ELEG 3933 CIRCUITS AND ELECTRONICS

Catalog Data: ELEG 3933 Circuits and Electronics. Basic principles of electric and electronic circuits and devices. Pre or corequisite: MATH 3404; Prerequisite: PHYS 2074.

Textbook: Foundations of Electrical Engineering, J.R. Cogdell, 1999.

Coordinator: T.W. Martin, Professor of Electrical Engineering

Goals: This course is intended to provide engineering students other than those in electrical engineering with the basic principles electrical circuits and electronics.

Prerequisites by Topic:

1. Differential and integral calculus.
2. Physics II

Topics:

1. Basic Elements and Laws (6 classes)*
2. Resistive Circuits and Circuit Analysis Principles (3 classes)
3. Reactive Circuits (3 classes)
4. Diodes, Power Supplies, and PN Junctions (4 classes)
5. Bipolar Transistors and Transistor Circuits (12 classes)
6. MOS Transistors and CMOS gate circuits (9 classes)
7. Frequency Domain Concepts – Fourier Series, Bandwidth (6 classes)
8. Operational Amplifiers and Circuits (2 classes)

* Classes are 50 minutes in length.

Laboratory Projects:

None

Estimated Content:

Engineering Science: 2 credits
Engineering Design: 1 credit