

ECE 3301: General Electrical Engineering

Credit / Contact hours: 3 / 3

Course coordinator: Mary Baker

Textbook(s) and/or other required material: Hambley, Allan R., Electrical Engineering – Principles and Applications, fourth edition, Prentice Hall, 2007.

Catalog description: Analysis of electric circuits. Introduction to electronic instrumentation and electromechanics. For non-majors only.

Pre-requisite(s) or co-requisites: MATH 1352 Designation: Non-major course

Course learning outcomes: Upon completion of this course, students should be able to do the following:

1. Analyze linear electric circuits to determine DC response.
2. Analyze linear electric circuits to determine AC response.
3. Analyze linear electric circuits to determine basic transient response.
4. Demonstrate basic knowledge of digital logic circuits.
5. Demonstrate basic knowledge of electronic instrumentation.
6. Demonstrate basic knowledge of electric machines.

ABET Student outcomes addressed: a, e, and k (This course is not taken by EE and CMPE students).

Topics covered:

Electric-circuit fundamentals – 3 hours

Resistive networks, DC analysis – 8 hours

Capacitance and inductance – 3 hours

AC analysis – 8 hours

Transient analysis – 3 hours

Transformers – 1 hour

Operational amplifiers – 3 hours

Digital logic circuits – 3 hours

Topics in electronic instrumentation – 3 hours

Introduction to electric machines – 3 hours

Tests and reviews – 4 hour