SYLLABUS
PART I
EDISON COMMUNITY COLLEGE
ELT 233S SERVO SYSTEMS AND ROBOTICS
3 CREDIT HOURS

COURSE DESCRIPTION

Examines the use of servo motor systems and robot systems in manufacturing automation. Criteria are developed for determining when automation is warranted. Students program and troubleshoot modern industrial robots and servo motor controllers to perform tasks such as pick and place, and welding applications. Lab fee.

COURSE GOALS

The student will:

Bloom's Level			Program Outcomes
1	1.	Describe the history of robots and the current state of robot technology.	3
4	2.	Examine the ethics of using automation to replace human workers.	7
4	3.	Explain the basic components of a robot system.	1
2	4.	Compare the types of robots and motions they can achieve.	2
1	5.	Select the proper end effector for each task.	2
3	6.	Demonstrate proper wiring of sensors to a robot system.	3
1	7.	Identify the five functions of machine vision.	3
2	8.	Compare computer numerical controllers, programmable logic controllers, and robot controllers.	1
3	9.	Develop programs for an industrial robot and a servo system to perform an industrial task.	4, 8
5	10.	Evaluate a robot work cell for safety.	7
2	11.	Maintain robot and servo systems.	5

CORE VALUES

The Core Values are a set of principles that guide in creating educational programs and environments at Edison. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives, and activities in this course will introduce/reinforce these Core Values whenever appropriate.

TOPIC OUTLINE
1. Introduction to robots
2. Robot technology
3. Robot classification
4. Robot system analysis
5. Robot end effectors
6. Sensors
7. Vision systems
8. Control systems
9. Programming
10. Safety

11. Industrial applications