

SIGNALS AND SYSTEMS - MINOR

The minor 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

The signals & systems minor requires a minimum of 18 credit hours.

A minor in signals & systems can be earned in conjunction with any CU Boulder major, except for BS degrees in electrical engineering, electrical & computer engineering and integrated design engineering-electrical emphasis. This minor cannot be completed alongside any of the following minors: computer engineering and electrical engineering

Prerequisites

Students must meet these requirements before declaring the minor.

- PHYS 1120 General Physics 2 or PHYS 1125 General Physics 2 for Majors, with a minimum grade of C-. *May be completed or currently in progress to be eligible to apply for the minor.*
- Solid mathematics background in Fourier series, Laplace transforms, transfer functions and sinusoidal response.

Some courses require a probability prerequisite, which may be met with ECEN 3810, APPM 3570, MATH 4510, STAT 3100 or an equivalent transfer course. A grade of C- or better is required in all prerequisite courses.

Grade Requirements

A minimum cumulative GPA of 2.000 is required in the courses used to satisfy the minor requirements. Each individual course that is counted toward this minor must be passed with a grade of D- or higher (note that a minimum grade of C- is required in all prerequisite courses).

Residency Requirements

At least 9 credit hours for the minor must be taken on the CU Boulder campus.

Required Courses and Credits

Code	Title	Credit Hours
Required Courses		
ECEN 2250	Introduction to Circuits and Electronics	3
ECEN 2260	Circuits as Systems	3
ECEN 3300	Linear Systems	3
or ECEN 3301	Biomedical Signals and Systems	
Electives		
Choose the remaining 9 credits from any combination of the following theory and lab courses: ¹		9
ECEN 2360	Programming Digital Systems	
or CSCI 2400	Computer Systems	
ECEN 4138	Control Systems Analysis	
ECEN 4638	Control Systems Laboratory	

ECEN 4242	Communication Theory
ECEN 4752	Communication Laboratory
ECEN 4632	Introduction to Digital Filtering
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Total Credit Hours	18

- ¹ Students may petition to replace one of these courses with a 3-credit 5000-level ECEN course in digital signal processing, communications or controls.