

El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	<u>Electrical Technology</u>
COURSE RUBRIC AND NUMBER	<u>ELPT 1320</u>
COURSE TITLE	<u>Fundamentals of Electricity II</u>
COURSE CREDIT HOURS	<u>3 2 :</u> Credits Lec Lab

I. Catalog Description

Introduces alternating current (AC). Includes topics on AC voltage, frequency, mechanical and electrical degrees, waveforms, resistors, capacitors, and inductors. Studies Ohm’s Law, electrical symbols, ladder diagrams, and relay. **(2:2). Lab fee.**

II. Course Objectives

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

- A. Navigate the National Electrical Code (NEC).
- B. Identify National Electrical Manufacturers Association (NEMA).
- C. Perform box fill calculations.
- D. Size junction boxes and auxiliary gutters.
- E. Size Conductors using NEC Tables.
- F. Size Overcurrent protection.
- G. Design an electrical diagram using standard symbols.
- H. Demonstrate the correct use of an electrical multimeter and associated equipment.
- I. Perform electrical installations.
- J. Install cabling systems.
- K. Perform conduit bending using basic math skills.
- L. Utilize measuring tape and apply basic math skills.
- M. Describe AC voltage.
- N. Compare electrical equipment for equivalence.
- O. Identify new green technologies for energy savings.

III. THECB Learning Outcomes (WECM)

- 1. Explain AC power waveform generation; define capacitance and inductance.
- 2. Determine the values of AC voltage, current, and impedance for circuits containing resistors, capacitors, and inductors.
- 3. Explain and calculate power factor in circuits.
- 4. Utilize electrical measuring instruments.

IV. Evaluation

The knowledge and skills stated in the objectives must be demonstrated by the students in the form of test and lab assignments in order to complete the course.

Grade Scale:

90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

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.