Broward Community College
Course Outline

LAST REVIEW: 2005-2006 **NEXT REVIEW:** 2010-2011 **STATUS:** A

COURSE TITLE: Automatic Transmissions and Transaxles

COMMON COURSE NUMBER: AER2298C

CREDIT HOURS: 4

CONTACT HOUR BREAKDOWN
(per 16 week term)

CLOCK HOURS:

(Voc. Course ONLY)

Lecture: **48** Lab: **48**

Clinic: Other: **139**

PREREQISITE(S):

COREQUISITE(S):

PRE/COREQUISITE(S):

COURSE DESCRIPTION: **A course designed to teach the principles and operations of automatic transmissions and transaxles, and to provide practical experience in diagnosing, removing, maintaining, and repairing automatic transmissions and transaxles. Applications include front wheel drive, rear wheel drive, 4-wheel drive and all wheel drive. Special emphasis will be given to safety procedures, and the specific tools and instruments to be used.**

UNIT TITLES:

1. Automatic Transmission and Transaxle Theory
2. Automatic Transmission and Transaxle Maintenance and Repair

I. Course Overview:

Upon successful completion of this course, the students should be able to discuss, diagnose, remove, maintain, and repair automatic transmissions and transaxles.

II. Units:

Unit 1. Automatic Transmission and Transaxle Theory

General Outcome:

1.0 The students should be able to discuss the operating principles and construction of automatic transmissions and transaxles.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

1.1 Describe the operation of a typical automatic transmission.

1.2 Describe the operation of a typical automatic transaxle.

1.3 Identify each component and relate it to its adjacent components.

1.4 Identify 3-speed, 4-speed, 5 speed overdrive, and electronically controlled transmissions, and transaxles.

1.5 Describe how the various transmissions and transaxles differ in construction and operation.

1.6 Describe the operation of a non-planetary gear set automatic transaxle.

1.7 Describe the operation of a constant velocity transaxle.

Unit 2. Automatic Transmission and Transaxle Maintenance and Repair

General Outcome:

2.0 The students should be able to discuss the maintenance requirements and repair procedures of automatic transmissions and transaxles.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

2.1 Perform all scheduled maintenance procedures (including fluid changes and filter cleaning and replacement) with the aid of shop manuals and factory service bulletins on automatic transmissions and transaxles.

2.2 Identify the causes of automatic transmission and transaxle failures and poor performance through reference to shop manuals and factory service bulletins.

2.3 Perform selected automatic transmission repairs (including removing, rebuilding, and reinstalling) with the aid of shop manuals and factory service bulletins.

2.4 Perform selected automatic transaxle repairs (including removing, rebuilding and reinstalling) with the aid of shop manuals and factory service bulletins.

2.5 Diagnose and perform solenoid and sensor replacement on electronically shifted transmissions.

2.6 Describe the OBDII requirements of an automatic transmission.