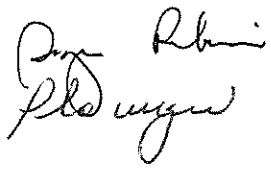


Maui Community College
Course Outline

1. Course Title *Physics 105* *PHYS 105*
Principles of Technology
- Number of credits 4
- Abbreviated Course Title Principles of Technology
- Date of Outline October 17, 2002
- Course Description Presents fundamental theories and problem solving methods as they relate to technology and engineering. Introduces experimental methods. Applies modern technology to experimental science.
2. Credits/ Contact Hours 4cr.,3hr.lect./3hr.lab
3. Prerequisites MATH 25 with a least a C or placement at
MATH 27 or 107 or consent
- Corequisites
- Recommended Preparation

Approved by 

Date 1/03/03

4. General Course Objectives

Provides students with the history, philosophy, and culture of physics in particular and science in general. Will solve problems using the application of physics principles. Students will carry out experimental science, gather data, analyze data, and draw conclusions.

6. Specific Course Competencies

At the completion of the course students will be able to:
 graph and solve force and equilibrium vector problems,
 graph and solve power equations of motion,
 solve word problems in conservation of energy,
 solve word problems in heat transfer,
 explain electromagnetism,
 solve word problems in electromagnetism,
 explain the function of and construct optics,
 explain the wave and particle nature of light, and
 explain spectrum analysis and how it relates to properties of matter.

7. Recommended Course Content and Approximate Time Spent

1 week	Laboratory procedures, lab books, and lab reports
1-2 weeks	Mechanics
1-2 weeks	Energy
1-2 weeks	Matter
1-2 weeks	Heat
1-2 weeks	Waves and sound
1-2 weeks	Electromagnetism
1-2 weeks	Light and optics
1-2 weeks	Modern physics and atomic spectra
1 week	Review and final

8. Recommended Course Requirements

Specific course requirements are at the discretion of the instructor at the time the course is being offered. Suggested requirements might include, but are not limited to:

Written or oral examinations

Practical examinations

Lab experiments and reports

In-class exercises

Homework assignments

Quizzes

Projects or research (written reports and/or oral class presentations)

Attendance and/or class participation

9. Text and Materials

An appropriate text(s) and materials will be chosen at the time the course is to be offered from those currently available in the field. A representative example is:

Text:

Dale Ewen and Neill Schurter, Physics for Career Education,
Prentice Hall

Materials:

Text(s) may be supplemented with:

Accompanying practice exercises if available
Articles, handouts and/or exercises prepared by the instructor
Magazine or newspaper articles
On-line materials

Other:

Appropriate films, videos or internet sites
Television programs
Guest speakers
Scientific Calculator

10. Evaluation and Grading

Examinations (written and/or oral)	40-60%
In-class exercises	0-30%
Homework	20-30%
Quizzes	0-30%
Projects/research	0-40%
Attendance and/or class participation	0-20%

11. Methods of Instruction

Instructional methods vary considerably with instructors and specific instructional methods will be at the discretion of the instructor teaching the course. Suggested techniques might include, but are not limited to:

Lecture, problem solving, and class exercises or readings
Class discussions or guest lectures
Audio, visual or presentations involving the internet
Visual step-by-step instruction with students following along
Student class presentations
Group or individual projects
Service learning

