



# Introduction to Electronics

## ECE 3020

**Credit Hours:**

3.00

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**Course Levels:**

Undergraduate (1000-5000 level)

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**Course Components:**

Lecture

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**Course Description:**

Electronics: diode and transistor models for amplifiers, switches, and logic gates. Multiple transistor circuit analysis, op amps, and electronic systems.

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**Prerequisites and Co-requisites:**

Prereq: 2100 or 2020; or 2021 or 2106, and 2027 prereq or concur; and ECE or EngPhys major, or 2110 prereq or concur and permission of department.

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**Course Goals / Objectives:**

- Learn a detailed view of Electronic Systems and are given a design problem requiring use of analysis methods on individual devices
  - Learn to use a circuit simulator and to create electrical circuit schematics
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**Course Topics:**

- Electronics overview, design and project methods
  - Diodes
  - MOS and bipolar transistors
  - Analog integrated circuits, differential pairs, and feedback
  - Digital electronics
  - Op amps, op amp filters, and tuned amplifiers
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**Designation:**

Required

Elective