THE OHIO STATE UNIVERSITY

COLLEGE OF ENGINEERING

INFORMATIONAL ITEM

Environmental Engineering Minor Update

TO	Randy Smith, Vice Provost for Academic Programs
FROM	Cory Matyas, Assistant Dean for Curriculum & Assessment
DATE	October 13, 2026
ACTION TYPE	Informational Item - College Record of Support

ITEM OVERVIEW

The Environmental Engineering minor is being revised to address major-minor course overlap and unique-credit challenges for Civil Engineering students. The revision retains ENVENG 3200 as the required course, increases flexibility among required and elective options, and adds additional approved Environmental Engineering electives.

COLLEGE REVIEW AND ACTION

The Engineering College Committee on Academic Affairs met on October 13, 2026 and reviewed this as an informational item. There were no questions or concerns and a College-level record of support for this proposal was created.

THE OHIO STATE UNIVERSITY

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Dear Dr. Shannon Morrison,

The Department of Civil, Environmental, and Geodetic Engineering is proposing an update to our Environmental Engineering undergraduate minor. All subsequent references to majors or minors specifically refer to undergraduate degrees.

Background

In AU24, the current structure of the minor took effect. In developing that version of the minor, the Environmental Engineering faculty sought to move away from required courses that were focused on water treatment and water chemistry in favor of a set of required courses that reflect the breadth of the Environmental Engineering discipline. Both minor structures require a minimum of 15 credits, require the same prerequisite courses, and are summarized in the table below.

Minor prior to AU24	**Minor after AU24**
Prerequisites	*Prerequisites*
MATH 1151 (Calculus I)	MATH 1151 (Calculus I)
CHEM 1220 (General Chemistry II) OR CHEM 1250 (General Chemistry for Engineers)	CHEM 1220 (General Chemistry II) OR CHEM 1250 (General Chemistry for Engineers)
Required Courses	*Required Courses*
ENVENG 3200 (Fundamentals of Environmental Engineering) – 3 cr	ENVENG 3200 (Fundamentals of Environmental Engineering) – 3 cr
ENVENG 3210 (Environmental Engineering Unit Operations) – 3 cr	CIVILEN 3130 (Fluid Mechanics)* – 3 cr
ENVENG 2100 (Environmental Engineering Analytical Methods) – 3 cr	ENVENG 5170 (Sustainability and the Circular Economy) – 3 cr
Minor Electives from Approved List – 6 cr	*Minor Electives from Approved List – 6 cr*

* Approved substitutes for CIVILEN 3130 include CBE 2420, FABENG 2110, and MECHENG 3503

Motivation

With this change, however, we inadvertently created a new minor that is incompatible with our own BS in Civil Engineering degree program. Briefly, both CIVILEN 3130 and ENVENG 3200 satisfy major requirements for the BS in Civil Engineering, and because minor coursework must include 12 credits that are unique from the major requirements, Civil Engineering students are unable to complete the Environmental Engineering minor, unless we make substitutions for either CIVILEN 3130 or ENVENG 3200 via an exception process. However, identifying appropriate substitutions is difficult, because candidate courses for substitution also satisfy major requirements within the Civil Engineering program.

We identified this as an issue as the first Civil Engineering student on the new minor has applied to graduate and the CEGE Academic Advisors were unable to complete the course audit due to the conflict. We have approved a substitution for ENVENG 3200 via an exception process, and we are pursuing a change to the structure of the minor in anticipation of this issue recurring in the future.

Proposed Changes

To address this incompatibility, we propose the following update to the Environmental Engineering minor structure:

Minor starting AU27
Prerequisites
MATH 1151 (Calculus I)
CHEM 1220 (General Chemistry II) OR CHEM 1250 (General Chemistry for Engineers)
Required Course
ENVENG 3200 (Fundamentals of Environmental Engineering) – 3 cr
Required Elective (Choose One)
CIVILEN 3130 (Fluid Mechanics)* – 3 cr OR ENVENG 5170 (Sustainability and the Circular Economy) – 3 cr
Minor Electives from Approved List[%] - 9 cr

* Approved substitutes for CIVILEN 3130 include CBE 2420, FABENG 2110, and MECHENG 3503

[%] A non-Civil Engineering student may complete both CIVILEN 3130 (or approved substitute) and ENVENG 5170; one of these courses will count towards the 9 credits of minor electives.

To summarize, we will:

- Maintain ENVENG 3200 as the Required Course for the minor
- Provide students with the option of completing either CIVILEN 3130 or ENVENG 5170 as a Required Elective
    - CBE 2420, FABENG 2110, and MECHENG 3503 will remain approved substitutes for CIVILEN 3130
- Allow students to complete 3 courses (or the balance of the 15 credits) of their choosing
    - Students may complete both CIVILEN 3130 and ENVENG 5170; one course will count as the Required Elective, and the other course will count as a Minor Elective

This proposed change will maintain the requirement of ENVENG 3200, ensuring that all students in the Environmental Engineering minor complete this course. While this course is a major requirement for Civil Engineering students, any Civil Engineering student who declares the Environmental Engineering minor will be able to complete the minor by completing ENVENG 5170 and 9 additional credits that are unique from the Civil Engineering major.

Effective Date

We anticipate that the implementation of the proposed update to the Environmental Engineering minor will begin in Autumn 2027.

Process Timeline

- The issue for Civil Engineering major students was identified in Autumn 2026.
- The proposal was shared with the Environmental Engineering faculty for feedback in Autumn 2026, and there was unanimous support as-is.
- The proposal was approved unanimously by the CEGE Undergraduate Studies Committee in Autumn 2026.
- The proposal was approved unanimously by the CEGE faculty in Autumn 2026.

Impact on Students

There are several benefits for students with our proposed changes to the Environmental Engineering minor:

- Civil Engineering students will be able to satisfy all minor requirements without the need to make substitutions via the exception process.
- Engineering students with a required fluid mechanics course will be able to satisfy all minor requirements by completing ENVENG 3200 and 9 credits from the approved list of minor electives.
- The minor will become more accessible to more students across the university, as the creation of the Required Elective category reduces a barrier associated with the prerequisites to fluid mechanics courses. CIVILEN 3130 and its approved substitutes require either MECHENG 2010 (Statics) or MECHENG 2040 (Statics and Introduction to Mechanics of Materials); both MECHENG 2010 and MECHENG 2040 have prerequisites of ENGR 1181 (Fundamentals of Engineering I) or equivalent and PHYSICS 1250 (Mechanics, Work and Energy, Thermal Physics) or equivalent. Further, some fluids mechanics courses have additional Mathematics requirements beyond MATH 1151. Therefore, the prerequisites for this Required Elective are difficult to satisfy, especially for non-Engineering students.
    - Conversely, ENVENG 3200 has a prerequisite of CHEM 1210 (General Chemistry I) or CHEM 1250; and Civil Engineering major or Environmental Engineering major or Environmental Engineering minor. Thus, the prerequisites for this required course for the minor are satisfied by the Chemistry prerequisite for the minor and by declaring the minor.
    - Further, ENVENG 5170 has a prerequisite of ENVENG 3200. Thus, the prerequisite for this Required Elective is satisfied by completing the required course in these proposed changes to the minor.

We cannot anticipate any negative impacts on students associated with this relaxation of the requirements for the minor.

Transition Plan

If approved, we will automatically transition all students on the AU24 version of minor to the AU27 version of the minor. If a student has already completed both CIVILEN 3130 (or approved substitute) and ENVENG 5170, one of those courses will count towards the 9 credits of minor electives.

Other Changes

We have added some additional courses to the approved list of minor electives. ENVENG 5000 (Engineering for Forced Displacement Scenarios) is a relatively new course, and ENVENG 5410 (Hazardous Waste Management and Remediation) was in hiatus and recently redeveloped.

Additional Visual Representations

Current Environmental Engineering Minor Curriculum

Required Courses

Course Number	Title	Hours
CIVILEN 3130*	Fluid Mechanics	3
ENVENG 3200	Fundamentals of Environmental Engineering	3
ENVENG 5170	Sustainability and the Circular Economy	3

*Approved substitutes include CBE 2420, FABENG 2110, and MECHENG 3503.

Elective Courses

Course Number	Title	Hours
CBE 5772	Principles of Sustainable Engineering	3
CIVILEN 3160	Water Resources Engineering	3
CIVILEN 4210	The Physics of Sustainable Buildings	3
CIVILEN 5220	Open Channel Hydraulics	3
CIVILEN 5230	Transport Phenomenon in Water Resource Eng.	3
ENR 3000 and 3001	Soil Science	3/1
EARTHSC 5651	Hydrogeology	4
ENVENG 2100	Environmental Engineering Analytical Methods	3
ENVENG 3210	Environmental Engineering Unit Operations	3
ENVENG 4218	Measurement and Modeling of Climate Change	3
ENVENG 4400	Int. Env. Chem. Fate and Transport	3
ENVENG 5110	Environmental Engineering Bioprocesses	3
ENVENG 5120	Bioremediation in Groundwater and Soil	3
ENVENG 5140	Air Quality Engineering	3
ENVENG 5195	Engineering Design for Public Health	3
ENVENG 5600	Science, Technology, and Public Policy	3
ENVENG 5718	Aquatic Chemistry	3
ENVENG 5760	Design of Urban Stormwater Control Measures	3
FABENG 5310	Ecological Engineering and Science	4
FABENG 5520	Phytotechnology and Phytoremediation	3
MICROBIO 4000.0x	Microbiology	3

Proposed Environmental Engineering Minor Curriculum with Mark-Up

Required Course

Course Number	Title	Hours
ENVENG 3200	Fundamentals of Environmental Engineering	3

Required Elective (Choose 1 of 2)

Course Number	Title	Hours
CIVILEN 3130*	Fluid Mechanics	3
ENVENG 5170	Sustainability and the Circular Economy	3

*Approved substitutes include CBE 2420, FABENG 2110, and MECHENG 3503.

Minor Elective Courses (Balance of Credits)

Course Number	Title	Hours
CBE 5772	Principles of Sustainable Engineering	3
CIVILEN 3130%	Fluid Mechanics	3
CIVILEN 3160	Water Resources Engineering	3
CIVILEN 4210	The Physics of Sustainable Buildings	3
CIVILEN 5220	Open Channel Hydraulics	3
CIVILEN 5230	Transport Phenomenon in Water Resource Eng.	3
ENR 3000 and 3001	Soil Science	3/1
EARTHSC 5651	Hydrogeology	4
ENVENG 2100	Environmental Engineering Analytical Methods	3
ENVENG 3210	Environmental Engineering Unit Operations	3
ENVENG 4218	Measurement and Modeling of Climate Change	3
ENVENG 4400	Int. Env. Chem. Fate and Transport	3
ENVENG 5000	Engineering for Forced Displacement Scenarios	3
ENVENG 5110	Environmental Engineering Bioprocesses	3
ENVENG 5120	Bioremediation in Groundwater and Soil	3
ENVENG 5140	Air Quality Engineering	3
ENVENG 5170#	Sustainability and the Circular Economy	3
ENVENG 5195	Engineering Design for Public Health	3
ENVENG 5410	Hazardous Waste Management and Remediation	3
ENVENG 5600	Science, Technology, and Public Policy	3
ENVENG 5718	Aquatic Chemistry	3
ENVENG 5760	Design of Urban Stormwater Control Measures	3
FABENG 5310	Ecological Engineering and Science	4
FABENG 5520	Phytotechnology and Phytoremediation	3
MICROBIO 4000.0x	Microbiology	3

% CIVILEN 3130 (or an approved substitute) can serve as a Minor Elective Course if and only if a student completes ENVENG 5170 as the Required Elective

ENVENG 5170 can serve as a Minor Elective Course if and only if a student completes CIVILEN 3130 (or an approved substitute) as the Required Elective

Proposed Environmental Engineering Minor Curriculum

Required Course

Course Number	Title	Hours
ENVENG 3200	Fundamentals of Environmental Engineering	3

Required Elective (Choose 1 of 2)

Course Number	Title	Hours
CIVILEN 3130*	Fluid Mechanics	3
ENVENG 5170	Sustainability and the Circular Economy	3

* Approved substitutes include CBE 2420, FABENG 2110, and MECHENG 3503.

Elective Courses (Balance of Credits)

Course Number	Title	Hours
CBE 5772	Principles of Sustainable Engineering	3
CIVILEN 3160	Water Resources Engineering	3
CIVILEN 4210	The Physics of Sustainable Buildings	3
CIVILEN 5220	Open Channel Hydraulics	3
CIVILEN 5230	Transport Phenomenon in Water Resource Eng.	3
ENR 3000 and 3001	Soil Science	3/1
EARTHSC 5651	Hydrogeology	4
ENVENG 2100	Environmental Engineering Analytical Methods	3
ENVENG 3210	Environmental Engineering Unit Operations	3
ENVENG 4218	Measurement and Modeling of Climate Change	3
ENVENG 4400	Int. Env. Chem. Fate and Transport	3
ENVENG 5000	Engineering for Forced Displacement Scenarios	3
ENVENG 5110	Environmental Engineering Bioprocesses	3
ENVENG 5120	Bioremediation in Groundwater and Soil	3
ENVENG 5140	Air Quality Engineering	3
ENVENG 5195	Engineering Design for Public Health	3
ENVENG 5410	Hazardous Waste Management and Remediation	3
ENVENG 5600	Science, Technology, and Public Policy	3
ENVENG 5718	Aquatic Chemistry	3
ENVENG 5760	Design of Urban Stormwater Control Measures	3
FABENG 5310	Ecological Engineering and Science	4
FABENG 5520	Phytotechnology and Phytoremediation	3
MICROBIO 4000.0x	Microbiology	3

Feel free to contact me at lenhart.49@osu.edu or 614-688-8157 if I there are any questions.

Sincerely,



John J. Lenhart, Ph.D.
Professor and Associate Chair