THE OHIO STATE UNIVERSITY

College of Engineering

Undergraduate Education & Student Services

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Memo

To: Randy Smith, Vice Provost for Academic Programs, Office of Academic Affairs

From: Rosie Quinzon-Bonello, Assistant Dean for Curriculum and Assessment

Date: February 24, 2025

Re: Informational Item

On February 23, 2025, the College of Engineering Committee on Academic Affairs entered into record the request by the Department of Electrical and Computer Engineering to add ECE 2020 I*ntroduction to Analog Circuits and Systems* as an alternative required course to ECE 2300 *Electrical Circuits and Electronic Devices* effective Autumn 2025 in the following programs:

- UG Embedded Certificate in Signal Processing
- UG Minor in Signal Processing

Both are circuit analysis courses; however, ECE 2300 is a required course by Mechanical, Aerospace and Welding students and optional for a number of other engineering majors. Since these majors already are required (or have an option to take) a circuits course for non-ECE majors, the material covered is sufficient for the ECE minor and embedded certificate.

Attached is a revised minor curriculum sheet. The department has been advised that it will need to update its information about the embedded certificate on their website.

Thank you,

Rosario Quinzon-Bonello

Assistant Dean for Curriculum and Assessment

The Ohio State University
College of Engineering

Signal Processing Minor (SIGPR-MN)

Department of Electrical and Computer Engineering
Alissa Kasmer
205 Dreese Lab 2015 Neil Ave
kasmer.4, (614) 292-2572
https://ece.osu.edu/new-ece-courses

Overview

The minor in Signal Processing consists of a minimum of 15 credit hours of required and elective course work as listed below. Upon completion of the Minor in Signal Processing, learners will be better prepared to:

1) Be competent with linear systems as approximate models of physical systems

2) Master Fourier series, Fourier transform, and discrete-time Fourier transform

3) Master the fundamentals of sampling and reconstruction

Courses in this minor have pre-requisites that include:

1. *CSE 1222, 2221, Engr 1222, 1281.01H, or 1281.02H*
2. *Math 1152, 1161.01, 1161.02, 1172, or 1181H*
3. *Math 2174 or 2568*
4. *Math 4530 or Stats 3470 (ECE 5200 ONLY)*
5. *Physics 1250, 1250H, or 1260, or Chem 1210 or 1250.*

Please consult the course bulletin for course-specific pre-requisites before enrolling.

Required courses (12 credit hours)

ECE 2020: Introduction to Analog Circuits and Systems (3) or ECE 2300: Electrical Circuits and Electronic Devices
ECE 2060: Introduction to Digital Logic (3)
ECE 2050: Introduction to Discrete Time Signals and Systems (3)
ECE3050: Signals and Systems (3)

Elective course work (min 3 credit hours)

Select one course (3 CH) from:
ECE 5200: Introduction to Digital Signal Processing (3)
ECE 5206: Medical Imaging and Processing (3)
ECE 5460: Image Processing (3)

Signal Processing Minor Program Guidelines:

Credit Hours Required
A minimum of 15 credit hours. 1000-level courses shall not be counted in the minor. At least 6 credit hours must be upper-level courses as defined by the College of Engineering (3000-level or above).

Transfer and EM Credit Hours Allowed
A student is permitted to count up to 6 total hours of transfer credit and/or credit by examination toward the minor.

Overlap with the Major and Additional Minor(s)

- The minor must be in a different subject than the major.
- The minor must contain a minimum of 12 hours distinct from the major and/or additional minors.
- The minor is not open to students majoring in Electrical and Computer Engineering.

Grades Required

- Minimum C- for a course to be listed on the minor.
- Minimum 2.00 cumulative GPA for all minor course work.
- Course work graded Pass/Non-Pass cannot count on the minor.
- No more than 3 credit hours of course work graded Satisfactory/Unsatisfactory may count towards the minor.

X193 Credits No more than 3 credit hours

Declaring the minor:
Students must have a minimum 1.7 GPA to apply to the minor. To apply to/declare the minor, students should contact an ECE advisor.

Variation from Program
Any variation from the program described above needs the approval of the Department of Electrical and Computer Engineering. Students should petition through an ECE advisor.

College of Arts and Sciences
Curriculum and Assessment Services
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