El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Physics**
COURSE RUBRIC AND NUMBER	**PHYS 1302**
COURSE TITLE	**College Physics II (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 electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving. May be counted as science credit for non-science and Health Career majors. **Prerequisite: PHYS 1301 and 1101. Corequisite: PHYS 1102. (3:0).**

II. Course Objectives

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

A. Define and solve problems about various concepts in electricity, such as:

1. Static electricity
2. Current electricity
3. Ohm's law
4. Series circuits
5. Parallel circuits
6. Combination circuits
7. Electrical power

B. Define and solve problems about concepts in magnetism, such as:

1. Magnetism
2. Electromagnetic interactions
3. Electromagnetic radiation
4. Electromagnetic spectrum

C. Discuss how light is emitted from the atomic point of view.

D. Show how light is composed of various colors in terms of frequency and wavelength.

E. Solve problems in optics, including:

1. Reflection
2. Refraction
3. Interference

4. Diffraction

F. **Critical thinking skills:** students will engage in creative thinking, innovation, inquiry, and analysis, evaluations, and synthesis of information.

G. **Communication skills**: students will demonstrate effective written, oral, and/or visual communication.

H. **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.

I. **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. Solve problems involving the inter-relationship of fundamental charged particles, and electrical forces, fields, and currents.
2. Apply Kirchhoff's Rules to analysis of circuits with potential sources, capacitance, inductance, and resistance, including parallel and series capacitance and resistance.
3. Solve problems in the electrostatic interaction of point charges through the application of Coulomb's Law.
4. Solve problems involving the effects of magnetic fields on moving charges or currents, and the relationship of magnetic fields to the currents that produce them.
5. Use Faraday's and Lenz's laws to determine electromotive forces and solve problems involving electromagnetic induction.
6. Articulate the principles of reflection, refraction, diffraction, interference, and superposition of waves.
7. Describe the characteristics of light and the electromagnetic spectrum.

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.