El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Physics**
COURSE RUBRIC AND NUMBER	**PHYS 1301**
COURSE TITLE	**College Physics I (Lecture) (C) (MNS)**
COURSE CREDIT HOURS	**3 (Credits) 3 (Lec) : 0 (Lab)**

I. Catalog Description

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; with emphasis on problem solving. May be counted as science credit for non-science and Health Career majors. **Prerequisites: MATH 1314 or by placement exam and Placement at College Level Reading or Writing by TSIA or equivalent; OR completion with a "C" or better or concurrent enrollment in the following: INRW 0311 or INRW 0312 or ESOL 0340. Corequisite: PHYS 1101. (3:0).**

II. Course Objectives

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

A. Define and solve problems dealing with terms about motion, such as:
   1. Displacement
   2. Speed and velocity
   3. Acceleration

B. State Newton's Laws and solve problems about them.
C. Define work, energy, momentum and power and solve problems about them.
D. State the conservation of energy principle and solve problems about them.
E. Discuss the different kinds of collisions and solve problems about it.
F. Define terms dealing with rotational motion and solve problems about them.
G. State the Laws of Thermodynamics and solve problems about them.
H. Solve problems about fluids and fluid dynamics.
I. Solve problems about Waves and Sound.
J. **Critical thinking skills:** students will engage in creative thinking, innovation, inquiry, and analysis, evaluations, and synthesis of information.
K. **Communication skills**: students will demonstrate effective written, oral, and/or visual communication.
L. **Teamwork skills:** students will demonstrate the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
M. **Empirical and quantitative skills:** students will demonstrate the ability to formulate an inquiry and then identify and follow an investigative process using empirical and/or qualitative/quantitative reasoning to satisfy the inquiry.

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. Apply Newton's laws to physical problems including gravity.
3. Solve problems using principles of energy.
4. Use principles of impulse and linear momentum to solve problems.
5. Solve problems in rotational kinematics and dynamics, including the determination of the location of the center of mass and center of rotation for rigid bodies in motion.
6. Solve problems involving rotational and linear motion.
7. Describe the components of a wave and relate those components to mechanical vibrations, sound, and decibel level.
8. Demonstrate an understanding of equilibrium, including the different types of equilibrium.
9. Discuss simple harmonic motion and its application to quantitative problems or qualitative questions.
10. Solve problems using the principles of heat and thermodynamics.
11. Solve basic fluid mechanics problems.

IV. Evaluation

A. Pre-assessment

There is no pre-assessment for this course.

B. Post-assessment

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 (Americans 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.

VII. Title IX and Sex Discrimination

Title 9 (20 U.S.C. 1681 & 34 C.F.R. Part 106) states the following "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance." The Violence Against Women Act (VAWA) prohibits stalking, date violence, sexual violence, and domestic violence for all students, employees and visitors (male and female). If you have any concerns related to discrimination, harassment, or assault (of any type) you can contact the Assistant to the Vice President for Student and Enrollment Services at 915-831-2655. Employees can call the Manager of Employee Relations at 915-831-6458. Reports of sexual assault/violence may also be reported to EPCC Police at 915-831-2200.