

ELEC2420 Basic Electronics

Course Description

Basic electronic concepts and components; DC, AC and transient analyses of analog electronic circuits; operational amplifiers and circuits; digital electronics includes binary number systems, Boolean algebra, and combinational and sequential logic. For non-ECE students only.

Exclusion(s): ELEC 2400, ELEC 2410 (prior to 2016-17). *Prerequisite(s):* MATH 1014 OR MATH 1020 OR MATH 1024. *Corequisite(s):* PHYS 1111 OR PHYS 1112 OR PHYS 1312.

List of Topics

- Chapter 1 Fundamentals
- Chapter 2 Resistive Networks and DC Analysis
- Chapter 3 Op Amps and Circuits
- Chapter 4 Reactive Elements and Transient Analysis
- Chapter 5 Binary Number Arithmetic
- Chapter 6 Boolean Algebra and Combinational Logic
- Chapter 7 Sequential Logic

Statement of Objectives/Outcomes:

On successful completion of this course, students will be able to:

- ILO1: recognize basic concepts of electronic components and circuits;
- ILO2: analyze DC, AC and transient behaviors of electronic circuits;
- ILO3: recognize basic logic functions and logic gates;
- ILO4: analyze and design combinational and sequential logic circuits;
- ILO5: employ electronic instrument to perform experiments.

Textbook(s):

D. V. Kerns Jr. and J. D. Irwin, *Essentials of Electrical and Computer Engineering*, Pearson, 2004/2014

Relationship of Course to Program Outcomes:

Please refer to the Report Section 4.3.2 (iii).

Grading Scheme:

Lab Reports	15%
Homework	10%
Mid-term	20%
Final Examination	55%