CIVIL AND ENVIRONMENTAL ENGINEERING: WATER RESOURCES ENGINEERING, M.S.

Admissions to the Civil and Environmental Engineering: Water Resources Engineering, M.S. have been suspended as of summer 2021 and will be discontinued as of fall 2022. If you have any questions, please contact the department.

This is a named option within Civil and Environmental Engineering M.S. (http://guide.wisc.edu/graduate/civil-environmental-engineering/civil-environmental-engineering-ms/) It is based on coursework only (no research-based thesis). This program will be replaced by Civil and Environmental Engineering: Professional M.S. (http://guide.wisc.edu/graduate/civil-environmental-engineering/civil-environmental-engineering-ms/civil-environmental-engineering-professional-ms/) in fall 2021.

The Water Resources Engineering named option in the M.S.–CEE from the Department of Civil and Environmental Engineering (https://www.engr.wisc.edu/department/civil-environmental-engineering/academics/accelerated-master-science-programs-civil-environmental-engineering/) at the University of Wisconsin–Madison teaches you the scientific and engineering skills to evaluate, plan, and operate water resource and environmental systems.

Our program takes just one year to complete, and focuses on a systems-based approach to managing water resources for societal benefit. You learn principles of water movement through the environment and understand how to best utilize it for municipal and industrial uses, agriculture, and natural ecosystems. You also solve practical problems in hydrology; fluid mechanics; environmental flows in rivers, lakes, and coastal environments; and water resource management.

Build the expertise to analyze and design systems that control all aspects of the distribution of water to meet the needs of humans and improve natural resource management. You also analyze and solve scientific and engineering questions through field methods, laboratory experiments, remote-sensing techniques, numerical and statistical modeling, and analytic approaches.

With an M.S.–CEE named option in Water Resources Engineering at UW–Madison, you develop strong quantitative skills in modeling, systems thinking, and sustainability science. Graduate ready to succeed in consulting firms, federal and state laboratories and agencies, and municipal and county governments, and place yourself at the forefront of rapidly developing and world-changing innovations.

ADMISSIONS

Admissions to the Civil and Environmental Engineering: Water Resources Engineering, M.S. have been suspended as of summer 2021 and will be discontinued as of fall 2022. If you have any questions, please contact the department.

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>This program does not admit in the spring</td>
</tr>
<tr>
<td>Summer Deadline</td>
<td>This program does not admit in the summer</td>
</tr>
<tr>
<td>GRE (Graduate Record 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>

Applicants must first meet all of the requirements of the Graduate School. Please visit this website (https://grad.wisc.edu/) for details. The application deadline is December 15 for the fall term.

Applicants must also meet department specific requirements as outlined below:

- Have a bachelor's degree in civil and environmental engineering from an ABET-accredited engineering program or from a recognized international institution
- Submit a 1,000 word or fewer statement of purpose; include your technical areas of interest, coursework emphasis, research experience, professional goals, faculty members you are interested in working with, and any other items relevant to your qualifications for graduate school
- Submit three letters of recommendation
- Non-native English speakers must have a Test of English as a Foreign Language (TOEFL) with a score of 580 (written) or 92 (Internet version)

Please do not mail paper copies of application materials. Upload the required application materials to the electronic Graduate School application, including a PDF copy of the most current transcripts. Applicants who are recommended for admission by the CEE Admissions Committee, will receive an e-mail with further instructions from the CEE Graduate Admissions Office, requesting official transcripts or other required application material.

Applicants should monitor the application status by visiting the "Graduate Application Status" window within your MyUW portal (information on this is received after submitting an application). You may need to activate a NetID to gain access to the MyUW portal.
Graduate Application Status will remain “pending” until recommendations are determined. All applicants will receive an e-mail from the CEE Graduate Admissions Team with more details once the admission committees have made decisions.

**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**

Students in this program are not eligible for department funded opportunities in the form of teaching assistantship (TA), research assistantship (RA), or project assistantship (PA).

**REQUIREMENTS**

**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.

**NAMED OPTION REQUIREMENTS**

**MODE OF INSTRUCTION**

<table>
<thead>
<tr>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Mode of Instruction Definitions

- **Accelerated**: Accelerated programs are offered at a fast pace that condenses the time to completion. Students are able to complete a program with minimal disruptions to careers and other commitments.
- **Evening/Weekend**: 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.
- **Face-to-Face**: Courses typically meet during weekdays on the UW-Madison Campus.
- **Hybrid**: These programs combine face-to-face and online learning formats. Contact the program for more specific information.
- **Online**: 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.

**CURRICULAR REQUIREMENTS**

<table>
<thead>
<tr>
<th>Requirements Detail</th>
<th>Minimum Credit Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Credit Requirement</td>
<td>30 credits</td>
</tr>
</tbody>
</table>

Minimum Residence Credit Requirement

- At least 50% of credits applied toward the graduate degree must be completed in graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide.

Overall Graduate GPA Requirement

- 3.00 GPA required.

Other Grade Requirements

- The Graduate School requires an average grade of B or better in all coursework (300 or above, not including research credits) taken as a graduate student unless conditions for probationary status require higher grades. Grades of Incomplete are considered to be unsatisfactory if they are not removed during the next enrolled semester.

Assessments and Examinations

- Contact the program for information on required assessments and examinations.

Language Requirements

- Contact the program for information on any language Requirements requirements.

**REQUIRED COURSES**

This is a face-to-face, accelerated program:

- 30 credit degree program
- Complete the program in one academic year (fall, spring, summer)
- Courses begin in fall semester only
- Take 18 credits from the approved list of specialized courses; up to 6 credits of advanced independent study; 1-2 credits in a graduate student seminar; and up to 6 credits from a second discipline based on your career interests and faculty advisement

Typical curriculum in this program: 12 credits fall semester. 12 credits spring semester. 6 credits summer semester.

**Course Options**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIV ENGR 410</td>
<td>Hydraulic Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 411</td>
<td>Open Channel Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 412</td>
<td>Groundwater Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 414</td>
<td>Hydrologic Design</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 415</td>
<td>Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 416</td>
<td>Water Resources Systems Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR/G L E 421</td>
<td>Environmental Sustainability Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 423</td>
<td>Air Pollution Effects, Measurement and Control</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 426</td>
<td>Design of Wastewater Treatment Plants</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 427</td>
<td>Solid and Hazardous Wastes Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 428</td>
<td>Water Treatment Plant Design</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 429</td>
<td>Environmental Systems Optimization</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 500</td>
<td>Water Chemistry</td>
<td>3</td>
</tr>
</tbody>
</table>
minimum graduate coursework requirement, but will not count toward the
minimum graduate residence credit requirement. Coursework earned five
or more years prior to admission to a master’s degree is not allowed to
satisfy requirements.

**UW–Madison Undergraduate**

With program approval, no more than 7 credits of coursework numbered
300 or higher from a UW–Madison undergraduate degree are allowed
to count only toward the minimum graduate degree credit requirement.
Coursework earned five or more years prior to admission to a master’s
degree is not allowed to satisfy requirements.

**UW–Madison University Special**

With program approval, students are allowed to count up to 15 credits
of coursework numbered 300 or above taken as a UW–Madison special
student toward the Minimum Graduate Residence Credit Requirement,
and the Minimum Graduate Degree Credit Requirement; those courses
numbered 700 or above may be applied toward the Minimum Graduate
Coursework (50%) Requirement. Coursework earned five or more
years prior to admission to a master’s degree is not allowed to satisfy
requirements.

**PROBATION**

The Graduate School regularly reviews the record of any student who
earned grades of BC, C, D, F, or Incomplete in a graduate course (300
or above), or grade of U in research credits. This review could result
in academic probation with a hold on future enrollment or in being
suspended from the Graduate School.

**ADVISOR / COMMITTEE**

Every graduate student is required to have an advisor. To ensure that
students are making satisfactory progress toward a degree, the Graduate
School expects them to meet with their advisor on a regular basis.

In many cases, an advisor is assigned to incoming students. Students
can be suspended from the Graduate School if they do not have an
advisor. An advisor is a faculty member, or sometimes a committee,
from the major department responsible for providing advice regarding
graduate studies.

A committee often accomplishes advising for the students in the early
stages of their studies.

**CREDITS PER TERM ALLOWED**

15 credits

**TIME CONSTRAINTS**

Master’s degree students who have been absent for five or more
consecutive years lose all credits that they have earned before their
absence. Individual programs may count the coursework students
completed prior to their absence for meeting program requirements; that
coursework may not count toward Graduate School credit requirements.

**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)
- Hostile and Intimidating Behavior Policies and Procedures (https://hr.wisc.edu/hib/)

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**Policies**

**GRADUATE SCHOOL POLICIES**

The Graduate School’s Academic Policies and Procedures (https://
grad.wisc.edu/acadpolicy/) provide essential information regarding
general university policies. Program authority to set degree policies
beyond the minimum required by the Graduate School lies with the
degree program faculty. Policies set by the academic degree program can
be found below.

**NAMED OPTION-SPECIFIC POLICIES**

**PRIOR COURSEWORK**

Graduate Work from Other Institutions

With program approval, students are allowed to count credits of graduate
coursework from other institutions. Approved credits will be allowed to
count toward the minimum graduate degree credit requirement and the

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIV ENGR 501</td>
<td>Water Analysis-Intermediate</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 514</td>
<td>Coastal Engineering</td>
<td>2-3</td>
</tr>
<tr>
<td>CIV ENGR 515</td>
<td>Hydroclimatology for Water Resources Management</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 522</td>
<td>Hazardous Waste Management</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 618</td>
<td>Special Topics in Hydraulics &amp; Fluid Mechanics</td>
<td>1-3</td>
</tr>
<tr>
<td>CIV ENGR 619</td>
<td>Special Topics in Hydrology</td>
<td>1-3</td>
</tr>
<tr>
<td>CIV ENGR/ SOIL SCI 623</td>
<td>Microbiology of Waterborne Pathogens and Indicator Organisms</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR/ M&amp;ENVTOX/ SOIL SCI 631</td>
<td>Toxicants in the Environment: Sources, Distribution, Fate, &amp; Effects</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 700</td>
<td>Chemistry of Natural Waters</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR/ ATM OCN 701</td>
<td>The Chemistry of Air Pollution</td>
<td>2</td>
</tr>
<tr>
<td>CIV ENGR 703</td>
<td>Environmental Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 704</td>
<td>Environmental Chemical Kinetics</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 716</td>
<td>Statistical Modelling of Hydrologic Systems</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 721</td>
<td>Biological Principles of Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 722</td>
<td>Chemical Principles of Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 723</td>
<td>Energy Principles of Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR/G LE 732</td>
<td>Unsaturated Soil Geoengineering</td>
<td>3</td>
</tr>
<tr>
<td>CIV ENGR 821</td>
<td>Environmental Engineering: Biological Treatment Processes</td>
<td>3-4</td>
</tr>
<tr>
<td>CIV ENGR 822</td>
<td>Environmental Engineering: Physical/Chemical Treatment Process</td>
<td>3-4</td>
</tr>
<tr>
<td>G LE/GEOSCI 594</td>
<td>Introduction to Applied Geophysics</td>
<td>3</td>
</tr>
<tr>
<td>G LE/GEOSCI 627</td>
<td>Hydrogeology</td>
<td>3-4</td>
</tr>
<tr>
<td>G LE/GEOSCI 629</td>
<td>Contaminant Hydrogeology</td>
<td>3</td>
</tr>
<tr>
<td>G LE/GEOSCI 724</td>
<td>Groundwater Flow Modeling</td>
<td>3</td>
</tr>
<tr>
<td>MICROBIO/ SOIL SCI 425</td>
<td>Environmental Microbiology</td>
<td>3</td>
</tr>
</tbody>
</table>
• Office of the Provost for Faculty and Staff Affairs (https://facstaff.provost.wisc.edu/)
• Dean of Students Office (https://doso.students.wisc.edu/) (for all students to seek grievance assistance and support)
• Employee Assistance (http://www.eao.wisc.edu/) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
• Employee Disability Resource Office (https://employeeabilities.wisc.edu/) (for qualified employees or applicants with disabilities to have equal employment opportunities)
• Graduate School (https://grad.wisc.edu/) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
• Office of Compliance (https://compliance.wisc.edu/) (for class harassment and discrimination, including sexual harassment and sexual violence)
• Office of Student Conduct and Community Standards (https://conduct.students.wisc.edu/) (for conflicts involving students)
• Ombuds Office for Faculty and Staff (http://www.ombuds.wisc.edu/) (for employed graduate students and post-docs, as well as faculty and staff)
• Title IX (https://compliance.wisc.edu/titleix/) (for concerns about discrimination)

CEE 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 CEE 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 CEE Department Chair likos@wisc.edu 2205 Engineering Hall Phone: (608) 890-2662

If the student prefers to talk with someone outside of the CEE department, contact:

Chris Brace, Assistant Dean

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 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, academic 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

Students in the accelerated MS (named options) are not eligible for department funded opportunities.

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.

PEOPLE

Civil and Environmental Engineering Faculty: Professors Likos (chair), Ahn, Bahia, Cramer, Hanna, Harrington, Hurley, Likos, Loheide, McMahon, Noguera, Noyce, Park, Parra-Montesinos, Ran, Russell, Schauer, Wu; Associate Professors Block, Fratta, Ginder-Vogel, Pincheira, Remucal, Tinjum; Assistant Professors Blum, Hampton, Hicks, Prabhakar, Pujara, Qin, Sone, Wang, Wei, Wright, 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), Holloway (Nelson Institute), Likos (Civil and Environmental Engineering), Loheide (Civil and Environmental Engineering), Thurber (Geoscience), Tikoff (Geoscience), Wu (Civil and Environmental Engineering); Associate Professors Cardiff (Geoscience), Fratta (Civil and Environmental Engineering), Ginder-Vogel (Civil and Environmental Engineering); Assistant Professors Hampton (Civil and Environmental Engineering), Hicks (Civil and Environmental Engineering), Sone (Civil and Environmental Engineering), Zoet (Geoscience); Professor of Practice
Pakes (Grainger). See also GLE faculty (https://www.engr.wisc.edu/geological-engineering/people/).

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