AUTO 1509

Division: Career and Technical Education
Department: Transportation Technology
Course: AUTO 1509
Title: Hot Rod and Performance Vehicles
Catalog Description:

This course will teach students the theory and skills required to build and modify engines, drive-trains, suspensions, and vehicles for increased performance and personal taste. This course is repeatable for credit.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 2; Lecture: 1; Lab: 3
Clock/Hour Requirements: 60
Offered for Non-Credit: Yes
Prerequisites: N/A

Corequisites: N/A

Justification:

This course is designed to allow people who are interested in performance vehicles an opportunity to deepen their understanding and increase their knowledge in these areas while providing them instruction, equipment, and a facility to do so in a safe manner.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

- make performance modifications to a vehicle
- have an understanding of the operation, safety, and theory of modifications to the vehicle.

Content:

Course objectives will be achieved by providing students with instructional and hands-on experiences in the following areas:

- performance engine modifications
    - camshaft degreeing
    - blueprinting
    - compression calculations

        - porting

- performance drive-trains
    - clutches
    - gear ratios
    - limited slip systems
    - transmissions

- suspensions
    - lowering
    - lift kits
    - handling modifications
    - spring rates and sway bars
    - shocks

- fabrication
- computer dyno programs
- fuel injection systems
- forced induction; i.e., turbos and superchargers.

General Education Outcomes:

6) Apply computational skills to a variety of contexts.

Students will perform a variety of mathematic computations with regard to engine modifications and performance drivetrains, including camshaft degreeing, compression calculations, gear ratios, and limited slip systems.

Applied Education Outcomes:

3) Students will demonstrate safe practices and awareness of potential hazards in their field of expertise.

Students will study, test on, and practice a safe work environment in the lab area.

Key Performance Indicators:

Student Learning Outcomes will be assessed by two or more of the following Key Performance Indicators:

- application of vehicle projects.
- completion of work orders
- project completion checklists.

Representative Text and/or Supplies:

- Instructors will provide required text and reading material.
- Students will need to supply a project and the necessary materials to complete it.

Optimum Class Size: 12
Maximum Class Size: 15

Signatures:

I hereby submit this course syllabus:

Brent Reese, BS, Associate Professor

I hereby find this course consistent with the goals and resources of the Transportation Technology Department:

Brent Reese, BS, Associate Professor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)