Course Information

Description

This course develops the fundamental principles of electric circuit analysis. Emphasis is placed on analysis of linear systems including voltage and current sources, resistors, capacitors and inductors.

Material

	Item	Vendor	Price (new)	Price (used)
	**Electric Circuits (9th Edition)** *Required* by James W. Nilsson Prentice Hall91263366000 ISBN: 0136114997	Amazon	$166.95	$149.00
	**Electric Circuits (9th Edition)** *Required* by Nilsson, James W. Prentice Hall;Edition 9 ISBN: 9780136114994	BYU Bookstore	$212.00	$159.00

Prerequisite

Math 113 and Physics 220

Learning Outcomes

AC

Application of complex variables to AC steady state circuit analysis.

DC

Application of algebra, linear algebra, and circuit equivalencies to DC circuit analysis.

RC, RL, & RLC

Application of differential equations to transient analysis of RC, RL, and RLC circuits.

Mathematics

Application of algebra, linear algebra, and circuit equivalencies to AC circuit analysis.

Create

Ability to design, analyze, and demonstrate a working integrated stereo audio amplifier system.

Problem Solving

Ability to use oscilloscopes, function generators, and DC power supplies in an applied design/debug environment.

AC Analysis

Application of complex variables to AC steady state circuit analysis.

DC Analysis

Application of algebra, linear algebra, and circuit equivalencies to DC circuit analysis.

Transient Analysis

Application of differential equations to transient analysis of RC, RL, and RLC circuits.

System Design

Ability to design, analyze, and demonstrate a working integrated stereo audio amplifier system.

Test and Debug

Ability to use oscilloscopes, function generators, and DC power supplies in an applied design/debug environment.

System Analysis

Ability to analyze circuits in the s-domain and use transfer functions to describe systems.

Grading Policy

- **HOMEWORK:** Homework assignments and due dates are posted on the Learning Suite assignments page and are due in the HW box by 4:50, usually on Friday. No late homework will be accepted without prior arrangement before the due date.

- **ATTENDANCE AND QUIZZES:** Attendance to lectures is very important to success in this course. Daily quizzes will be given to reinforce the current class material, to prepare for exams and to give credit for attendance. The quizzes are designed to motivate students to read and try to assimilate the material before coming to class. Quiz scores will count for

10% of your grade.

- **FOUR YEAR PLAN:** As part of this class, you create a 4-year program that leads to graduation. Your plan must be approved by Janalyn or your registration will be blocked.

- **EXAMS:** Three midterm exams and will be given. The midterm exams will be administered in the testing center on the days indicated in the course schedule. Re-take midterm exams will be offered about a week and a half after each midterm. If a student elects to take a retake exam, his or her midterm exam score will be replaced by the retake exam score times 0.85.

- **FINAL EXAM:** The final exam will be given in class at our assigned time. (See schedule.)

- **GRADING:** Your score is computed with the method below that maximizes your score.

Method	Laboratory	Homework	Quizzes	3 Midterms	Final
#1	20%	15%	10%	39%	16%
#2	20%	0%	10%	50%	20%