

## Signals and Systems Minor

A student graduating with a Bachelor's Degree from the University of Colorado at Boulder may also receive a Minor in Signals and Systems offered by the Electrical & Computer Engineering Department. 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. This minor requires a minimum of 18 credit hours.

### Preparation for the minor:

Students who are interested in the Signals and Systems Minor must have PHYS 1120 General Physics 2 and a solid mathematics background in Fourier series, Laplace transforms, transfer functions, and sinusoidal response. Probability is necessary for coursework in ECEN4242 Communication Theory.

### Course Number Course Title

Required courses:

OR

ECEN 3300 Linear Systems, includes lab                      5 credits

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ECEN 2120 Computers as Components                      5 credits

PLUS

Any combination of senior theory and lab courses from this list for at least **13 credits**

PLUS

Any combination from the column on the left for at least **8 credits**

ECEN 4138 Control Systems Analysis                      3 credits

ECEN 4638 Control Laboratory                              2 credits

ECEN 4242 Communication Theory                        3 credits

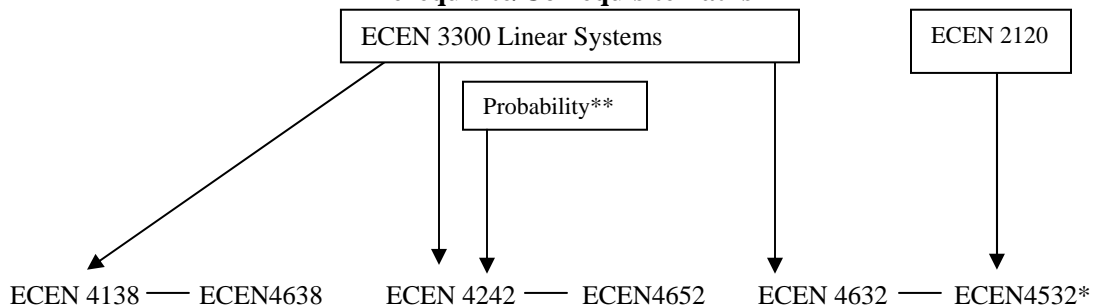
ECEN 4652 Communication Laboratory                    2 credits

ECEN 4632 Introduction to Digital Filtering              3 credits

ECEN 4532 DSP Laboratory\*                              3 credits

Students may petition to replace 3 of these credit hours with a 3-credit 5000-level ECEN course in DSP, Communications, or Controls.

### Prerequisite/Co-requisite Paths



*Each theory course can be taken prior to or as a co-req with its corresponding lab course.*

### Minimum Grades

Students admitted to the Signals and Systems Minor must have a cumulative GPA of 2.700 or better. A cumulative GPA of 2.000 or better is required in courses used to satisfy the requirements of this minor. Each individual course that is counted toward this minor must be passed. A passing grade is a D- or better. Note, however, that a C- or better is required in all prerequisite courses.

\* A student enrolled in ECEN 4532 DSP Laboratory needs ECEN 2120 or permission from the instructor.

\*\* ECEN 3810, APPM 3570, or Math 4510

**SIGNALS AND SYSTEMS MINOR APPLICATION FORM**

Name \_\_\_\_\_ Student # \_\_\_\_\_

Current major \_\_\_\_\_ Current cumulative GPA \_\_\_\_\_

**Minimum Grades:** Students admitted to an ECE minor must have a cumulative GPA of 2.700 or better. A cumulative GPA of 2.000 or better is required in courses used to satisfy the requirements of this minor. A passing grade of D- or better is required for all courses for the minor unless the course is a prerequisite course. In that case the minimum acceptable grade is a C-.

**Preparation for the minor:** Students must have PHYS 1120 General Physics 2 and a solid mathematics background in Fourier series, Laplace transforms, transfer functions, and sinusoidal response. Probability is necessary for coursework in ECEN 4242 Communication Theory.

**Entry prerequisites met:** \_\_\_\_\_ Y/N

This form must be completed and signed by the student to declare the minor. A copy of the signed form should be submitted to your own academic advisor prior to graduation verification.

\_\_\_\_\_  
Student signature Date

**COURSES COMPLETED:** (see the front side of this form for course choices)

COURSE	TERM TAKEN	HOURS	GRADE	POINTS	PREREQ? Y/N
<b>Required courses:</b>					
ECEN 2250					
ECEN 2260					
<b>Area of emphasis prereq:</b>					
<b>Upper Division course:</b>					
<b>Optional courses taken:</b>					

Accepted into minor \_\_\_\_\_ Minor added to SIS \_\_\_\_\_  
ECE advisor signature

Total Hours Completed Successfully \_\_\_\_\_ Total Points \_\_\_\_\_

Final GPA (points / hours) \_\_\_\_\_

All requirements for this minor have been completed satisfactorily:

\_\_\_\_\_  
ECEN advisor signature Date