SYLLABUS
PART I
EDISON COMMUNITY COLLEGE
ELT 121S ELECTRONIC DEVICES
3 CREDIT HOURS

COURSE DESCRIPTION
Introduction to semiconductor diodes, other two terminal devices, thyristors, transistors and field effect transistors. Course includes design and analysis of transistor and FET DC bias circuitry. Operational characteristics and applications of FET and diode switching circuitry are studied. Students examine rectifier circuits, amplifier circuits and zener voltage regulation. Emphasis is on component testing, troubleshooting and application of laboratory test equipment. Prerequisite: ELT 110S. Co-requisite: MTH 115S or MTH 123S. Lab fee.

COURSE GOALS
The student will:

Bloom's Level		Program Outcomes
2	1. Describe the operating characteristics of various diodes, thyristors, transistors and FETs.	1
5	2. Design and analyze a voltage regulator circuit using zener diodes.	2
4	3. Analyze various diode clipper and clamper circuits and their applications.	1
3	4. Apply laboratory equipment to the evaluation and testing of semiconductor devices.	5,4
4	5. Analyze the operation and characteristics of various transistor biasing circuits.	1
5	6. Design transistor switching and amplifier circuitry to satisfy specific operating requirements.	2
3	7. Simulate transistor circuits using circuit analysis software.	3

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 diodes
2. Rectifier, clipper and clamper circuits
3. Zener and specialized diodes
4. Bipolar transistor switching and amplifier circuits
5. Transistor DC biasing circuits
6. JFET biasing, amplifier and switching circuits
7. MOSFET biasing, amplifier and switching circuits
8. SCR, triac and other thyristor circuits