

## Master Syllabus

### AUT 2224 - High Performance Fuel Induction Systems

**Division:** Science, Mathematics and Engineering

**Department:** Automotive Technology

**Credit Hour Total:** 5.0

**Lecture Hrs:** 3.0 **Lab Hrs:** 6.0

**Prerequisite(s):** AUT 1115

**Date Revised:** October 2013

---

#### Course Description:

Performance rebuilding and tuning of carburetors. Operation and performance application of electronic fuel injection. Introduction to superchargers, turbochargers and nitrous oxide. Engine performance evaluation and tuning utilizing engine and chassis dynamometers. Basic handtools required. Three classroom, six lab hours per week.

#### General Education Outcomes:

- Critical Thinking/Problem Solving Competency
- Computer Literacy Competency

#### Course Outcomes:

##### Fuel Injection Tuning

Demonstrate the ability to improve engine performance using tuning software.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of the students pass with a minimum of 70% correct

**Assessment Method:** Performance appraisals

**Performance Criteria:** Score 2 on a 0-4 rubric

##### Flowbench

Measure carburetor CFM and venturi signal using a Superflow flowbench.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students pass with a minimum of 70% correct

**Assessment Method:** Performance appraisals

**Performance Criteria:** Score 2 on a 0-4 rubric

##### Carburetor rebuilding

Demonstrate the ability to rebuild and tune a Holley 4 barrel carburetor.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of the students pass with a minimum of 70% correct

**Assessment Method:** Performance appraisals

**Performance Criteria:** Score 2 on a 0-4 rubric

##### Chassis/Engine Dynamometer Testing

Measure wide-open throttle horsepower and torque curves using engine and chassis dynos.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of the students pass with a minimum of 70% correct

**Assessment Method:** Performance appraisals

**Performance Criteria:** Score 2 on a 0-4 rubric

#### Outline:

Carburetion  
Flow bench, chassis and engine dynamometers  
Electronic fuel injection  
Supercharging  
Turbocharging  
Nitrous oxide