

Master Syllabus

AUT 1165 - Automotive Brake Systems

Division: Science, Mathematics and Engineering

Department: Automotive Technology

Credit Hour Total: 3.0

Lecture Hrs: 1.4 **Lab Hrs:** 4.8

Date Revised: August 2018

Course Description:

Theory and operation of hydraulic braking systems, drum brake, disc brake and power assist diagnosis and service. One classroom, six lab hours per week.

General Education Outcomes:

- ❑ Oral Communication Competency
- ❑ Critical Thinking/Problem Solving Competency
- ❑ Computer Literacy Competency
- ❑ Information Literacy Competency

Course Outcomes:

Service information utilization

Locate proper specifications and service information for automotive braking systems

Assessment Method: Behavioral observations

Performance Criteria: Demonstrate at least a "competent" rating on lab activity rubric.

Assessment Method: Locally developed exams

Performance Criteria: Complete tests with 70% correct

Brake assist systems

Utilize manufacturers' processes/procedures to diagnose brake assist systems, including vacuum and hydraulic boost systems.

Assessment Method: Behavioral observations

Performance Criteria: Demonstrate at least a "competent" rating on lab activity rubric.

Assessment Method: Locally developed exams

Performance Criteria: Pass tests with a 70% correct

Disc and drum brake diagnosis and service

Perform proper disc and drum brake inspection and service procedures.

Assessment Method: Behavioral observations

Performance Criteria: Demonstrate at least a "competent" rating on lab activity rubric.

Assessment Method: Locally developed exams

Performance Criteria: Complete tests with 70% correct

Diagnosing hydraulic braking systems

Utilize manufacturer procedures to diagnose hydraulic braking system faults.

Assessment Method: Behavioral observations

Performance Criteria: Demonstrate at least a "competent" rating on lab activity rubric.

Assessment Method: Locally developed exams

Performance Criteria: Pass tests with a percentage of 70% or above

Anti-lock Brake Systems (ABS)

Utilize manufacturers' processes/procedures to diagnose ABS braking system faults.

Assessment Method: Behavioral observations

Performance Criteria: Demonstrate at least a "competent" rating on lab activity rubric.

Assessment Method: Locally developed exams

Performance Criteria: Pass tests with a percentage of 70 or above

Outline:

Complete brake inspection and troubleshooting
Utilization of service information
Hydraulic theory
Drum and disc brake service
Brake pipe bending and flaring
Brake lathe operation
Micrometer and dial indicator usage
Power-assist testing and service
Anti-lock brake system testing and service