



Memo

To: Randy Smith, Vice Provost for Academic Programs
From: Rosie Quinzon-Bonello, Assistant Dean for Curriculum and Assessment
Date: November 16, 2023
Re: Informational Item – Program Change to Environmental Engineering UG Program

On November 9, 2023, The College of Engineering Committee for Academic Affairs voted approved the request submitted by the Environmental Engineering undergraduate program to remove required course, CBE 5771 and replace it with ENVENG 5140.

Yours sincerely,


Rosie Quinzon-Bonello



October 22, 2023

614-688-8157

lenhart.49@osu.edu

Dear Prof. Boyd Panton,

The Department of Civil, Environmental, and Geodetic Engineering (CEGE) is submitting a revised curriculum for the Environmental Engineering major. This major had previously listed Chemical and Biomolecular Engineering (CBE) 5771 – Air Pollution as a required course for all students in the Environmental Engineering major. CEGE is proposing requiring Environmental Engineering (ENVENG) 5140 – Air Quality Engineering instead of CBE 5771.

Rational for Change

The CBE department is no longer offering CBE 5771, and the course has been removed from the course catalog. ENVENG 5140 discusses sources and classifications of air pollutants, relevant atmospheric science, tropospheric ozone formation, and secondary aerosol production, which overlap with content from CBE 5771. Environmental Engineering has been allowing ENVENG 5140 to substitute for CBE 5771 since 2018, the last time the CBE 5771 was offered.

Effective Date

Implementation of the updated curriculum is anticipated to be the Fall 2024 semester.

Changes to be Made

ENVENG 5140 will replace CBE 5771 as a required course, typically taken in a student's penultimate semester. It will continue to be offered in the Autumn semester, as was CBE 5771. This will go into effect for all Environmental Engineering students starting in the Autumn 2024 semester.

Current Environmental Engineering Curriculum Sheet, Year 4:

___ ENVENG 5110 (Biotechnology) _____ 3 hr	___ ENVENG 4090 (Capstone Design)_____ 3 hr
___ ENVENG 4200 (Unit Ops Lab) _____ 1 hr	___ ENVENG 5170 (Pollution Prev) _____ 3 hr
___ CBE 5771 (Air Pollution) _____ 3 hr	___ Technical Elective_____ 3 hr
___ Technical Elective_____ 3 hr	___ Technical Elective_____ 3 hr
___ Technical Elective_____ 3 hr	___ Thematic Pathways_____ 4 hr

Proposed Environmental Engineering Curriculum Sheet, Year 4:

___ ENVENG 5110 (Biotechnology) _____ 3 hr	___ ENVENG 4090 (Capstone Design)_____ 3 hr
___ ENVENG 4200 (Unit Ops Lab) _____ 1 hr	___ ENVENG 5170 (Pollution Prev) _____ 3 hr
___ ENVENG 5140 (Air Quality Eng) _____ 3 hr	___ Technical Elective_____ 3 hr
___ Technical Elective_____ 3 hr	___ Technical Elective_____ 3 hr
___ Technical Elective_____ 3 hr	___ Thematic Pathways_____ 4 hr

Transition Policy

Environmental Engineering will continue to allow ENVENG 5140 to substitute for CBE 5771, pending the permanent change to the curriculum.

Sincerely,

A handwritten signature in cursive script that reads "John J. Lenhart".

John J. Lenhart, Ph.D.
Professor and Associate Chair
Department of Civil, Environmental and Geodetic Engineering
Ohio State University

Student Information

Name: _____ OSU ID: _____ OSU Admit Term: _____

Phone: _____ Email (*name.number@osu.edu*): _____

Suggested Curriculum

This should be used as a **guide** only. Semester offerings are subject to change.

Year	Autumn	Spring
1	___ MATH 1151 (Calculus 1) _____ 5 hr ___ ENGR 1181 (Fundamentals of Engr 1) _____ 2 hr ___ ENGR 1100 (Engineering Survey) _____ 1 hr ___ PHYSICS 1250 (Mechanics, Thermal, Waves) ___ 5 hr ___ GEN Writing and Information Literacy _____ 3 hr ___ GEN Launch Seminar _____ 1 hr	___ MATH 1172 (Engineering Math A) _____ 5 hr ___ ENGR 1182 (Fundamentals of Engr 2) _____ 2 hr ___ CHEM 1210 ⁵ (Gen Chem 1) _____ 5 hr ___ ENGR 1221 ¹ (Computer Programming) _____ 2 hr ___ GEN Citizenship Just and Diverse World _____ 4 hr
2	___ MATH 2177 ² (Math Topics for Engineers) _____ 4 hr ___ MECHENG 2040 ³ (Statics & Mechanics) _____ 4 hr ___ CHEM 1220 (Gen Chem 2) _____ 5 hr ___ GEN Historical and Cultural Studies _____ 3 hr	___ CIVILEN 2050 ⁴ (Prob & Data Interpretation) _____ 3 hr ___ CIVILEN 2090 (Prof Aspects) _____ 1 hr ___ MECHENG 2030 (Dynamics) _____ 3 hr ___ ENVENG 2100 (Analytical Methods) _____ 3 hr ___ CHEM 2510 ⁵ (Organic Chemistry) _____ 4 hr ___ GEN Race, Ethnicity, Gender Diversity _____ 3 hr
3	___ MICRBIO 4000.0x (Microbiology) _____ 4 hr ___ CIVILEN 3130 (Fluid Mechanics) _____ 3 hr ___ ENVENG 3200 (Fund Env Engr) _____ 3 hr ___ Additional Science Elective ⁶ _____ 4 hr ___ GEN Social and Behavioral Sciences _____ 3 hr	___ CIVILEN 2060 (Numerical Analysis Methods) 4 hr ___ CIVILEN 3080 (Econ Eval & Optimization) _____ 3 hr ___ CIVILEN 3160 (Water Resources Engr) _____ 3 hr ___ ENVENG 3210 (Unit Operations) _____ 3 hr ___ GEN Literary, Visual, Performing Arts _____ 3 hr
4	___ ENVENG 5110 (Biotechnology) _____ 3 hr ___ ENVENG 4200 (Unit Ops Lab) _____ 1 hr ___ ENVENG 5140 (Air Quality Engineering) _____ 3 hr ___ Technical Elective _____ 3 hr ___ Technical Elective _____ 3 hr	___ ENVENG 4090 (Capstone Design) _____ 3 hr ___ ENVENG 5170 (Pollution Prev) _____ 3 hr ___ Technical Elective _____ 3 hr ___ Technical Elective _____ 3 hr ___ Thematic Pathways _____ 4 hr

Total Hours to complete the degree program = 130. Please note, course schedules may not follow this plan exactly. This is a reference guide for students. Students should contact their advisor for academic guidance. **Courses in BOLD are only offered once per year.**

¹ CSE 1222, 1223, or 1224 are acceptable substitutes for ENGR 1221.

² MATH 2173+2174 or MATH 2568+2415 are acceptable substitutions for MATH 2177.

³ MECHENG 2010+2020 are acceptable substitutions for MECHENG 2040.

⁴ STATISTICS 3460 or 3470 are acceptable substitutions for CIVILEN 2050.

⁵ CHEM 1206+1208 is an acceptable substitution for CHEM 1210

⁶ CHEM 2310 is an acceptable substitution for CHEM 2510.

⁷ ENR 3000 and 3001, EARTHSC 1121 and 1200, or EARTHSC 11151 and 1200 can be taken as Additional Science Elective

Please contact a CEGE advisor if you have questions or concerns about any of the listed substitutions.

Please note that students who need preparatory work before beginning Math 1151 will need additional time to complete this curriculum. The outlined curriculum is not a prescribed plan and is intended to be used as a guide to assist students in progressing through the curriculum with respect to prerequisite courses. Course offerings are subject to change. Please check the online course bulletin and master schedule for prerequisite requirements & course availability.

Acceptance Criteria

Acceptance into the Environmental Engineering major is based on a holistic review of a written application and academic performance. Applications are accepted during Autumn and Spring terms. Only CPHR (cumulative GPA) will be reviewed. Applications can be submitted upon completion of or enrollment in Engineering 1181 and 1182, Math 1151 and 1172, and either Physics 1250, Chemistry 1210 or Chemistry 1250.

Technical and Other electives

Students are required to complete 12 hours of technical electives, chosen in consultation with a faculty advisor upon admission to the major. Students must complete six hours of coursework from *Area 1*, and one course from *Area 2*. The remaining coursework may come from any Area as outlined on the Technical Elective Guide.

Area 1 Technical Elective:	_____	Cr. Hrs.	_____
Area 2 Technical Elective:	_____	Cr. Hrs.	_____
Technical Elective:	_____	Cr. Hrs.	_____
Technical Elective:	_____	Cr. Hrs.	_____

General Education Requirements

Launch Seminar

GENED 1201 _____ 1hr

Foundations

Complete all of the following:

Writing and Information Literacy _____ 3 hr

Historical and Cultural Studies _____ 3 hr

Social and Behavioral Sciences _____ 3 hr

Race, Ethnicity, and Gender Diversity _____ 3 hr

Literary, Visual, and Performing Arts _____ 3 hr

Thematic Pathways (8-12 hours)

Citizenship for a Just and Diverse World _____ 4-6 hr

Additional Theme(s) _____ 4-6 hr