



## Course Number and Title: AUT 205 Manual Transmission and Transaxles

**Campus Location:**  
Georgetown, Stanton

**Effective Date:**  
2019-51

**Prerequisite:**  
AUT 123 or AUT 126

**Co-Requisites:**  
None

**Course Credits and Hours:**  
3.00 credits  
2.00 lecture hours/week  
4.00 lab hours/week

**Course Description:**

This course introduces various manual transmissions and transaxles and related components, including their operations and service and repair procedures. Laboratory activities include hands-on exercises on transmissions and transaxles as well as related systems and components.

**Required Text(s):**

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

**Additional Materials:**

Hand tools, power tools, and safety glasses

**Schedule Type:**

Classroom Course

**Disclaimer:**

None

**Core Course Performance Objectives (CCPOs):**

1. Demonstrate safety with specialized equipment. (CCC 2, 3, 4; PGC 1, 2, 4, 5)
2. Identify transmission and transaxle design and function. (CCC 1, 5; PGC 1, 2)
3. Perform transmission and transaxle removal and installation. (CCC 1, 2, 3, 4, 5, 6; PGC 1, 2, 4, 5)
4. Perform transmission and transaxle disassembly and assembly. (CCC 2, 3, 4, 5, 6; PGC 1, 2, 3, 4, 5)
5. Adhere to simulated shop procedures. (CCC 1, 2, 3, 4, 5, 6; PGC 1, 2, 3, 4, 5)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

**Measurable Performance Objectives (MPOs):**

Upon completion of this course, the student will:

1. Demonstrate safety with specialized equipment.
  1. Exhibit the use of special tools for measuring, proper disassembly, and assembly of transmission and transaxle during service and repair.
2. Examine transmission and transaxle design and function.
  1. Identify the various transmissions and transaxle types, and describe their operations.
  2. Identify and list the various internal transmissions and transaxle components, and describe their functions.
  3. Perform measurements on various transmissions and transaxle components to determine proper wear limits and the need for service.
  4. Identify and describe the use of the various fasteners, gaskets, and sealants used in various manufacturer vehicles.
  5. Identify appropriate information sources (electronic and/or printed) to perform transmission and transaxle repair.
3. Perform transmission and transaxle removal and installation.
  1. Prepare transmission and transaxle for removal using manufacturer-supplied information.
  2. Remove transmission from vehicle using proper lifting devices and procedures.
  3. Install transmission into the vehicle using proper lifting devices and procedures.
  4. Prepare transmission for proper operation using manufacturer-supplied information.
4. Perform transmission and transaxle disassembly and assembly.
  1. Disassemble transmissions and transaxles to its basic components, identify each component, and explain how each works following manufacturer's procedures.
  2. Using proper measuring devices, identify, inspect, and measure transmission and transaxle components for wear and failure.
  3. Perform all necessary reconditioning operations.
  4. Reassemble transmission and transaxle using manufacturer's specifications.
5. Adhere to simulated shop procedures.
  1. Follow simulated shop rules for proper attire, including eye protection.
  2. Exhibit punctuality in a simulated shop lab.
  3. Check out, maintain, and return tools to simulate real shop practices.
  4. Perform the strategy-based diagnostic procedure to 100% proficiency.
  5. Work cooperatively in assigned teams as in a real shop atmosphere.
  6. Use the time clock to show time management skills as needed in a real shop.
  7. Follow simulated shop rules and procedures for Environmental Protection Agency (EPA) regulations, material safety data sheet (MSDS), and material handling.

**Evaluation Criteria/Policies:**

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	-	100	=	A
83	-	91	=	B
75	-	82	=	C
0	-	74	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

**Final Course Grade:**

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Summative Assessments - (4-6) Tests (equally weighted)	20 %
Summative Assessments - (4-8) Quizzes (equally weighted)	20 %
Summative Assessment – (Hands On) Laboratory Final Exam	30 %
Formative Assessments – (Minimum 8) Repair Orders, Work Books, Worksheets (equally weighted)	30 %
TOTAL	100%

**Core Curriculum Competencies (CCCs are the competencies every graduate will develop):**

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

**Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):**

1. Use appropriate automotive diagnostic and service equipment, hand tools, and precision measuring devices to determine and perform the proper repair as necessary.
2. Interpret automotive electronic service information, service manuals, and diagnostic charts.
3. Document service repair procedures that accurately reference the 3Cs:
  1. Customer complaint verification
  2. Correct the problem
  3. Complete the repair
4. Employ proper automotive industry service facility safety practices.
5. Practice professional conduct as required in the automotive industry.

**Disabilities Support Statement:**

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.