



College of Engineering

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Date: 23 February 2015

To: Randy Smith
Vice Provost, Office of Academic Affairs (OAA)

From: Ed McCaul
Secretary, College Committee on Academic Affairs (CCAA)

Subject: Environmental Engineering Minor

CCAA has reviewed and approved the attached Environmental Engineering Minor on the 19th of February 2015. This minor is being submitted to you as required by the university's new minor policy. If you have any questions concerning this minor please let me know.

The Ohio State University
College of Engineering
Department of Civil, Environmental and Geodetic Engineering
Environmental Engineering Minor (ENVENG-MN)

The Environmental Engineering minor will provide a wide range of undergraduate majors with an introductory foundation in sustainability, pollution prevention, environmental modeling, and pollution control technologies. By completing the minor in Environmental Engineering, students should add considerable to their major program skills and become more valuable to their future employer. Science majors will gain an understanding of engineering problem-solving methods and procedures, as well as standard pollution control technologies. Other engineering majors will become more aware of the environmental effects of technologies in their major field, and how to reduce these effects.

Prerequisites for Environmental Engineering Minor

Must be completed prior to beginning the minor program:

- Math 1151
- Chemistry 1220 General Chemistry II
or Chemistry 1250 Chemistry for Engineers

Requirements for Environmental Engineering Minor:

Credit hour requirement: minimum of **15 credit hours**

Required Courses *All 3 courses below must be completed*

- ENVENG 3200 Fundamentals of EnvEng* (3 hrs)
- ENVENG 3210 Unit Operations in EnvEng (3 hrs) (POI)
- ENVENG 2100 Analytical Methods in EnvEng (3 hrs)

Electives of Minor

Select 6 hours of coursework from the approved elective list below. Engineering students may double-count 6 (six) credit hours from the minor with the technical elective portion of their engineering degree program.

**Civil Engineering students, who use ENVENG 3200 as one of the six Core Electives in the major must take an additional 3 hours of elective credit from below.*

POI = student may need Permission of Instructor for enrollment if prereq. is not part of major curriculum

(c) = concurrent requisite

Suggested Sequence of Course

<u>Autumn Semester</u>	<u>Spring Semester</u>
EnvEng 3200	EnvEng 3210
	EnvEng 2100
Electives	Electives

Environmental Engineering minor program guidelines

Required for graduation: No

Credit hours required: A minimum of 15 credit hours is required to complete the Environmental Engineering minor.

Transfer credit hours allowed: No more than one half of the credit hours required for the minor can come from transfer credit.

Overlap with the major: 12 hrs in the minor program must be distinct from the major program.

Double-counting: Students in Civil Engineering are permitted to double-count up **6 (six)** credit hours from the minor with the technical elective portion of their engineering degree program.

Grades required

- Minimum C- for a course to be listed in the minor program
- Minimum 2.0 cumulative point-hour ration (CPHR) required for the minor
- Course work graded Pass/Non-Pass cannot count towards the minor

Minor approval/changing the minor: A student who completes the minor following the requirements need only file their college's minor program form with their academic advisor or college office. Any changes must be approved by the Department of Civil, Environmental and Geodetic Engineering

Filing the minor program form: The minor program form must be filed at least by the time the graduation application is submitted to the students' respective department.

<u>Course Number</u>	<u>Title</u>	<u>Hours</u>	<u>Pre-requisites</u>
ENVENG 5310	Ecological Engineering and Science	3	Rank 3+; course in one of the following: biology, ecology, engineering or geology
ENVENG 4200	Unit Operations in Environmental Eng Lab	1	ENVENG 2100; ENVENG 3210; ENVENG 5110(c)
ENVENG 5110	Environmental Biotechnology	3	ENVENG 3200
ENVENG 5410	Hazardous Waste Management	2	ENVENG 3210
ENVENG 5170	Sustainability and Pollution Prevention Practices	3	ENVENG 3210
CIVILEN 5230	Transport Phenomenon in Water Resource Eng.	3	Math 2173 or 2177; CIVILEN 3160
ENVENG 5430	Principles of Risk Assessment	3	ENVENG 3200
CBE 5771	Air Pollution	3	Rank 4 in engineering
CBE 5772	Principles of Sustainable Engineering	3	POI or CBE 4760
EARTHSC 5651	Hydrogeology	4	EarthSci 1121; Math 1152
ENR 3000 and 3001	Soil Science	3/1	Rank 2+
ENR 5273	Fate of Pollutants in Soils and Natural Waters	3	2 semesters of Chemistry

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