ELEC 71A Course Outline as of Fall 1997

CATALOG INFORMATION

Dept and Nbr: ELEC 71A Title: ELECTRONIC DEVICES 1
Full Title: Electronic Devices 1
Last Reviewed: 9/29/2008

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	17.5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00 Total Student Learning Hours: 157.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	

Catalog Description:
Linear electronic circuits. Electronic devices are studied for rectification, amplification, and oscillating circuits.

Prerequisites/Corequisites:
Completion of ELEC 70B and ELEC 70BL. Not open to students who have completed ELEC 61.

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Linear electronic circuits. Electronic devices are studied for rectification, amplification & oscillating circuits. (Grade Only)
Prerequisites/Corequisites: Completion of ELEC 70B and ELEC 70BL. Not open to students who have completed ELEC 61.
Recommended:
Limits on Enrollment:

Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**			Effective:	Inactive:
CSU GE:	**Transfer Area**			Effective:	Inactive:
IGETC:	**Transfer Area**			Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:	Spring 2010
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
The student should be able to:
1. state the characteristics of and identify a PN junction.
2. classify the common power supply diode circuits.
3. compare the characteristics of power supply filter types.
4. compute power supply performance in terms of percent of ripple and regulation.
5. calculate component values necessary to construct a common emmitter, common base, and common collector amplifier.
6. calculate amplifier performance in terms of gain, phase and bandwidth, and compare to actual measured values.

Topics and Scope:

1. Semiconductor physics "PN" junction forward and reverse-bias.
2. Diode circuits, power supply circuits: Full wave, half wave, and bridge.
3. Filter circuits, capacitor and choke input.
4. Bi-polar supplies, voltage doubler, percent of ripple and regulation.
5. BJT structure, characteristics curves; alpha and beta.
6. Biasing, DC load line, amplification, thermal stability.
7. Common emitter, common base, common collector design and characteristics.

Assignment:

1. Textbook readings.
2. Textbook homework problems.
3. Handout homework problems.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Quizzes, Exams	Problem solving 20 - 30%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None	Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion	Exams 40 - 60%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials: