

**MEMORANDUM**

TO: Sean Rafferty, Senate Chair

FROM: Havidán Rodríguez, President

DATE: April 28, 2021

SUBJECT: Senate Bill Approval

I am pleased to approve the following Senate Bill, which was recommended following approval by the University Senate at its meeting of April 21<sup>st</sup>, 2021.

Senate Bill 2021-08:

**PROPOSAL TO ESTABLISH A MINOR IN ELECTRICAL AND  
COMPUTER ENGINEERING**

Approved:  \_\_\_\_\_

Havidán Rodríguez, President

**UNIVERSITY SENATE**

UNIVERSITY AT ALBANY  
STATE UNIVERSITY OF NEW YORK

Introduced by: Undergraduate Academic Council  
University Planning and Policy Council

Date: April 21, 2021

**Proposal to Establish an Electrical and Computer Engineering Minor**

IT IS HEREBY PROPOSED THAT THE FOLLOWING BE ADOPTED:

1. That the University Senate approves the attached program proposal as submitted by the College of Engineering and Applied Science, Department of Electrical and Computer Engineering and approved by UAC and UPPC
2. That this takes effect immediately
3. That this proposal be forwarded to President Havidán Rodríguez for approval

## Proposal for Minor in Electrical and Computer Engineering

### **Electrical and Computer Engineering Minor**

A minimum of 19-20 credits from coursework with the I ECE prefix including: I ECE 111; I ECE 141; I ECE 202; I ECE 231 and one from the following four courses: I ECE 233; I ECE 300; I ECE 310 or I ECE 371

Students may substitute I CSI 201\* for the I ECE 141 requirement.

*Students cannot receive minor credit for I ECE 233 and credit for I CSI 404*

*Students cannot receive minor credit for I ECE 310 and credit for A PHY 340*

Appropriate prerequisite courses in mathematics, computer science and physics are necessary to complete the required minor courses.

Consult the Department of Electrical and Computer Engineering or the Undergraduate Advisors for the College of Engineering and Applied Sciences for further information and advisement.

\* Students using the I CSI 201 substitution will be responsible for independently familiarizing themselves with fundamentals of C programming, including syntax, memory management, and pointers. Contact the department for details.

### Required courses for ECE Minor

Courses and Pre Reqs:	Credits	Part of the Major Program's Requirements:		
		CS 22-23 credits	Physics 28-29 credits	Math 25-26+ credits
<b>ECE 111 Intro to ECE</b>	4	4	4	4
A MAT 112 or A MAT 118		yes	yes	yes
<b>ECE 141 Programming for Eng. *</b>	4	4	4	4
A MAT 112 or A MAT 118		yes	yes	yes
<b>ECE 202 Intro. to Circuits</b>	4	4	4	4
A PHY 150 or 152 or T PHY 151		BS	yes	<b>+3</b>
A MAT 311		<b>+3</b>	<b>+3</b>	BA w/ concentration in analysis
A MAT 220 or 222		yes	yes	yes
<b>ECE 231 Digital Systems</b>	4	4	4	4
I ECE/I CSI 210		yes	<b>+3</b>	<b>+3</b>

PLUS Select 1 from:

<b>ECE 233 The Hardware/Software Interface</b>	4		4	4	4
ECE/I CSI 213			yes	<b>+3</b>	BS
<b>ECE 300 Intro. to Electronics</b>	4				
<b>ECE 310 Eng. Electromagnetics</b>	4				
<b>ECE 371 Signals &amp; Systems</b>	3				

\*CSI 201 + familiarization with C can be substituted for ECE 141

CSI 201	3		X	BS	BS
MAT 299	3		<b>+3</b>	<b>+3</b>	<b>+3</b>
Math major; one of A MAT 113, 119, 214 or 218 *			X	X	X

## University of Buffalo

The EE Minor program includes seven courses granting at least **24 credits**.

### Core required courses:

[EE 178](#) Digital Principles  
[EE 202](#) Circuit Analysis  
[EE 205](#) Signals and Systems  
[MTH 306](#) Introduction to Differential Equations

### Three courses from the following list of electives:

- [EE 305](#) Applied Probability
- [EE 383](#) Communication Systems I
- [EE 324](#) Applied Electromagnetics
- [EE 336](#) Fundamentals of Energy Systems
- [EE 352](#) Introduction to Electronics Lab
- [EE 353](#) Electronic Circuits Lab
- [EE 310](#) Electronic Devices and Circuits I
- [EE 311](#) Electronic Devices and Circuits II
- [EE 379](#) Embedded Systems & Applications
- [EE 478](#) HDL Based Digital Design with Programmable Logic
- Any EE Technical elective (labeled EE 4xx)

### Prerequisite Courses:

Calculus 1 ([MTH 141](#))  
Calculus 2 ([MTH 142](#))  
General Physics 1 ([PHY 107](#))  
General Physics 2 ([PHY 108](#))  
General Physics 2 lab ([PHY 158](#))

[https://catalog.buffalo.edu/academicprograms/electrical\\_engineering\\_minor\\_requirements.html](https://catalog.buffalo.edu/academicprograms/electrical_engineering_minor_requirements.html)

## Stony Brook University

### Requirements for the Minor

Students seeking to complete the ESE minor must meet the relevant prerequisites and corequisites of each ESE course.

At least nine credits must be in upper-division courses. All courses for the minor must be passed with a letter grade of C or higher.

Completion of the minor requires 20 credits.

1. ESE 123 (4 credits) *Pre- or Corequisites:* AMS 151 or MAT 125 or 131 or 141
2. ESE 271 (3 credits) *Prerequisite:* MAT 127 or 132 or 142 or 171 or AMS 161 AND *Pre/co-requisite:* PHY 127/134 or 132/134 or 142
3. Four or five ESE courses for a total of at least 13 credits.

Note: Students may not take ESE 111, ESE 121, ESE 122, ESE 124, ESE 201, ESE 300, ESE 301, ESE 324, ESE 440, ESE 441, ESE 475, ESE 476, ESE 488, or ESE 499 for credit toward the minor.

<https://www.stonybrook.edu/sb/bulletin/current/courses/ease/#123>