Department:

Automotive Technology

Course Description:

This course is designed to provide an in-depth study of torque delivery. The course will cover clutches, drivelines, drive axles, transfer case, and manual transmissions and transaxles.

Course Competencies:

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

1. Determine the general drive train diagnosis procedures.
2. Explain the fundamentals of clutch operation.
3. Explain the fundamentals of clutch removal, inspection, and repair.
4. Determine the power flow of the manual transmission and transaxle.
5. Conduct a manual transmission and transaxle inspection and repair according to service specifications.
6. Conduct a differential inspection and repair according to service specifications.
7. Conduct a diagnosis, inspection, and replacement of drive axle shafts and supporting components.
8. Conduct a diagnosis, inspection, adjustment, and repair of four-wheel and all-wheel drive components.
10. Diagnose clutch issues.
11. Perform the removal, inspection, and repair of the clutch and its components.

Course Content:

A. Clutches
B. Manual Transmissions and Transaxles
C. Drive Axle Shafts and CV Joints
D. Drive Axle Shaft and CV Joint Service
E. Differentials
F. Four-Wheel Drive and All-Wheel Drive

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.