

# ELECTRICAL ENGINEERING MINOR

## Program Description

An Electrical Engineering minor allows you to develop a foundation for designing and analyzing electrical and electronics systems, including in the areas of power, energy, biomedical devices, and signal processing. It also allows you to explore electrical engineering as a second discipline.

## Entering and Completing the Minor

In order to earn a degree, you must complete at least one academic major. Minors are not required except for students in the Professional Studies (BA). SPU encourages students to explore various academic paths, including minors, so if you change your mind about a minor or want to include an additional minor, you are able to do so as outlined below.

Note that the University encourages you to enter your chosen minor(s) as soon as you have determined it and are eligible to join it, especially by the start of your junior year. Students who transfer as juniors and seniors should enter a minor within their first two quarters at SPU.

- If this is your first quarter at SPU, request entrance to your minor in Banner by following these instructions (<https://spu.atlassian.net/l/cp/Th4S0jCE/>).
- If you are an SPU student with an SPU cumulative GPA of 2.0 or better, follow these instructions (<https://spu.atlassian.net/l/cp/Th4S0jCE/>) to enter a minor in this department.
- The University requires a grade of C- or better in all classes that apply to a minor; however, programs may require higher minimum grades in specific courses. You may repeat an SPU course only once for a higher grade.
- To advance in this program, meet with your faculty advisor regularly to discuss your grades, course progression, and other indicators of satisfactory academic progress. If your grades or other factors indicate that you may not be able to successfully complete the minor, your faculty advisor can work with you to explore options, which may include choosing a different minor.
- You must complete the minor requirements that are in effect in the SPU Undergraduate Catalog for the year you enter the minor.

## Electrical Engineering Minor

52 Credits Minimum, Including 18 Upper Division (UD)

Code	Title	Credits
<b>EE Core Requirements</b>		
CSC 1230	Problem Solving and Programming	5
EE 1210	Introduction to Logic System Design	5
EE 2726	Electric Circuits I	5
EE 2727	Electric Circuits II	4
or EE 2728	Electric Circuits II - Expanded	
EE 3410	Signal and System Analysis <sup>2</sup>	5
or EE 3500	Power Systems Fundamentals	
or EE 3501	Power Systems Applications	
MAT 1234	Calculus I	5
MAT 1235	Calculus II	5

MAT 1236	Calculus III	5
MAT 3237	Differential Equations	3
Section Credits Required		42
<b>Electives</b>		
Select 10 credits of the following:		10
EE 3280	Microcontroller System Design	
EE 3315	Electricity and Magnetism I	
EE 3510	Power Electronics Fundamentals	
EE 3520	Microgrids	
EE 3721 & 3721L	Electronics I - Analog Devices and Circuits and Electronics I - Analog Devices and Circuits Lab	
EE 3722 & 3722L	Electronics II Analog Electronics and Electronics II Analog Electronics Lab	
EE 3760	Computer Organization and Assembly Language or CPE 3760 Computer Organization and Assembly Language	
EE 4311	Optics and Lasers or PHY 4311 Optics and Lasers	
EE 4450	Control System Design	
EE 4770	Fundamentals of Advanced Embedded Systems	
EE 4950	Topics in Electrical Engineering <sup>3</sup>	
EE 4960	Senior Project <sup>4</sup>	
Section Credits Required		10
<b>Total Credits</b>		<b>52</b>

1

At least 5 credits of this minor must be uniquely applied to this minor and not applied to any other major or minor.

2

Courses in this list can apply to Electives if not used in Core.

3

EE 4950 can be repeated for credit if the topic is different.

4

Can apply a maximum of five credits for EE 4960 Senior Project to Electives.