Department:

Automotive Technology

Course Description:

This course provides an in-depth study of torque delivery and planetary gear sets. Instruction areas include operation, service, diagnosis, and repair of automatic transmission and transaxle functions, including electronic controls.

Course Competencies:

Upon completion of the course, the student should be able to:

1. Explain the theory and operation of automatic transmissions/transaxles.
2. Perform maintenance on automatic transmissions/transaxles.
3. Perform service on automatic transmissions/transaxles.
4. Diagnose automatic transmission/transaxle functions.
5. Inspect automatic transmissions/transaxles.
6. Remove, repair, and reinstall automatic transmissions.
7. Remove, repair, and reinstall automatic transaxles.

Course Content:

A. Automatic Transmission/Transaxle Principles
   1. Torque Converters
   2. Automatic Transmission Fluid Cooler
   3. Planetary Gear Sets
   4. Simpson Gear Sets
   5. Ravigneaux Gear Sets
   6. Lapelleties Gear Sets

B. Hydraulic Components and Control Systems
   1. Hydraulic Servos
   2. Accumulators
   3. Multiple-Disc Clutches
   4. One-Way Clutches
   5. Pumps and Pressure Valves
   6. Typical Torque Flow

Learning Assessments:

Assessments may include quizzes, tests, project work, demonstrations, observations, weekly assignments, and written papers.
Instructional Materials:


Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students must complete the “Disabilities Self-Identification Form” at this link: https://highlandcc.edu/pages/disability-services.

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.