

# Electrical Engineering, Minor

Visit the Electrical and Computer Engineering Department page (<https://www.uvu.edu/cet/ece/>) for more information on the program and access to advising.

## Program Description

A minor in Electrical Engineering provides students from other STEM majors with a foundational understanding of core electrical engineering practices and principles. The program offers coursework in circuits, electronics, digital systems, and electromagnetics, equipping students with practical skills applicable to modern technological challenges. Through both theoretical and hands-on learning, students gain experience in analyzing, designing, and troubleshooting electrical and electronic systems. This minor enhances career opportunities in areas such as system automation, renewable energy systems, and embedded systems.

## Program Requirements

Code	Title	Credit Hours
<b>Total Credit Hours</b>		<b>20</b>
<b>Program Requirements</b>		<b>20 Credits</b>
ECE 1000	Introduction to Electrical and Computer Engineering	3
ECE 2250	Circuit Theory <sup>1</sup>	3
ECE 2255	Circuit Theory Lab <sup>1</sup>	1
ECE 2700	Digital Design I	3
ECE 2705	Digital Design I Lab	1
Elective Requirements: Choose 9 Credits from the following list:		9
ECE 3250	Energy Conversion (3)	
ECE 3350	Control Systems (3)	
ECE 3450	Electromagnetics and Transmission Lines (3)	
ECE 3730	Embedded Systems I (3)	
ECE 3740	Digital Design II (3)	
ECE 3760	Electronic Systems (3)	
ECE 3765	Electronic Systems Lab (1)	
ECE 3770	Signals and Systems (3)	
ECE 3780	Communication Systems and Circuits (3)	
ECE 3785	Communication Systems and Circuits Lab (1)	
ECE 4700	Computer Architecture for Engineering Applications (3)	
ECE 4730	Embedded Systems II (3)	

<sup>1</sup> Requires PHYS 2220 as a prerequisite.

## Graduation Requirements

Must be completed with an approved, associated bachelor's degree.

## Graduation Plan

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in Wolverine Track (<http://www.uvu.edu/wolverinetrack/>).

First Year		Credit Hours
<b>Semester 1</b>		
ECE 1000	Introduction to Electrical and Computer Engineering	3
<b>Credit Hours</b>		<b>3</b>
<b>Semester 2</b>		
ECE 2700	Digital Design I	3

ECE 2705	Digital Design I Lab	1
<b>Credit Hours</b>		<b>4</b>
<b>Second Year</b>		
<b>Semester 1</b>		
ECE 2250	Circuit Theory	3
ECE 2255	Circuit Theory Lab	1
<b>Credit Hours</b>		<b>4</b>
<b>Semester 2</b>		
Elective		3
<b>Credit Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Semester 1</b>		
Elective		3
<b>Credit Hours</b>		<b>3</b>
<b>Semester 2</b>		
Elective		3
<b>Credit Hours</b>		<b>3</b>
<b>Total Credit Hours</b>		<b>20</b>

## Program Learning Outcomes

1. Apply knowledge of mathematics, science, and engineering.
2. Design and conduct experiments, as well as to analyze and interpret data.
3. Function on teams.
4. Communicate effectively.
5. Implement and analyze analog and digital circuits.

## Architectural and engineering managers

- Total Positions 210,200
- Field Growth 5.5%
- Median Salary \$165,370
- Average Openings 15.0

## Aerospace engineers

- Total Positions 68,900
- Field Growth 6.0%
- Median Salary \$130,720
- Average Openings 4.2

## Computer hardware engineers

- Total Positions 84,100
- Field Growth 7.2%
- Median Salary \$138,080
- Average Openings 5.0

## Electrical engineers

- Total Positions 189,100
- Field Growth 9.1%
- Median Salary \$106,950
- Average Openings 12.5

## Electronics engineers, except computer

- Total Positions 98,700
- Field Growth 9.1%

- Median Salary\$119,200
- Average Openings6.5

### **Engineering teachers, postsecondary**

- Total Positions48,800
- Field Growth9.2%
- Median Salary\$106,910
- Average Openings4.2