



### ***Twin Cities Campus***

## **Electrical Engineering Minor**

*Electrical and Computer Engineering*

### **College of Science and Engineering**

Link to a [list of faculty](#) for this program.

#### **Contact Information:**

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- Program Type: Graduate minor related to major
- Requirements for this program are current for Fall 2016
- Length of program in credits (Masters): 6
- Length of program in credits (Doctorate): 12
- This program does not require summer semesters for timely completion.

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The Department of Electrical and Computer Engineering offers diverse educational programs that encompass nearly all aspects of modern electrical and computer engineering, ranging from the very theoretical system and information theory, to highly experimental work in novel device research and microelectronics. Emphases in the major are solid state and physical electronics, surface physics, thin films, sputtering, noise and fluctuation phenomena, quantum electronics, plasma physics, automation, power systems and power electronics theory, wave propagation, communication systems and theory, optics, lasers, fiber optics, magnetism, semiconductor properties and devices, VLSI and WSI engineering in theory and practice, network theory, signal and image processing, and computer and systems engineering. Interdisciplinary work is also available in bioelectrical sciences, control sciences, computer sciences, solar energy, applications of systems theory to urban transportation and economic planning, and biological modeling.

### **Program Delivery**

This program is available:

- via classroom (the majority of instruction is face-to-face)
- partially online (between 50% to 80% of instruction is online)

### **Prerequisites for Admission**

The preferred undergraduate GPA for admittance to the program is 3.40.

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

### **Program Requirements**

Use of 4xxx courses towards program requirements is not permitted.

Minor credits must be 5xxx or 8xxx level. Coursework must be from classroom and laboratory courses. No colloquia, seminar, or special investigation credits count toward meeting the minor requirements.

### **Program Sub-plans**

Students are required to complete one of the following sub-plans.

Students may not complete the program with more than one sub-plan.

#### **Masters**

The master's minor requires a minimum of 6 credits in EE courses. All courses must be taken A-F. Courses that are cross-listed must be taken under the EE designator to count towards degree requirements.



#### Doctoral

The doctoral minor requires a minimum of 12 credits in EE courses. All courses must be taken A-F. Courses that are cross-listed must be taken under the EE designator to count towards degree requirements.