Technical Physics 101

Course Outcome Summary
General Education Satisfier Course

Course Information
Division: Science/Mathematics
Credit Hours: 4
Contact Hours: 5 (45 hours lecture, 30 hours lab)

Prerequisites: RDG 090 and ENGL 090 and MATH 124, MATH 151, or a qualifying score on accepted placement tests.

Course Description
This course is designed for technical majors to provide an understanding of physical principles and their application to industry and certain technical occupations. Topic coverage reflects the general needs of the various technician programs while giving a broad overview of the physical world around us. Topics included are measurement, kinematics, mechanics, rotational motion and dynamics, simple machines, matter, fluids and fluid flow, heat and thermodynamics, waves, and sound. Course requires laboratory work.

This course is approved as a General Education competency satisfier.

General Education Goal: Critical Thinking
Competency: CI GE Natural Science Competency
Learning Outcome: Understand and apply the elements of scientific inquiry and scientific principles in a natural science college laboratory course setting.

General Education Learning Objectives
1. Observe and describe natural phenomena and formulate hypotheses.
2. Plan and implement scientific experiments to test hypothesis.
3. Utilize scientific laboratory skills for data collection within a college laboratory setting.
4. Evaluate experimental data and propose solutions based on this data.
5. Evaluate the proposed implications of a solution.
Course Outcomes
In order to evidence success in this course, the students will be able to:

1. Observe some natural phenomenon and be able to formulate a hypotheses.
   Applies to General Education Objective
   Observe and describe natural phenomena and formulate hypotheses.

2. Be able to determine the needed equipment to collect appropriate data.
   Applies to General Education Objective
   Plan and implement scientific experiments to test hypothesis.

3. Set up the experimental equipment to be utilized for data collection.
   Applies to General Education Objective
   Utilize scientific laboratory skills for data collection within a college laboratory setting.

4. Collect the data either by hand or computer and record it properly in table format, if appropriate.

5. Apply the proper statistical analysis to the previously collected data.
   Applies to General Education Objective
   Evaluate experimental data and propose solutions based on this data.

6. Draw conclusions about your data.

7. Determine if your conclusions support your hypothesis.
   Applies to General Education Objective
   Evaluate the proposed implications of a solution.