# Architectural Engineering, Minor

Architectural engineering is a field of engineering that encompasses elements of civil engineering, mechanical engineering, architecture, and related fields to plan, design, and create buildings within the urban environment. It includes the architectural and structural design, mechanical systems design, computational controls and sensing, and sustainable engineering strategies.

The Department of Civil and Environmental Engineering recognizes the importance of interdisciplinary work and of exposing students to the great richness in a classroom of diverse students from multiple majors bringing their own perspectives. The prospect of engineering students in architecture classes and vice versa stands to benefit all the students, whether or not they are enrolled in the minor.

The minor in architectural engineering opens opportunities for students across the university who are interested in a unique and multidisciplinary approach to the built environment. For engineering students, this minor offers an opportunity to work in the built environment and to better understand architecture, while for architecture students this is an opportunity to acquire the technical knowledge of a course of study in an engineering minor.

A total of 20 semester hours (SH) are required to complete this minor. Students will be required to complete 8 SH of required courses and 12 SH of approved elective courses from several colleges and departments at the university. Students interested in this minor must contact the civil engineering academic advisor in order to declare the minor.

This minor in architectural engineering is designed for any major and is open to any undergraduate student at the university.

Students may double count no more than two courses with any major or graduate degree requirement, other than general electives.

## Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs and recitations courses where specified.

## Required Courses

| Code | Title | Hours |
|---|---|---|
| CIVE 2221<br>and CIVE 2222 | Statics and Solid Mechanics<br>and Recitation for CIVE 2221 | 4 |
| ARCH 3210<br>and ARCH 3211 | Environmental Systems<br>and Recitation for ARCH 3210 | 4 |

## Electives

### ARCHITECTURE ELECTIVES

| Code | Title | Hours |
|---|---|---|
| Complete one of the following: | | 4 |
| ARCH 2240 | Architectonic Systems | |
| ARCH 2330<br>and ARCH 2331 | Architecture and the City in the Nineteenth Century<br>and Recitation for ARCH 2330 | |
| ARCH 2340<br>and ARCH 2341 | Modern Architecture<br>and Recitation for ARCH 2340 | |
| ARCH 5220 | Integrated Building Systems | |
| LARC 2230 | Introduction to Sustainable Site Planning and Design | |
| LARC 2240 | Sustainable Site Construction and Detailing | |

### ENGINEERING ELECTIVES

| Code | Title | Hours |
|---|---|---|
| Complete one or two of the following: | | 8 |
| CIVE 2320<br>and CIVE 2321 | Structural Analysis<br>and Recitation for CIVE 2320 | |
| CIVE 2324 | Concrete Structure Design | |
| CIVE 3425 | Steel Structure Design | |
| CIVE 5281 | Coastal Dynamics and Design | |
| CIVE 5363 | Climate Science, Engineering Adaptation, and Policy | |
| CIVE 5520 | Structural Systems | |
| CIVE 5522 | Structural Systems Modeling | |
| CIVE 5699 | Special Topics in Civil Engineering (Vibration-based Structural Health Monitoring) | |
| SBSY 5100 | Sustainable Design and Technologies in Construction | |
| SBSY 5200 | Sustainable Engineering Systems for Buildings | |

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|---|---|
| SBSY 5250 | Building Performance Simulation |
| SBSY 5300 | Information Systems for Integrated Project Delivery |
| If only one course was taken above, complete one course from the following: | |
| GE 3300 | Energy Systems: Science, Technology, and Sustainability |
| CIVE 2340<br>and CIVE 2341 | Geotechnical Engineering<br>and Lab for CIVE 2340 |
| CIVE 4542 | Foundation Engineering and Design |
| CIVE 5275 | Life Cycle Assessment of Materials, Products, and Infrastructure |

## GPA Requirement

2.000 GPA required in the minor