

FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: EET 2147

COURSE TITLE: Solid State Circuit Analysis

PREREQUISITE(S): EET 1037 and EET 1144

COREQUISITE(S): None

CREDIT HOURS: 3

CONTACT HOURS/WEEK: 4

CONTACT HOUR BREAKDOWN:

 Lecture/Discussion: 3

 Laboratory: 1

 Other _____:

FACULTY WORKLOAD POINTS: 3.67

STANDARDIZED CLASS SIZE
ALLOCATION: 20

CATALOG COURSE DESCRIPTION:

Mathematical and functional analysis of the solid-state circuits encountered in present day electronic equipment is the main concern of this course. It also considers some design concepts including a section on printed circuit board design.

SUGGESTED TEXT(S): Floyd, Electronic Devices, Latest Edition

IMPLEMENTATION DATE: Fall Term, 1990 (911)

REVIEW OR MODIFICATION DATE: Fall Term, 2002 (20031)

COURSE TOPICS	<u>CONTACT HOURS PER TOPIC</u>
I. Power Supply Analysis	3
A. Rectifiers	
B. Filters	
C. Regulators	
II. Bipolar Transistor Circuit Analysis	6
A. Biasing Circuits	
B. Small Signal Amplifiers	
C. Power Amplifiers	
D. Switching Circuits	
E. H Parameters	
III. Field-Effect Transistor Circuit Analysis	6
A. Biasing Circuits	
B. JFET Amplifiers	
C. JFET Switches	
D. MOSFET Amplifiers	
E. MOSFET Switches	
IV. Frequency Effect Analysis	6
A. Lead/Lag Networks	
B. Critical Frequencies	
C. Miller's Theorem	
D. Decibels	
E. Low Frequency Amplifier Analysis	
F. High Frequency Amplifier Analysis	
V. Operational Amplifier Circuit Analysis	6
A. Amplifiers	
B. Comparators	
C. Arithmetic Circuits	
D. Active Filters	
E. Oscillators	
F. Timers	
VI. Thyristor Circuit Analysis	6
A. Silicon-Controlled Rectifier Circuits	
B. Triac Circuits	
C. Unijunction Transistor Circuits	

COURSE TOPICS (CONTINUED)	CONTACT HOURS <u>PER TOPIC</u>
VII. Board Design	4
A. Theoretical Concepts B. Practical Considerations C. Circuit Layout D. Fabrication	
VIII. Tests and Reviews	8
IX. Laboratory Exercises	15

PROGRAM TITLE: Industrial Management Technology

COURSE TITLE: Solid State Circuit Analysis

CIP NUMBER: 0606.200101

LIST PERFORMANCE STANDARD ADDRESSED:

NUMBER(S): TITLES(S):

11.0 DEMONSTRATE APPROPRIATE UNDERSTANDING OF BASIC SCIENCE--The student will be able to:

- 11.01 Understand molecular action as a result of temperature extremes, chemical reaction, and moisture content.
- 11.02 Draw conclusions or make inferences from data.
- 11.03 Identify health related problems which may result from exposure to work related chemicals and hazardous materials, and know the proper precautions required for handling such materials.
- 11.04 Understand pressure measurement in terms of P.S.I., inches of mercury, and K.P.A.

18.0 DEMONSTRATE AN UNDERSTANDING OF TECHNICAL OR INDUSTRIAL COMPETENCIES--The student will be able to:

- 18.01 Demonstrate an understanding of technical or industrial competencies as specified in the curriculum frameworks of any postsecondary adult or postsecondary vocational program.