

El Paso Community College

Syllabus

Part II

Official Course Description

SUBJECT AREA	<u>Advanced Technology Industrial Manufacturing</u>
COURSE RUBRIC AND NUMBER	<u>RBTC 1305</u>
COURSE TITLE	<u>Robotic Fundamentals</u>
COURSE CREDIT HOURS	<u>3 2 : 2</u> Credits Lec Lab

I. **Catalog Description**

Studies an introduction to flexible automation. Includes topics on installation, repair, maintenance, and development of flexible robotic manufacturing systems. **Prerequisites: RBTC 1401 or CETT 1407. (2:2). Lab fee.**

II. **Course Objectives**

- A. Identify types of automation
- B. Discuss the impact of flexible automation on production and labor.
- C. Identify opportunities for automation
- D. Describe general characteristics of flexible robotic manufacturing systems.
- E. Use different teaching pendants.
- F. Describe different control systems.
- G. Develop different applications of robots.
- H. Calibrate automated equipment
- I. Test automated equipment
- J. Manipulate automated equipment
- K. Update automated equipment
- L. Fabricate parts of automated equipment
- M. Maintain automated equipment

III. **THECB Learning Outcomes (WECM)**

- 1. Describe the history of robotics and its impact on production and the labor force.
- 2. Define the term "robot" and describe general characteristics.
- 3. Explain the physics of robot motion and use different teaching pendants.
- 4. Describe the characteristics of different types of robot control systems, applications of robots, and end-of-arm tooling.

IV. **Evaluation**

The knowledge and skills stated in the objective must be demonstrated by the students in the form of tests and assignments in order to complete the course. Tests (50%) and lab assignments (50%) will be averaged, and latter grades will be assigned as follows:

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

Students will be able to compute their grade average any time during the course. Missed assignments and make-up test will be given at the discretion of the instructor.

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.