A student graduating with a bachelor's degree from CU Boulder may also receive a Minor in Signals and Systems (except for students earning a BS degree in Electrical Engineering or Electrical & Computer Engineering).

The Minor in Signals and Systems provides training in control systems, digital signal processing or communications beyond the training usually received by science, mathematics and applied mathematics majors. It can also broaden the training of students majoring in other engineering fields to provide depth in signals and systems. The goal is to teach students the fundamentals of signals and systems and introduce them to laboratory applications.

**Requirements**

**Prerequisites**

Prerequisites for the Signals and Systems Minor are General Physics 2 (PHYS 1120) and a solid mathematics background in Fourier series, Laplace transforms, transfer functions and sinusoidal response. The probability prerequisite may be met with ECEN 3810, APPM 3570, MATH 4510 or an equivalent transfer course. A grade of C- or better is required in all prerequisite courses.

**Course Requirements**

This minor requires a minimum of 18 credit hours.

Students admitted to the Signals and Systems Minor must have a cumulative GPA of 2.700 or better. A cumulative GPA of 2.250 or better is required for courses used to satisfy the requirements of this minor. Each individual course that is counted toward this minor must be passed with a grade of D- or better (note that a C- or better grade is required in all prerequisite courses).

**Required Courses and Semester Credit Hours**

- **Required Courses**
  - ECEN 2250 Introduction to Circuits and Electronics 3
  - ECEN 2260 Circuits as Systems 3
  - ECEN 3300 Linear Systems 3

- **Electives**
  Choose the remaining 9 credits from any combination of the following theory and lab courses:
  - ECEN 3350 Programming Digital Systems
  - ECEN 4138 Control Systems Analysis
  - ECEN 4638 Control Systems Laboratory
  - ECEN 4242 Communication Theory
  - ECEN 4652 Communication Laboratory
  - ECEN 4532 Digital Signal Processing Laboratory
  - ECEN 4652 Introduction to Digital Filtering

Students may petition to replace three of these credit hours with a 3-credit hour, 5000-level ECEN course in digital signal processing, communications or controls.