

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: IND 116

Credits: 3

Course Title: Applied Technology

Course Description (including lecture hours, lab hours, total contacts)

Introduces basic information and problem solving techniques in liquids, gases, solids, metrics, mechanics, forces, simple machines, heat, light, sound and nuclear energy as applied in industrial engineering technologies. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

General Course Purpose

This course provides students with information necessary to develop an understanding of the basic physical laws and methods of energy transfer used in various industrial applications.

Course Prerequisites/Corequisites (*Entry-level competencies **required** for enrollment*)

None

Course Objectives (Each item should complete the following sentence.)

Upon successful completion of the course, the student will be able to:

- a. Apply properties of vectors, force and momentum
- b. Apply properties of work, simple machines and matter
- c. Demonstrate knowledge of properties of liquids and gases
- d. Demonstrate knowledge of properties of temperature and heat transfer
- e. Demonstrate knowledge of properties of wave motion and sound
- f. Demonstrate knowledge of properties of magnetism
- g. Demonstrate knowledge of properties of light reflection and refraction
- h. Demonstrate the ability to work with a team

Major Topics to be Included

- a. Vectors, force and momentum
- b. Work, energy and rotational motion
- c. Simple machines and matter
- d. Fluids
- e. Temperature and heat transfer
- f. Wave motion and sound
- g. Magnetism
- h. Light reflection and refraction
- i. Teamwork

Effective Date of Course Content Summary (Month, Date Year): March 24, 2009