

Memorandum

To: Cornelia Patterson, PhD
University Curriculum Committee, Programs Chair

From: Guy Riefler, PhD, PE
Chair of Civil Engineering

cc: Maj Mirmirani, PhD
interim Dean of Russ College of Engineering

Date: September 2, 2022

Re: Department of Civil Engineering name change

We propose to change the name of the department “Civil Engineering” to “Civil and Environmental Engineering.” This is long overdue. Most Civil Engineering departments in the country made this change over the past few decades. Of the 158 Civil Engineering departments in the US, only 14% are still called “Civil Engineering,” while 58% are called “Civil and Environmental Engineering” and the remaining 29% use another name (e.g. “Department of Civil, Architectural and Environmental Engineering”). In Ohio, only two departments use the name “Civil Engineering” (including OHIO), while three use “Civil and Environmental Engineering” and three use another name (e.g. “Civil, Environmental, and Geodetic Engineering”). This change will help us better compete for students on a regional and national level, and we expect an increase in enrollments with the name change. We would like this change to be effective January 2023.

In our 2021 7-Year Review, changing the name of the department to bring OHIO more in-line with universities nationwide was one of the final recommendations:

One potential, low-cost way to enhance the statewide/national reputation of the CE department would be to move forward with discussions to change the name of the Department to emphasize its environmental engineering strengths, such as Department of Civil and Environmental Engineering(CEE). Many other universities in the United States use the name “CEE” for many reasons, including recruiting perspective students who are interested in environmental engineering and water resources engineering and encouraging interdisciplinary projects focused on environmental protection and sustainability.

In the 2021 Fall meeting, the name change proposal was brought before our Advisory Board comprised of working Civil Engineering professionals many of whom are alumni. The board voted 6 for and 2 against changing the name of the department to Civil and Environmental Engineering. Comments from our board members include:

I think we should change it to “Department of Civil and Environmental Engineering”. That seems to be the norm across the US these days. In reviewing U.S. News’ top 12 CE schools, Only one was CE, ten were CEE and one was Civil, Architectural and Environmental (what were they thinking!). I would definitely not be agreeable to adding “Department of Civil and Infrastructure Engineering

I support the change. I do not think it will deter anyone and instead will hopefully help with the recruiting those interested in environmental engineering.

Civil Engineering is multi-disciplined with practices in: water, wastewater, structural, traffic, environmental, planning. To me, adding “Environmental” fully integrates/associates Civil Engineering with today’s “Sustainability, Green Infrastructure, Climate Change” that is everywhere one goes (e.g. publications, internet, radio/tv, youth and current Democratic party proposed agenda/policies/funding). I can’t recall any Civil Engineering Project that did not include “Environmental” components required by Local, City, State, Federal authorities. Therefore, I fully support the name change. I HIGHLY support changing the department name to include Environmental. Like you, I was seeking more of an education in environmental studies when I attended OU...at the time, the CE Department seemed like the closest I could get, but I was guessing. The change may also foster the creation of a stronger environmental track in the future when things settle out from the past year.

We hope highlighting our environmental options will also help increase our diversity. Currently, the percentage of females in the BS of Civil Engineering department is 23%. This is near the national average for all Civil Engineering type departments of 25%, but still far below what we would like. Nationally, 52% of degrees called Environmental Engineering were awarded to females. Although, we are not planning to offer a degree exclusively in Environmental Engineering, we do expect to be able to recruit more female engineers to the department with the name Civil and Environmental Engineering. Anecdotally, we see a higher number of females in the environmental engineering elective classes and participating in undergraduate environmental engineering research.

As with most Civil Engineering departments, the OHIO Civil Engineering curriculum is very diverse. As required by the Accreditation Board for Engineering and Technology, Civil Engineering type departments must have an appropriate curriculum that specializes in at least four technical areas. OHIO’s Civil Engineering department has required classes, elective classes, and capstone classes in the technical areas of Structural Engineering, Transportation Engineering, Geotechnical Engineering, and Environmental Engineering. All graduates of the Civil Engineering department must take four required classes in the environmental area:

- CE 3400 Fluid Mechanics (3 cr)
- CE 3410 Hydraulics Laboratory (1 cr)
- CE 3420 Applied Hydrology and Hydraulics Engineering (3 cr)
- CE 4500 Water and Wastewater Treatment (3 cr)

Required classes that support these classes that are used in the environmental technical area, but are not exclusive to that area include:

- CHEM 1510 Fundamentals of Chemistry I (4 cr)
- GEOL 1010 How the Earth Works (4 cr)

or GEOL 2830 Geology for Engineers (4 cr)
MATH 2301 Calculus I (4 cr)
MATH 2302 Calculus II (4 cr)
MATH 3400 Elementary Differential Equations (3 cr)
PHYS 2054 General Physics I classical mechanics and thermodynamics (3 cr)
PHYS 2055 General Physics I laboratory class (1 cr)
ET 2200 Statics (3 cr)
ET 2240 Dynamics (3 cr)

Students must select three Civil Engineering elective classes that include all of the different technical areas. Environmental electives students can choose from that are regularly offered are:

CE 3530 Environmental Engineering Basics
CE 4510 *In situ* Remediation
CE 4530 Solid and Hazardous Waste Management
CE 4540 Sustainable Construction
CE 4570 Water Resources Engineering
CE 4580 Water Quality Engineering

Finally, students must select a capstone class. Students with an environmental focus can choose:

CE 4911 Senior Design-Environmental/Water Resources

This existing curriculum is consistent with other national departments called "Civil and Environmental Engineering."

Currently, the Civil Engineering department has 10 tenured faculty that teach classes in the curriculum. Of those, 3 specialize in the Environmental area, 3 specialize in the Geotechnical area, 2 specialize in the Structural area, and 2 specialize in the Transportation area. All of these faculty have active research programs. We also have 1 instructional faculty that specializes in Construction Management and Surveying.

We assert that the name change is warranted with the existing curriculum and personnel. No curricular changes nor additional resources are requested. As a result, this will have no impact on faculty and students in the department. Students interested in pursuing Environmental Engineering as a career will benefit from being able to cite the new title.

This name change is consistent with goals of the Russ College of Engineering leadership to increase enrollment and diversity in the college and has the full support of Dean's office.