

El Paso Community College

Syllabus

Part II

Official Course Description

SUBJECT AREA	<u>Advanced Technology Industrial Manufacturing</u>
COURSE RUBRIC AND NUMBER	<u>RBTC 1401</u>
COURSE TITLE	<u>Programmable Logic Controllers</u>
COURSE CREDIT HOURS	<u>4 3 : 3</u> Credits Lec Lab

I. Catalog Description

Studies programmable logic controllers (PLC). Includes topics on processor units, numbering systems, memory organization, relay type devices, timers, counters, data manipulators, and programming. Emphasizes ladder logic, system design and multiple process integration. **(3:3). Lab fee.**

II. Course Objectives

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

- A. Analyze ladder logic
- B. Distinguish types of PLC's
- C. Explain the binary number system.
- D. Explain how to download and upload programs
- E. Display the correct way to edit and modify existing programs.
- F. Debug programs
- G. Design a simple start-stop circuit using PLC symbols.
- H. Install inputs and outputs in a PLC and check out the system.
- I. Create a PLC system to take the place of a relay logic system.
- J. Design a system to operate a motor forward-reverse control.

III. THECB Learning Outcomes (WECM)

- 1. Write a working PLC program using ladder logic.
- 2. Install and troubleshoot the program.
- 3. Integrate PLCs into electro-mechanical systems.

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.

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.