

El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	<u>Automotive Technology</u>								
COURSE RUBRIC AND NUMBER	<u>AUMT 2413</u>								
COURSE TITLE	<u>Automotive Drive Train and Axles</u>								
COURSE CREDIT HOURS	<table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><u>4</u></td> <td style="text-align: center;"><u>3</u></td> <td style="text-align: center;"><u>:</u></td> <td style="text-align: center;"><u>4</u></td> </tr> <tr> <td style="text-align: center;">Credits</td> <td style="text-align: center;">Lec</td> <td></td> <td style="text-align: center;">Lab</td> </tr> </table>	<u>4</u>	<u>3</u>	<u>:</u>	<u>4</u>	Credits	Lec		Lab
<u>4</u>	<u>3</u>	<u>:</u>	<u>4</u>						
Credits	Lec		Lab						

I. Catalog Description

Studies automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials with emphasis on diagnosis and repair. May be taught with manufacturer specific instructions. **(3:4). Lab fee.**

II. Course Objectives

- A. Unit I. Shop Safety
 - Comply with personal, interpersonal, and environmental safety practices associated with clothing, eye protection, hand tools, and power equipment plus handle, store, and disposal of chemicals in accordance with local, state, and federal safety and environmental regulations.

- B. Unit II. Drive Lines
 - 1. Select and use appropriate tools and equipment.
 - 2. Interpret customer's concern, use appropriate reference manual, and diagnose, remove, repair, and reinstall drive line components, including universal joints and constant velocity joints. (ASE)
 - 3. Determine CV axle noises / vibrations.
 - 4. Obtain repair information and specifications from manuals and computers.
 - 5. Use wiring diagrams while diagnosing electrical problems.
 - 6. Use a strategy-based diagnostic procedure while solving customer concerns.
 - 7. Document service or repair procedure on the Work Order or Lab Report.
 - 8. Compare actual time spent on a repair to flat rate time.
 - 9. Demonstrate efficiency from start to finish of the job.

- C. Unit III. Clutch Assembly
 - 1. Select and use appropriate tools and equipment.
 - 2. Interpret customer's concern; use appropriate reference manual; and diagnose, remove, repair, and reinstall clutch components, including friction disk, pressure plate, throw-out bearing, pilot bearing, and flywheel. (ASE)
 - 3. Adjust clutch linkage and diagnose hydraulic/mechanical problems.
 - 4. Demonstrate proper bleeding procedures
 - 5. Distinguish between manual transmission concerns and clutch concerns.

- D. Unit IV. Manual Transmission Assemblies
 - 1. Select and use appropriate tools and equipment.

2. Interpret customer's concern; use appropriate reference manual; diagnose, remove, repair, and reinstall transmission or transaxle assemblies, including drive lines, linkages, mounting brackets; and refill fluid to proper level. (ASE)
3. Determine the correct lubrication for manual transmissions.
4. Describe the operation/power flow of the manual transmission.

E. Unit V. Manual Transmission Rebuilding

1. Select and use appropriate tools and equipment.
2. Interpret customer's concern, use appropriate reference manual, disassemble, inspect parts, obtain replacement parts, reassemble, and test for proper operation. (ASE)

F. Unit VI. Differential Service

1. Select and use appropriate tools and equipment.
2. Interpret customer's concern, use appropriate reference manual, disassemble, inspect parts, obtain replacement parts, reassemble, and test for proper operation. (ASE)
Select and use appropriate tools and equipment.

III. THECB Learning Outcomes (WECM)

1. Utilize appropriate safety procedures.
2. Diagnose and repair drivelines, clutches, manual transmissions/transaxles, and differentials.
3. Service constant velocity joints and universal joints.

IV. Evaluation

- A. Written work will be 40% of the final grade.
- B. Lab assignments will be 60% of the final grade.
- C. Grading Scale

90 to 100 = A
80 to 89 = B
70 to 79 = C
60 to 69 = D
Below 60 = F

- D. Cheating will not be permitted. Any person caught cheating will receive a grade of zero for that exam.
- E. Make-Up Exams
Students may retake any exam on which they scored less than 60 points. They may retake these exams the day of the final.

V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.