

ECE 332 – ELECTRONICS II

Type (check one): Required: X Elective:

2005-2006 Catalog Data: ECE 332. Electronics II (Formerly EE 332) Analysis and design of single and multi-stage transistor circuits. Applications of the operational amplifiers and other integrated circuits. Introduction to feedback amplifiers, digital electronics, and small analog-digital systems. Introduction to power devices and circuits. Prerequisites: ECE 222, 331. Offered in the Spring semester. *One semester; three credits.*

Prerequisites: ECE 222, ECE 331

Co-Requisites: None

Textbook: Textbook for ECE 331 and *Digital Systems*, Tocci, Widmer, and Moss, Prentice Hall, 2004.

Other Required Materials: Familiarity with PSPICE

Other References: Manufacturers' literature, instructor's notes

Instructor: Robert L. Drake, Ph.D., P.E.

Course Objectives: Analysis and design of analog, digital, and analog/digital electronic circuits.

Prerequisites by Topics: Electric circuit analysis and a first course in analog electronic circuit analysis and design.

Topics: Transistor amplifiers, frequency response, applications of integrated circuits, gates, flip flops, timers, counters, registers, and analog-digital systems. Introduction to power electronics.

Class Schedule: Three 50-minute sessions per week

Prepared by: Robert L. Drake, Ph.D., P.E. **Date:** October 2005

**Professional Component:
ECE 332 – ELECTRONICS II**

Category (check one)	<input type="checkbox"/> Math/Basic Science <input checked="" type="checkbox"/> Engineering <input type="checkbox"/> General Education <input type="checkbox"/> Other
Design (check one)	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Some <input type="checkbox"/> None
Realistic Constraints (check all that apply)	<input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input type="checkbox"/> Sustainability <input type="checkbox"/> Manufacturability <input type="checkbox"/> Ethical <input type="checkbox"/> Health & Safety <input type="checkbox"/> Social <input type="checkbox"/> Political

Relationship to Program Outcomes:

Check all that apply:

- (a) an ability to apply knowledge of mathematics, science, and engineering
- (b) an ability to design and conduct experiments, as well as to analyze and interpret data
- (c) an ability to design a system, component, or process to meet desired needs
- (d) an ability to function on multi-disciplinary teams
- (e) an ability to identify, formulate, and solve engineering problems
- (f) an understanding of professional and ethical responsibility
- (g) an ability to communicate effectively
- (h) the broad education necessary to understand the impact of engineering solutions in a global and societal context
- (i) a recognition of the need for and an ability to engage in life-long learning
- (j) a knowledge of contemporary issues
- (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice