AUTO 1007

Division: Career and Technical Education
Department: Transportation Technology
Course: AUTO 1007
Title: Principles of Technology I
Catalog Description:

This applied physics course covers scientific concepts of force, work, rate, resistance, energy, power, transformers, and mathematic computations necessary to perform experiments involving momentum as applied to mechanical, fluid, and electrical systems found in modern industry. Laboratory activities featuring measurement and instrumentation are emphasized.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 2; Lecture: 1; Lab: 2
Clock/Hour Requirements: 45
Offered for Non-Credit: Yes
Prerequisites: N/A

Corequisites: N/A

Justification:

Principles of Technology I helps students acquire skills for understanding and solving problems they will encounter in continued study of automotive technology, as well as problems that they will encounter on the job.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to understand and explain the following concepts:

- force and torque
- work
- linear, angular, and flow rate
- resistance
- potential and kinetic energy
- mechanical, fluid, and electrical power
- mechanical, fluid, and electrical force transformers
- linear and angular momentum
- using technical math concepts and computations for solving practical application problems.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- force
- work
- rate
- resistance
- energy
- power
- transformers
- momentum
- technical mathematics.

General Education Outcomes:

Applied Education Outcomes:

1) Students will acquire entry-level skills specific to and appropriate for employment in their chosen field of study.

Math skills will be acquired by hands-on application of basic concepts through demonstration and experimentation. Instructor will observe students as they practice these skills and provide oral feedback.

Key Performance Indicators:

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

- complete exercises and
- pass a final test
- lab activities
- assignments
- performance in subsequent courses.

Representative Text and/or Supplies:

- *Principles of Technology,* current edition, Center for Occupational Research and Development (CORD).
- *Principles of Technology Student Resource Book,* current edition, Center for Occupational Research and Development (CORD).

Optimum Class Size: 10
Maximum Class Size: 18

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)