The mission of the civil and environmental engineering program is to develop leaders in education, industry, and government who can use their acquired skills to improve society. The academic program provides a comprehensive framework of courses in the broad area of civil and environmental engineering with opportunities to develop specialized expertise. It also emphasizes the development of integrated teamwork abilities, communication, leadership, entrepreneurship, and creative research skills. Graduate study in the department offers an opportunity to undertake advanced study and research in various areas of specialization.

Areas include:

- Construction engineering and management: construction labor productivity management, integrated lean project delivery systems, risk management, advanced computer applications to construction, and change management
- Environmental engineering: water supply, water quality, water treatment; wastewater treatment, solid and hazardous waste management, air pollution, biotechnology, and alternative energy
- Geo and pavement engineering: geotechnical and geological engineering, pavement materials and design, asphalt binders and mixtures, geosynthetics, in-situ testing and engineering geophysics, recycled materials in sustainable construction
- Structural engineering: behavior, analysis and design of reinforced/ prestressed concrete, steel, and wood structures; design for earthquake and wind loading; seismic rehabilitation
- Transportation engineering: highway and traffic engineering, intelligent transportation systems, connected and automated vehicles, transportation planning, freight, and infrastructure management, transportation safety, user comprehension and behavior, advanced driving- and micro-simulation, big data
- Water resources/environmental fluid mechanics: analysis, measurement, modeling of currents, flows, and waves in natural and constructed systems; surface and groundwater hydrology; hydraulic engineering; coastal engineering; sedimentation and transport processes; infrastructure impacts of extreme weather events, hydroecology and stream restoration

Students may also pursue studies in the broad fields of environmental engineering/science and systems analysis. Areas of specialization are organized into a constructed facilities division (including transportation engineering, structural engineering, construction engineering and management, pavement engineering, materials for constructed facilities, and geotechnical engineering) and an environmental engineering division (including geoenvironmental engineering, environmental fluid mechanics and water resources engineering, environmental science and technology, and environmental and water chemistry).

Degrees require a coordinated core program of courses, selected from CEE and other department/program offerings. Graduate degree programs closely associated with the department include engineering mechanics, human factors, environmental chemistry and technology, water resources management, geological engineering, land resources, and limnology and marine science.

In support of the instructional and research programs are laboratory facilities for structural engineering; highway materials; transportation systems; driving simulation and human factors; soil mechanics, geotechnical and geoenvironmental engineering; coastal and hydraulic engineering; environmental fluid mechanics; environmental engineering processes and engineering chemistry. Water resources engineering, environmental engineering, and water chemistry have additional research facilities in the Water Science and Engineering Laboratory on the shore of Lake Mendota. The Environmental Engineering Field Laboratory is located at the Nine–Springs Madison Metropolitan Wastewater Treatment Plant.

ADMISSIONS

Please consult the table below for key information about this degree program’s admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program’s website.

Graduate admissions is a two-step process between academic programs and the Graduate School. Applicants must meet the minimum requirements (https://grad.wisc.edu/apply/requirements/) of the Graduate School as well as the program(s). Once you have researched the graduate program(s) you are interested in, apply online (https://grad.wisc.edu/apply/).

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Deadline</td>
<td>December 15</td>
</tr>
<tr>
<td>Spring Deadline</td>
<td>September 1</td>
</tr>
<tr>
<td>Summer Deadline</td>
<td>December 15</td>
</tr>
<tr>
<td>GRE (Graduate Records Examinations)</td>
<td>Not required.</td>
</tr>
<tr>
<td>English Proficiency Test</td>
<td>Every applicant whose native language is not English or whose undergraduate instruction was not in English must provide an English proficiency test score and meet the Graduate School minimum requirements (<a href="https://grad.wisc.edu/apply/requirements/#english-proficiency">https://grad.wisc.edu/apply/requirements/#english-proficiency</a>).</td>
</tr>
<tr>
<td>Other Test(s) (e.g., GMAT, MCAT)</td>
<td>n/a</td>
</tr>
<tr>
<td>Letters of Recommendation Required</td>
<td>3</td>
</tr>
</tbody>
</table>

All applicants must meet the Graduate School’s admission requirements (http://grad.wisc.edu/admissions/requirements/) to be considered for admission. The application deadline is December 15 for the fall term and September 1 for the spring term. Late applications may not be reviewed for funding opportunities.

In addition, applicants must also meet the department’s more stringent admission requirements listed below to be considered for admission:

- Grades: A minimum undergraduate grade point average (GPA) of 3.00 (on a 4.00 scale) on the equivalent of the last 60 semester hours (approximately two years of work) is required for domestic applicants. A strong academic performance comparable to an average of B or above grades for all undergraduate course work is required for international applicants.
Degree: A bachelor's degree from an ABET-accredited engineering program or from a recognized international institution is recommended.

A complete graduate application is required before an application will be reviewed by the faculty. A complete graduate application contains the following:

- Graduate School Application Form and application fee: Applicants must submit an online application to the UW–Madison Graduate School. See Graduate School Admissions (https://grad.wisc.edu/admissions/) to apply.
- Statement of purpose: A statement of purpose for graduate study must be submitted through an applicant’s online UW–Madison Graduate School application. Please limit this important document to 1,000 words.
- Letters of recommendation: Three letters of recommendation must be submitted through an applicant’s online UW–Madison Graduate School application.
- Transcripts: Upload the most recent copies of your transcripts to the electronic application, from each institution attended. Study abroad transcripts are not required if coursework is reflected on the degree granting university’s transcript. If the application is recommended for admission then we will follow-up with instructions for official transcript submission.
- English proficiency scores: Applicants whose native language is not English, or whose undergraduate instruction was not in English, must provide an English proficiency test score. Scores are accepted if they are within two years of the start of the admission term. See Graduate School Admission Requirements (http://grad.wisc.edu/admissions/requirements/) for more information on the English proficiency requirement.
- TOEFL scores may be sent to institution code 1846 from ETS

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding/) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM RESOURCES

Financial support is available through fellowships, project/program assistantships (PA), research assistantships (RA), and teaching assistantships (TA). Faculty will contact successful applicants directly regarding funding opportunities. Admission is not a guarantee of funding.

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Mode of Instruction Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accelerated:</strong> Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.</td>
</tr>
<tr>
<td><strong>Evening/Weekend:</strong> Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.</td>
</tr>
<tr>
<td><strong>Face-to-Face:</strong> Courses typically meet during weekdays on the UW-Madison Campus.</td>
</tr>
<tr>
<td><strong>Hybrid:</strong> These programs combine face-to-face and online learning formats. Contact the program for more specific information.</td>
</tr>
<tr>
<td><strong>Online:</strong> These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.</td>
</tr>
</tbody>
</table>

CURRICULAR REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirement Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Credit Requirement</td>
</tr>
<tr>
<td>Minimum Residence Credit Requirement</td>
</tr>
<tr>
<td>Minimum Graduate Coursework Requirement</td>
</tr>
<tr>
<td>Overall GPA Requirement</td>
</tr>
<tr>
<td>Other Grade Requirements</td>
</tr>
</tbody>
</table>

- 51 credits
- 32 credits
- 26 credits must be graduate-level coursework. Details can be found in the Graduate School’s Minimum Graduate Coursework (50%) policy (https://policy.wisc.edu/library/UW-1244/).
- 3.00 GPA required.
- n/a

This program follows the Graduate School’s GPA Requirement policy (https://policy.wisc.edu/library/UW-1203).
Doctoral students are required to complete a qualifying exam to demonstrate a sufficient depth and breadth of knowledge in their major to pursue original research, usually after the first year of study. Students must consult with their advisor and/or the exam coordinator in the major area of study for the schedule and specific procedures.

Doctoral students are required to take a comprehensive preliminary/oral examination after they have cleared their record of all Incomplete and Progress grades (other than research and thesis). In order to qualify for the preliminary examination, students must have completed 32 credits in residence and their Ph.D minor.

Deposit of the doctoral dissertation in the Graduate School is required.

### REQUIRED COURSES

Basic requirements for a Ph.D. degree in Civil and Environmental Engineering include: (1) Ph.D. major coursework; (2) qualifying examination; (3) Ph.D. minor coursework; (4) preliminary examination; (5) dissertation research; and (6) final oral examination. Advanced coursework in a major area of civil and environmental engineering is required. The academic program for each doctoral student is planned on an individual basis with their advisor. 32 credits and minor coursework must be completed prior to achieving dissertator status (for students who have earned an M.S. degree, credits accumulated for the M.S. can be applied toward this requirement). All graduate students must register for a 1-credit research and thesis and deposit the dissertation within 5 years after passing the preliminary examination and to be admitted to candidacy a second time.

A candidate for a doctoral degree who fails to take the final oral examination and deposit the dissertation within 5 years after passing the preliminary examination may be required to take another preliminary examination and to be admitted to candidacy a second time.

### CREDITS PER TERM ALLOWED

15 credits

### TIME LIMITS

This program follows the Graduate School's Time Limits policy. (https://policy.wisc.edu/library/UW-I22I/)

A candidate for a doctoral degree who fails to take the final oral examination and deposit the dissertation within 5 years after passing the preliminary examination may be required to take another preliminary examination and to be admitted to candidacy a second time.

### GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (https://doso.students.wisc.edu/bias-or-hate-reporting/)
- Graduate Assistantship Policies and Procedures (https://hr.wisc.edu/policies/gapp/#grievance-procedure)
are also encouraged to talk with their faculty advisors regarding concerns
informally address the grievance prior to any formal complaint. Students
issues of students. The Grievance Advisor first attempts to help students
for graduate students who have concerns about education, mentoring,
education in the College of Engineering (CoE), and is a point of contact
graduateaffairs@engr.wisc.edu
The Assistant Dean for Graduate Affairs (engr-dean-graduateaffairs@engr.wisc.edu) provides overall leadership for graduate
education in the College of Engineering (CoE), and is a point of contact
for graduate students who have concerns about education, mentoring,
research, or other difficulties.

• The Grievance Advisor is responsible for facilitating any complaints or
issues of students. The Grievance Advisor first attempts to help students
informally address the grievance prior to any formal complaint. Students
are also encouraged to talk with their faculty advisors regarding concerns

CxEE Grievance Procedures
Students who feel that they have been treated unfairly have the right to
a prompt hearing of their grievance. Such complaints may involve course
grades, classroom treatment, advising, various forms of harassment, or
other issues. Any student or potential student may use these procedures.

• The student should speak first with the person toward whom the
grievance is directed. In most cases, grievances can be resolved at this
level.

• Should a satisfactory resolution not be achieved, the student should
contact the program’s Grievance Advisor to discuss the grievance.
Currently, the CxEE Grievance Advisors are:

Christina Remucal, Professor and Associate Chair for Graduate
Programs
remucal@wisc.edu 141 WSEL Phone: (608) 262-1820

William Likos, Professor and CxEE Department Chair
likos@wisc.edu 2205 Engineering Hall Phone: (608) 890-2662

If the student prefers to talk with someone outside of the CxEE
department, contact:
CoE Assistant Dean for Graduate Affairs.

The Assistant Dean for Graduate Affairs (engr-dean-graduateaffairs@engr.wisc.edu) provides overall leadership for graduate
education in the College of Engineering (CoE), and is a point of contact
for graduate students who have concerns about education, mentoring,
research, or other difficulties.

• The Grievance Advisor is responsible for facilitating any complaints or
issues of students. The Grievance Advisor first attempts to help students
informally address the grievance prior to any formal complaint. Students
are also encouraged to talk with their faculty advisors regarding concerns

or difficulties if necessary. University resources for sexual harassment
concerns can be found on the UW Office of Compliance website and are
included in the next section.

• If the issue is not resolved to the student’s satisfaction the student
can submit the grievance to the Grievance Advisor in writing, within 60
calendar days of the alleged unfair treatment.

• On receipt of a written complaint, a faculty committee will be convened
by the Grievance Advisor to manage the grievance. The program faculty
committee will obtain a written response from the person toward whom
the complaint is directed. This response will be shared with the person
filing the grievance.

• The faculty committee will determine a decision regarding the grievance.
The Grievance Advisor will report on the action taken by the committee in
writing to both the student and the party toward whom the complaint was
directed within 15 working days from the date the complaint was received.

• At this point, if either party (the student or the person toward whom
the grievance is directed) is unsatisfied with the decision of the faculty
committee, the party may file a written appeal. Either party has 10 working
days to file a written appeal to the College.

• Documentation of the grievance will be stored for at least 7 years.
Significant grievances that set a precedent will be stored indefinitely.

The Graduate School has established policies governing student conduct,
cademic dishonesty, and sexual and racial harassment. The Graduate
School also has procedures for students wishing to appeal a grievance
decision made at the college level. These policies are described in the
Academic Guidelines.

OTHER
Faculty will contact successful applicants directly regarding funding
opportunities. Admission is not a guarantee of funding.

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES
Take advantage of the Graduate School’s professional development
resources (https://grad.wisc.edu/pd/) to build skills, thrive academically,
and launch your career.

LEARNING OUTCOMES

1. Demonstrate an extraordinary, deep understanding of mathematical,
scientific, and engineering principles in the field.
2. Demonstrate an ability to formulate, analyze, and independently solve
advanced engineering problems.
3. Apply the relevant scientific and technological advancements,
techniques, and engineering tools to address these problems.
4. Recognize and apply principles of ethical and professional conduct.
5. Demonstrate an ability to synthesize knowledge from a subset of the
biological, physical, and/or social sciences to help frame problems
critical to the future of their discipline.
6. Demonstrate an ability to conduct original research and communicate
it to their peers.
Civil and Environmental Engineering Faculty: Professors Likos (chair), Ahn, Hanna, Harrington, Hurley, Loheide, McMahon, Noguera, Noyce, Park, Parra-Montesinos, Ran, Russell, Schauer, Wu; Associate Professors Block, Fratta, Ginder-Vogel, Hicks, Li, Pincheira, Prabhakar, Remucal, Sone, Tinjum, Wright; Assistant Professors Blum, Chen, Hampton, Pujara, Qin, Wang, Wei, Zhu; M.Eng Program Director Carlson. See also CEE faculty (http://directory.engr.wisc.edu/cee/faculty/).

Geological Engineering Faculty: Professors Tinjum (Director) (Civil and Environmental Engineering), Feigl (Geoscience), Goodwin (Geoscience), Hard (Wisconsin Geological and Natural History Survey), Likos (Civil and Environmental Engineering), Loheide (Civil and Environmental Engineering), Tikoff (Geoscience), Wu (Civil and Environmental Engineering); Associate Professors Cardiff (Geoscience), Ferrier (Geoscience), Fratta (Civil and Environmental Engineering), Ginder-Vogel (Civil and Environmental Engineering), Hicks (Civil and Environmental Engineering), Sone (Civil and Environmental Engineering), Zoet (Geoscience); Assistant Professors Hampton (Civil and Environmental Engineering), Golos (Geoscience), Zahasky (Geoscience). See also GLE faculty (https://engineering.wisc.edu/departments/civil-environmental-engineering/research/geological-engineering/).

Environmental Chemistry and Technology: Professors Hurley (Civil and Environmental Engineering), Bertram (Chemistry), Bleam (Soil Science), Harrington (Civil and Environmental Engineering), Karthikeyan (Biological Systems Engineering), McMahon (Civil and Environmental Engineering/Bacteriology), Roden (Geoscience), Root (Chemical and Biological Engineering), Schauer (Civil and Environmental Engineering), Thompson (Biological Systems Engineering); Associate Professors Ginder-Vogel (director; Civil and Environmental Engineering), Remucal (Civil and Environmental Engineering), Whitman (Soil Science); Assistant Professors Anantharaman (Bacteriology), Majumder (Bacteriology), Qin (Civil and Environmental Engineering), Wei (Civil and Environmental Engineering). See also ECT Faculty (https://engineering.wisc.edu/departments/civil-environmental-engineering/research/environmental-chemistry-technology/).