

# ELECTRICAL & COMPUTER ENGINEERING

Today's technology-driven world of ubiquitous smart phones, tablet PCs, automated controls, reliable power, and internet connectivity is made possible by electrical and computer engineers. These engineers are primarily concerned with the generation, transmission, control, and distribution of electric energy, signals, and information, allowing them to work in a variety of industries and environments.

## What Do Electrical and Computer Engineers Do?

Electrical engineering and computer engineering are broad fields, that include electronics, computing, wireless communications, signal processing, power, and controls. And even these fields are broad. For instance, the area of power includes power generation, distribution, system control, electronics, and more. These engineers may design power systems in Baton Rouge, work on flight control systems in San Diego, help maintain an oil rig in the Gulf of Mexico, or work in a cubicle at Microsoft in Washington. Furthermore, the demand for internet security, more powerful computing, improved medical devices, and a secure, reliable power grid will mean that the need for electrical and computer engineering graduates will continue to grow.

The department offers courses in the major areas of communications, computers, control systems, physical electronics, and power systems.

**Electrical Engineers**—Focused on sensor circuitry, image processing, hardware design, power, sending updates to applications, signals, data processing, and wireless communication.

**Computer Engineers**—Focused on hardware and software for computer systems. Applications range from embedded systems in a microwave oven to networks of high-performance computers.

### PROGRAM FACTS

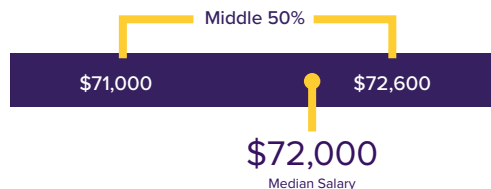
- 318 Electrical Engineering
- 231 Computer Engineering

**Common Minors:** Robotics, Computer Science (Computer Engineering students only require one additional class for the CS Minor), Mathematics, and Digital Media Arts and Engineering

**Student Organization:** IEEE Institute for Electrical and Electronics Engineering

### GRADUATE STARTING SALARIES

Median full-time in field salary info for graduates of the last three years



**Undergraduate Advisor:**  
**Suresh Rai, Professor**  
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### COMMON JOB TITLES

- Power Engineer
- Software Engineer
- Project Engineer
- Information Security Engineer
- Control Systems Engineer
- Communications Engineer
- Electronics Engineer
- Sound Engineer

# Electrical Engineering CURRICULUM OVERVIEW

YEAR 1	YEAR 2	YEAR 3	YEAR 4
Intro to Electrical and Computer Engineering	Circuits I	Signals and Systems	Senior Design I
Digital Logic I	Circuits II	Probability for Electrical and Computer Engineering	Senior Design II
Intro to Computer Science I	Tools in Electrical and Computer Engineering	Electrical and Magnetic Fields	EE Design Elective
Physics I: Particle Mechanics	Digital Logic II	Electronics II (Breadth Elective)	EE Design Elective
Intro Physics Lab	Electronics I	Power (Breadth Elective)	EE Design Elective
General Chemistry	Electronics Lab	Controls (Breadth Elective)	Tech Elective
Calculus I	Physics III: Fields: Gravity, Electricity, and Magnetism	Microprocessors (Breadth Elective)	Tech Elective
Calculus II	Math Methods in ENGR	Communications in Computing (Breadth Elective)	Tech Elective
General Ed: English Comp I	Calculus III	Digital Signal Processing (Breadth Elective)	General Ed: Social Sciences
General Ed: Life Sciences	General Ed: English Comp II	Professional Ethics	General Ed: Humanities
General Ed: Arts	General Ed: Humanities	General Ed: Social Sciences	

## LEGEND

- Major-specific Engineering
- Other Engineering
- Science
- Math
- General Education

# Computer Engineering CURRICULUM OVERVIEW

YEAR 1	YEAR 2	YEAR 3	YEAR 4
Intro to Electrical and Computer Engineering	Circuits I	Communications in Computing	Senior Design I
Digital Logic I	Circuits II	Microprocessor Systems	Senior Design II
Intro to Computer Science I	Tools in Electrical and Computer Engineering	Computer Organization	Computer Architecture
Physics I: Particle Mechanics	Digital Logic II	Discrete Structures for Computer Engineering	Digital Design Using Hardware Description Languages
Intro Physics Lab	Electronics I	Probability for Electrical and Computer Engineering	Design Elective
General Chemistry I	Electronics Lab	Electrical and Computer Engineering Elective	Design Elective
Calculus I	Intro to Computer Science II	Advanced Data Structures and Algorithm Analysis (CS)	Operating Systems (CS)
Calculus II	Physics III: Fields: Gravity, Electricity, and Magnetism	Professional Ethics	Tech Elective
General Ed: English Comp I	Mathematical Methods in ENGR	General Ed: Social Sciences	Tech Elective
General Ed: Life Sciences	Calculus III	General Ed: Social Sciences	General Ed: Humanities
General Ed: Arts	General Ed: English Comp II	General Ed: Humanities	

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