Sinclair Community College
444 E. Third St.
Dayton, OH 45402

Master Syllabus

AUT 2224 - High Performance Fuel Induction Systems

Division: Science, Mathematics and Engineering

Department: Automotive Technology

Credit Hour Total: 3.0 **Lecture Hrs:** 1.5 **Lab Hrs:** 4.5

Prerequisite(s): AUT 1115

Date Revised: January 2017

Course Description:

Performance rebuilding and tuning of Holley carburetors. Introduction to the 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 hand tools required. One and one-half classroom, four and one-half lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving Competency
- Computer Literacy Competency

Course Outcomes:

Fuel Injection Tuning
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

Carburetor rebuilding
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

Flow bench testing
Use flow bench to test high performance components such as carburetors and intake manifolds

Assessment Method: Locally developed exams
Performance Criteria:

pass with 70% or higher

Outline:

Carburation

Flow bench, chassis and engine dynamometers

Electronic fuel injection

Supercharging

Turbocharging

Nitrous oxide