

## 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:** June 2014

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### 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:

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

### Course Outcomes:

#### 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

#### 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

#### 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