<b>4</b>	Class Format:	<b>Face to Face</b>

### Course Description

**Design, construction, mechanical and hydraulic function and repairs of the automatic transmission. (CSU)**

### Course Prerequisite(s) and/or Corequisite(s)

None

### 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 fluid loss and condition concerns; check fluid level in transmissions with and without dipstick; determine necessary action.
2. Inspect and replace external seals, gaskets, and bushings.
3. Disassemble, clean, and inspect transmission/transaxle.
4. Assemble transmission/transaxle.

### Course Objectives

Upon satisfactory completion of the course, students will be able to (these objectives are subject to change):

1. To prepare graduates for employment as automotive mechanics, parts and supply house technicians, and service station mechanics and operators. The training program is intended to meet the entry level skill needs in the occupational field of Automotive Technology (mechanics).

### Textbooks & Other Resources or Links

Automatic Transmissions and Transaxles . Chris Johnson & James E. Duffy ( ISBN 978-1-64564-165-0 )

### Course Requirements and Instructional Methods

This course will consist of a variety of instructional methods and assignments including, but not limited to, lectures, class discussions, group activities, and hands-on shop experiences.

## Course Grading Based on Course Objectives

### Grading System:

- A – 513-570 of points = Excellent
- B – 456-512 of points = Good
- C – 399-455 of points = Acceptable
- D – 342-398 of points = Below Average
- F – 341 points and below = Failing

Activities	Points
Homework	70
Quizzes	290
Labs	130
Final Exam	80
<b>Total Points</b>	<b>570</b>

## Course Policies

- 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 required activities for two consecutive weeks may be considered to have excessive absences and will 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.
- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- 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 by the instructor.

- **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, only students enrolled in the class may attend; children are not allowed.

## Other Course Information

### Shop/Lab Area Safety

- **Safety test must be passed to work in the shop and complete required lab exercise.**
- **Safety glasses are required to be worn at all times while in the shop area, safety glasses are the student's responsibility (students not wearing safety glasses will be asked to leave for that day, no exceptions).**
- **Clean up your area and any other loose debris, trash, or spills.**
- **Wear all required safety protection and comply with posted signs.**
- **No shorts or open toe footwear, always be prepared for lab exercises.**



## Anticipated Class Schedule/Calendar

DATE	Activity, Assignment, and/or Topic	Assignment Due
WEEK 1	Syllabus, Shop Safety & Environmental Protection	Pages 35_45
WEEK 2	Chapter 1 Introduction to Automatic Transmission & Transaxles	Pages 11_35
WEEK 3	Chapter 4 Gears, Chains & Bearings	Pages 75_99
WEEK 4	Chapter 3 Special Tool & Service Information	Page 45_75
WEEK 5	Chapter 6 Hydraulic & Pneumatics	Pages 119-131
WEEK 6	Chapter 7 Basic Electricity & Electronics	Pages 131-149
WEEK 7	Chapter 8 Automatic Transmission Control Components	Pages 149-185
WEEK 8	<b>**No Class. Spring Break**</b>	
WEEK 9	<b>Mid-TERM</b>	
WEEK 10	Chapter 12 Electronic Control System	Pages 267-309
WEEK 11	Chapter 13 Trouble Shooting	Pages 309-339
WEEK 12	Chapter 14 Trouble shooting	Pages 309-339
WEEK 13	Electronic Control System	
WEEK 14	Chapter 17 Rebuilding	Pages 401-423
WEEK 15	Automatic Transmission	
WEEK 16	Chapter 19 Electronic System service	Pages 435-449
Week 17	<b>Final Exam</b>	

**\*\*\*Subject to change without prior notice\*\*\***