El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Physics**
COURSE RUBRIC AND NUMBER	**PHYS 2325**
COURSE TITLE	**Engineering Physics I**
COURSE CREDIT HOURS	**3 3 0**
	Credits Lec Lab

I. Catalog Description

Studies the fundamental principles of physics, using calculus, for science, computer science, and engineering majors; the principles and applications of classical mechanics, including harmonic motion, physical systems and thermodynamics; and emphasis on problem solving. **Prerequisite: MATH 2413. Corequisite: PHYS 2125. (3:0).**

II. Course Objectives

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

A. Correctly solve problems dealing with motion in one, two, and three dimensions, including linear and angular motion.
B. State Newton's three principles of motion and correctly solve problems involving application of these principles.
C. Correctly solve problems involving work energy, and power in one, two, and three dimensions.
D. State the conservation of energy principle and correctly solve problems involving the applications of this principle.
E. Define conservative forces and apply this definition to various situations to solve problems.
F. Find the center of mass of a system of many particles and solve problems about this system.
G. Solve problems concerning collisions as the problems relate to energy, momentum, relative velocities, and coefficient of resistivity.
H. Solve problems concerning rotating objects dealing with angular displacement, velocity, acceleration, energy, inertia, torque, and momentum.
I. Correctly solve problems dealing with oscillatory motion, including simple harmonic motions, damped motion, and forced motion.
J. Define temperature, heat and work as it relates to thermodynamics, and solve problems about these concepts.
K. State the Zeroth, First and Second laws of thermodynamics, and solve problems about these concepts.

III. THECB Learning Outcomes (ACGM)

Upon successful completion of this course, students will:

1. Determine the components of linear motion (displacement, velocity, and acceleration), and especially motion under conditions of constant acceleration.
2. Solve problems involving forces and work.
3. Apply Newton's laws to physical problems.
4. Identify the different types of energy.
5. Solve problems using principles of conservation of energy.
6. Define the principles of impulse, momentum, and collisions.
7. Use principles of impulse and momentum to solve problems.

8. Determine the location of the center of mass and center of rotation for rigid bodies in Motion.
9. Discuss rotational kinematics and dynamics and the relationship between linear and rotational motion.
10. Solve problems involving rotational and linear motion.
11. Define equilibrium, including the different types of equilibrium.
12. Discuss simple harmonic motion and its application to real-world problems.
13. Solve problems involving the First and Second Laws of Thermodynamics.

IV. Evaluation

A. Preassessment

There is no preassessment for this course.

B. Postassessment

The scheduling of examinations, homework, and quizzes will be the sole prerogative of the instructor. The manner, frequency, and extent of these instruments will be indicated to the student in the course syllabus that is distributed at the beginning of the semester. The philosophy of the college endorses frequent evaluation.

C. Remediation

The instructor may provide a student with a means of improving a grade. The timing, form, and method of remediation will be determined by the instructor and included in the course syllabus.

D. Grading

All grading will follow current EPCC Catalog standards. The assignment of letter grades to percent scores obtained in various class activities will be determined by the instructor and included in the course syllabus.

V. Disability Statement (American with/Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.