

Online Master of Engineering in Civil and Environmental Engineering – Environmental Engineering Named Option

Program Handbook

2023-2024

Department of Civil & Environmental Engineering

Reference this handbook to learn about the unique policies, requirements, procedures, resources, and norms for graduate students in the Online Master of Engineering in Environmental Engineering Program.

Last updated: September 2023

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1.0 Welcome

A Message from Greg Harrington, Department Chair

Welcome to the Department of Civil and Environmental Engineering at the University of Wisconsin-Madison!

Established in 1870, our department has helped push the field of civil and environmental engineering forward for over 150 years. It's remarkable to think about the extent of our long history, about all the classes taught, concrete canoes raced, transformative research advances made, and talented students who have passed through Engineering Hall. We are excited that you have chosen to pursue your graduate studies with us, and we look forward to working with each and every one of you. As you embark on this important chapter in your life and career, please know that we are here for you. My door is always open on campus and online, and you will find that the same goes for all our faculty and staff. We are here to answer your questions and help in any way we can. The Badger Engineering community is like none other. I am confident that you will find the tools and support necessary to succeed beyond your wildest dreams and expectations here at UW-Madison. Work hard, play hard, and have fun along the way. If you ever need anything, please don't hesitate to contact me. I look forward to seeing what you accomplish and cheering you on every step of the way.

On, Wisconsin!

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1.1 College of Engineering Mission Statement:

To educate and inspire future leaders who contribute to society through the creation, application, and transfer of engineering knowledge, and through engagement in society. We do this through outstanding research, teaching and service to our profession, our state of Wisconsin, the nation, and the world.

UW-Madison Mission Statement

2.0 Navigating Policy and Resources at UW-Madison

This handbook is one of many sources to consult as you become familiar with the policies, procedures, requirements, resources, and norms of graduate education at UW-Madison:

Program Handbook

On your program's website or Guide page

Detailed reference for your program's unique requirements, policies, procedures, resources, and norms.

May refer you to other sources for policy detail.



Graduate Guide

guide.wisc.edu/graduate

Master catalog of all graduate programs on campus & the official source for your program's policies and requirements.

May reference other sources of policy.

Graduate Student Life

gradlife.wisc.edu

Info about life as a Badger graduate student in Madison that will support your overall well-being.

Not sure where to start?

AP&P

grad.wisc.edu/ academic-policies

The Graduate School's "Academic Policies & Procedures" that defines key components of graduate education on our campus.

Policy Library

policy.library.wisc

Database of universitywide policies. Find resources curated for prospective and current students, as well as faculty & staff, at:

grad.wisc.edu

2.1 Who to Contact for Questions

Many of your questions about how to meet expectations and thrive as a graduate student will be answered by the various sources of policies, procedures, requirements, resources, and norms listed above. Several key positions in this department and on campus are ready to answer your remaining questions:

<u>Jane Carlson</u>, Director of Graduate Studies, serves as Program Director and faculty (academic) advisor to students

jane.carlson@wisc.edu (608) 334-3402

<u>Stacey Koch</u>, Graduate Student Services/Graduate Admissions/Graduate Program Coordinator

sakoch3@wisc.edu (608) 890-2420

<u>Greg Harrington</u>, Pieper Family Foundation Chair for Servant Leadership (CEE Department Chair)

<u>gwharrin@wisc.edu</u> (608) 695-3380

<u>Christy Remucal</u>, Associate Professor and Associate Chair for Graduate Programs remucal@wisc.edu (608) 262-1820

<u>Barry Crook</u>, Department Administrator barry.crook@wisc.edu (608) 262-7812

<u>Vicki Kelly</u>, Divisional Disability Representative <u>vicki.kelly@wisc.edu</u> (608) 262-0431

All other Program and Department faculty and staff: https://directory.engr.wisc.edu/cee

Graduate Program Coordinator

Each graduate program will have at least one department staff person, typically called a Graduate Program Coordinator, who serves as a point person for program policy and procedures. Graduate Program Coordinators are well-versed in most elements of graduate education that extend beyond academic instruction in your program and will likely be your first stop for questions related to anything in this handbook.

Director of Graduate Studies

Each graduate program has one faculty member designated to direct its educational vision and structure.

Names and contact information of your Graduate Program Coordinator and Director of Graduate Studies can be found above, and on your program's page in the *Graduate*

Guide (guide.wisc.edu/graduate). Simply navigate to the "Major/Degree" tab, click on your program's name, and look for the contact information box on the righthand side.

Faculty Advisor

Each student will be assigned a faculty advisor in each graduate program in which they are enrolled. Your faculty advisor(s) will be a key source of guidance for your academic development. Further definition can be found on the UW-Madison Policy Library. Guidelines for finding, changing, and working with your advisor can be found in the Advising & Mentoring section below.

The name and contact information of your faculty advisor can be found on your Student Center on MyUW under "Academic Progress" and then "Advisors."

Graduate School Services

For general inquiries and graduate student services from the Graduate School, see the operations and front desk contact information on the <u>UW-Madison Graduate School</u> website.

3.0 Department & Program Overview

The Master of Engineering in Civil and Environmental Engineering – Environmental Engineering Named Option is a fully online degree program within the CEE Department. Information regarding admissions, requirements, learning outcomes, and people in the Department and the Program that is not included in this handbook may be found in the UW-Madison <u>Graduate Guide</u>. Additional information about the Department and our programs may be found online via the links below.

- College of Engineering website
- Instagram
- LinkedIn
- Twitter

This Program includes a full curriculum of courses incorporating the latest research and practices in water supply, wastewater conveyance and treatment, resource recovery, solid and hazardous waste management, contamination remediation, sustainability, air pollution control, and urban storm water management. The M.Eng. degree program is designed to give practicing environmental engineers the knowledge and skills needed to address contemporary and future challenges. Additional information specific to the program is can be found on the <u>Professional Degrees and Certificates page</u> of the UW-Madison website.

3.1 Diversity, Equity, and Inclusion

UW-Madison Diversity Statement: "Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals. The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background — people who as students, faculty, and staff serve Wisconsin and the world."

UW-Madison Graduate School Diversity Statement: "Community—one that is strong, supportive and diverse—is at the center of a sound graduate education. The Graduate School at the University of Wisconsin–Madison is committed not only to providing a robust education in a world-class research enterprise, but also to building a diverse community of scholars. We are working to help departments and programs across the university recruit and reward talented and diverse faculty, students and staff to demonstrate our ongoing commitment to these values."

Justice, Equity, Diversity and Inclusion (JEDI) Information and Resources

This section outlines various resources pertinent to MEng EnvE students seeking support and/or information about JEDI initiatives, either on-campus at UW-Madison, across the country, or internationally. The following is by no means a complete compilation of resources but highlights those that current and previous Department students have found helpful. Students are encouraged to look at these resources and find the ones that are best suited for them.

CEE JEDI Committee

The CEE Department's JEDI committee was formed to create a safer and more welcoming environment to members of the Black, Indigenous, and people of color (BIPOC) community on the departmental level. The members of the CEE JEDI committee are UW-Madison faculty, staff, and graduate student representatives. The members of this committee aim to create a more inclusive environment by providing opportunities for scholarships and creating a community where BIPOC feel welcomed and valued.

Diverse Student Organizations

This subsection lists and details various graduate student organizations, clubs, and initiatives that support underrepresented students in STEM at UW-Madison with local, regional, and national chapters. For further information, visit the <u>UW Wisconsin</u> <u>Engineering Student Counsil website.</u>

Graduate Engineering Research Scholars (GERS)

- National Action Council for Minorities in Engineering (NACME)
- Society for Advancement of Chicanos and Native Americans in Science (SACNAS)
 - o **UW Chapter**
 - National Chapter
- National Society of Black Engineers (NSBE)
 - o Wisconsin Black Engineering Student Society (WBESS)
 - National Chapter
- American Indian Science and Engineering Society (AISES)
 - o UW Chapter
 - o National Chapter
- Society of Hispanic Professional Engineers (SHPE)
 - o **UW Chapter**
 - National Chapter
- Society of Women Engineers (SWE)
 - o **UW Chapter**
 - National Chapter
- Queer and Trans Engineers (QTEs) UW Chapter
- UW-Madison QGrads
- <u>UW-Madison International Student Services</u>
- UW-Madison International Graduate Students
- Wunk Sheek
- Association for Women in Science (AWIS)
- Mexican American Engineers and Scientists (Latinos in Science and Engineering; (MAES)
- National Organization of Gay and Lesbian Scientists and Technical Professionals (NOGLSTP)
- Out in Science, Technology, Engineering, and Mathematics (oSTEM)

Society of Asian Scientists and Engineers (SASE)

3.2 How to Get Involved in Professional and Other Organizations

As a graduate student at UW-Madison, you have many opportunities to become involved in your academic discipline. This involvement often enhances your academic, professional, and personal growth through developing advanced leadership, communication, and collaboration skills. It also provides opportunity for professional networking, which can be very helpful when seeking or giving advice about job opportunities or technical or professional support.

3.2.1 In Our Discipline

Our Program students are strongly encouraged to become an active member of at least one professional organization. This provides additional opportunities for the exchange of knowledge and networking. Several organizations that may be of interest to you are listed below, but the list is not all-inclusive. Note that some organizations may offer a lower membership fee for students; however, this may depend on the number of credits per semester the student is taking. Some of these organizations also offer reduced rates to young professionals or those who are new to the profession.

- Water Environment Federation and its member associations. Refer to the listing
 of Member Associations to find one near you. For example, Wisconsin's member
 association is the Central States Water Environment Association.
- American Academy of Environmental Engineers and Scientists
- American Society of Civil Engineers. See the Environmental and Water Resources Institute, in particular. ASCE typically has local chapters that are active throughout its US and international regions.
- Institute for Sustainable Infrastructure

3.2.2 In Our Program/Department

While it can be difficult for online, distance learners to participate in on-campus organizations, participation may be possible depending on the location of the student, the student's schedule, and ability of the organization to facilitate remote access such as Zoom-based meetings and events. The following are some CEE student organizations that may be of interest to our Program students.

- <u>The Delta Program</u> is part of the Graduate School. It engages graduate students and postdocs in professional development in teaching, mentoring, outreach, and advising. Participation is encouraged if you would like to:
 - o explore inclusive and engaging teaching practices
 - o gain skills and experience toward strong job application materials

o join a community committed to advancing effective teaching

Delta offerings including workshops, courses, seminars, an internship program, and certificate in teaching and learning.

- Established in 2003, the UW-Madison Engineers without Borders (EWB) chapter builds a better world by educating internationally responsible engineers and students. The group strives to embody the Wisconsin Idea--that education should influence people's lives beyond the classroom, by providing engineering and social services in Wisconsin and in under-served communities around the globe. The chapter currently works in Guatemala, Ecuador, Uganda, and Puerto Rico.
- <u>The UW-Madison Environmental Engineering Club</u> provides a platform for students interested in the field of Environmental Engineering where you can explore careers, network with professionals, and get to know each other. Follow them on <u>Instagram</u> for event updates and more.
- <u>Water@UW-Madison</u> connects the water community at UW-Madison and beyond.

3.2.3 On and Off Campus & In the Community

The Wisconsin Idea is the principle that education should influence and improve people's lives beyond the university classroom. For more than 100 years, this idea has guided the university's work.

You will find a list of ways to promote the Wisconsin Idea on the <u>UW-Madison</u> <u>Wisconsin Idea webpage</u>.

4.0 Getting Started as a Graduate Student

This section guides you through important steps to take as you begin your journey as a graduate student at UW-Madison.

4.1 New Graduate Student Checklist

Be sure to review the applicable steps listed on this webpage for new graduate students:

The Graduate School's New Student Page

In addition to a checklist for all new graduate students, that webpage includes sections with additional steps to take if you are a new international student, student with a disability, student veteran, student with children, or student with funding.

The Graduate School's Current Student Page

4.2 In Our Program

As ours is an online Program, we have an online orientation and meeting space which can be found on the <u>Canvas site</u>. The site contains information about navigating our learning management system (Canvas), the Program, and the Department. You can post a note about yourself under the Introduce Yourself discussion forum and find posts from other students there. Be sure to look at the most recent Announcements for news about online course offerings for upcoming semesters and similar Program information. This site can also serve as a meeting venue for students and faculty, advisors, or other students, using the Zoom link.

5.0 Advising & Mentoring

Advising relationships are a central part of academia, important to both the experience and development of students and faculty members alike.

The Graduate School's definition of an advisor can be found here on the UW-Madison Policy Library. Your advisor has two main roles: 1) To assist you in acquiring the highest possible level of knowledge and competence in the field, and 2) to determine whether you have performed at an acceptable level in your degree milestones (see "Degree Requirements" section below for further information). Other roles of your advisor may include tracking your progress in completing your degree (note: this may include use of the Graduate Student Tracking System), assisting with course selection and planning your academic path, and helping you identify possible independent study mentors and topics.

Both the student and advisor are responsible for making their expectations clear to each other. Be sure to discuss this with your advisor.

5.1 Finding & Selecting an Advisor

Your academic, or faculty, advisor should be a faculty member in the Program whose expertise and project/research interests match closely with those that you intend to acquire. In this online MEng EnvE Program, your faculty advisor will almost always be the Program Director (Director of Graduate Studies), as they are the most knowledgeable about the courses available and the Program requirements. Your Graduate Program Coordinator will also be assigned as one of your advisors and can assist you with onboarding, Graduate School requirements, special situations, graduation logistics, and other areas as described in this handbook.

It is also acceptable for a student in the Program to select a different faculty member as faculty advisor if that faculty member has experience teaching in the MEng EnvE Program and the student has a prior relationship, such as working with the faculty member when an undergraduate at UW-Madison. No faculty member is obligated to accept a student's request to serve as advisor, although invitations are often accepted

unless the faculty member judges that a different advisor would serve your needs better.

5.2 Changing Your Advisor

As the advisor-student relationship is one of mutual agreement, it may be terminated by either party. If you decide that you would prefer working with a different advisor, discuss this with your prospective advisor to seek the change.

If you change your advisor, you must notify your Graduate Program Coordinator and follow any related procedures.

Every graduate student must have an advisor or else they may be suspended from graduate study at UW-Madison by the Graduate School. Be sure to follow procedures to re-select a new advisor (described above) prior to finalizing the termination of your current advising relationship. You can confirm that the name of your advisor has been updated in the official record by looking in your Student Center on MyUW (my.wisc.edu) under "Academic Progress" and then "Advisors."

5.3 Mentoring Networks

In addition to a formal advisor, you are encouraged to develop a broad network of individuals who can provide academic and professional mentorship during and beyond your time as a graduate student.

6.0 Degree Requirements

All students in this MEng EnvE Program are responsible for keeping aware of the following requirements to complete the degree.

6.1 Requirements

For all current and official requirements to complete your degree (e.g., credits, courses, milestones, learning outcomes/goals, etc.) see the *Graduate Guide*.

Similarly, see the "Policies" section to learn about policies affecting these requirements (e.g., prior coursework, probation, credits per term allowed, time constraints, grievances and appeals, etc.)

For prior catalog year policies that may be applicable to you, see the Guide Archive

6.2 Recommendations

6.2.1 Course Planning

Refer to the Student Course Planning Guide included in the Appendix to this handbook. The Guide includes several example plans of study for students entering the Program in various semesters. When possible, we recommend a 700 series course be taken prior to its associated 800 series course, e.g., CivEngr 721 before CivEngr 821. However, we recognize this is not always possible because of the timing of course offerings, and it is not necessary to take the courses in this order.

It is strongly recommended that each student prepare a Student Course Plan (plan of study for the degree) before or during their first semester in the Program and review the Plan with their faculty advisor. Your faculty advisor has a form that should be used for this purpose. The Student Course Plan can be modified, if necessary, during your time in the program.

6.2.2 Independent Study

CivEngr 699 – Mentored Independent Study – is an elective course available to MEng EnvE students who wish to delve deeper into an environmental engineering topic or to study a topic for which they were not able to take a course. Independent study may be taken in increments of 1 to 6 credits a semester, for up to 6 credits total.

Your faculty advisor can also provide guidance on selecting your independent study topic and mentor. Please let your advisor know the timing of your proposed CivEngr 699 course(s) and potential topic(s) as soon as possible so mentor availability can be determined.

6.2.3 Design Project

CivEngr 823 – Environmental Engineering Design Project – is a required course that involves students working in teams to complete a project. As this is the "capstone" course in the Program, it is recommended that the course be taken as late as possible in the student's program. Your faculty advisor can assist with your course planning.

6.3 Sample Course Schedule

Refer to the Program's Student Course Planning Guide, which may be found in the Appendix to this handbook. Your faculty advisor can help you develop a course plan that is tailored to your needs.

6.4 Master's Degree Checklist: Timeline & Deadlines

The Graduate School maintains a list of steps to complete your master's degree, including deadlines and important things to know as you progress toward graduation, which can be found on the <u>Graduate School website</u>. In addition to what is posted on that webpage from the Graduate School, you must meet all required steps of the program as listed in the <u>Guide</u>.

7.0 Enrollment Requirements

You are responsible for following Graduate School policies related to course enrollment requirements and limitations:

Adding / Dropping Courses

Auditing Courses

Canceling Enrollment

Enrollment Accountability

Minimum Enrollment Requirements

8.0 Academic Exception Petitions

Academic exceptions are considered on an individual case-by-case basis and should not be considered a precedent. Deviations from normal progress are highly discouraged; however, the Program recognizes that there are, in some cases, extenuating academic and personal circumstances. Petitions for course exceptions/substitutions or for exceptions to the Satisfactory Progress Expectations (academic or conduct) shall be submitted to the Director of Graduate Studies. The following procedures apply to all petitions:

- 1. The specific requirement/rule/expectation pertinent to the petition must be identified.
- 2. The student's faculty advisor (if different from the Director of Graduate Studies) must provide written support for the petition.
- 3. All course work substitutions and equivalencies will be decided by appropriate Program faculty and/or the Director of Graduate Studies.

More generally, the Director of Graduate Studies, in consultation with the student's advisor if different, may grant exceptions for students who face circumstances as noted in university regulations. This includes childbirth, adoption, significant responsibilities with respect to elder or dependent care obligations, disability or chronic illness, or circumstances beyond one's personal control. Where warranted, the petition should provide good evidence of plans and ability to return to conformance with the standard and to acceptably complete the Program.

Some academic exceptions may need to be approved by the Graduate School. For further information about this, contact the Graduate Program Coordinator and Director of Graduate Studies and see the <u>Graduate School</u> webpage.

9.0 Satisfactory Academic Progress

Your continuation as a graduate student at UW-Madison is at the discretion of your Program, the Graduate School, and your faculty advisor. Any student may be placed on probation or dismissed from the Graduate School for not maintaining satisfactory academic progress, and this can impact your academic standing (detailed below), financial aid (see the <u>policy page</u>), or funding (consult your sources of funding, as applicable).

9.1 Definition

Information about how the Graduate School determines satisfactory academic progress can be found at the <u>policy page</u>. In addition to the Graduate School's monitoring of satisfactory academic progress, this Program regularly reviews the satisfactory academic progress of its students. Information is in the <u>Guide</u>.

The Graduate School and the Program require that students maintain a minimum GPA of 3.00 for courses taken as a graduate student (excluding audit, credit/no credit, and pass/fail courses), unless probationary admission conditions require higher grades. Graduate School courses numbered 300 and above in which a student earns a grade of D or F are included in the GPA but do not count towards the program's credit requirements. The Graduate School also considers Incomplete (I) grades to be unsatisfactory if they are not removed during the subsequent semester of enrollment; however, the instructor may impose an earlier deadline. A student may be placed on probation or suspended for low grades or for failing to resolve incompletes in a timely fashion. In special cases the Graduate School permits students who do not meet these minimum standards to continue on probation upon recommendation and support of their advisor.

Details on the Graduate School probation policy can be found on the Graduate School webpage under 'Academic Policies and Procedures Glossary'.

Refer also to the <u>Policy Library</u> and the Graduate School's <u>Academic Policies & Procedures</u>.

9.2 Not Meeting Academic Expectations

Student progress will generally be reviewed through coursework and through advisor meetings. A student's failure to comply with the above-mentioned expectations for satisfactory progress may result in disciplinary action or dismissal.

10.0 Personal Conduct Expectations

10.1 Professional Conduct

The Office of Student Conduct and Community Standards maintains detailed guidance on student rights and responsibilities related to learning in a community that is safe and fosters integrity and accountability. You are responsible for keeping aware of their policies and procedures, found at <u>Student Affair webpage</u>.

All students are expected to adhere to the highest standards of professional behavior and ethics. Students should avoid even an appearance of improper behavior or lack of ethical standards while in Graduate School at UW-Madison, in all professional settings, and in their personal lives. Students should conduct themselves according to the standards expected of members of the profession to which the student aspires. Concerns about infractions of Professional Conduct may be effectively handled informally between the instructor/advisor and the student. If a resolution is not achieved, a graduate program representative may be included in the discussion. Separate and apart from a violation of Professional Conduct, a student may face University disciplinary action with regard to the same action. Students are responsible for reading the information here as well as the information published on all the relevant web sites. Lack of knowledge of this information does not excuse any infraction.

- 1. Professional Ethics: Students shall show respect for a diversity of opinions, perspectives, and cultures; accurately represent their work and acknowledge the contributions of others; participate in and commit to related opportunities; aim to gain knowledge and contribute to the knowledge base of others; understand the UW Student Code of Conduct; represent their profession and the Program; and strive to incorporate and practice disciplinary ideals in their daily lives. Resumes/CVs must reflect accurate information.
- 2. Honesty and Integrity: Students shall demonstrate honesty and integrity as shown by their challenging of themselves in academic pursuits; honesty and ethics in research including honesty in interpretation of data, commitment to an unbiased interpretation of academic and professional endeavors; and the need to document research activities, protect subject/client confidentiality and regulations. Students shall follow-through and pull their weight in group activities and understand where collaboration among students is or is not allowed; not plagiarize others or past work (self-plagiarism), cheat, or purposefully undermine the work of others; and avoid conflicts of interest for the duration of their time in the Program. As a professional, honesty and integrity also extends to personal behavior in life outside of the academic setting by realizing that students are representatives of the Program, UW-Madison, and the profession as a whole.
- 3. Interpersonal and Workplace Relationships: Students shall interact with peers, faculty, staff and those they encounter in their professional capacity in

a manner that is respectful, considerate, and professional. This includes and is not limited to attending all scheduled meetings, honoring agreed upon work schedules, being on-time and prepared for work/meetings, contributing collaboratively to the team, keeping the lines of communication open, offering prompt response to inquiries, and employing respectful use of available equipment/technology/resources. Chronic or unexplained absences are unprofessional in the workplace and could be grounds for termination or removal of funding. To facilitate the free and open exchange of ideas, any criticism shall be offered in a constructive manner, and the right of others to hold different opinions shall be respected.

- 4. Commitment to Learning: Students are expected to meet their educational responsibilities at all times. Be actively prepared for class and be ready for questions and answers. Be on time for every class and always show courtesy during class or if you have to leave class early. If possible, students should notify the instructor at least one day in advance of a planned absence. Students who are unable to attend class are responsible for finding out what occurred that day and should not expect instructors to give them individual instruction. Recognizing that the pursuit of knowledge is a continuous process, students shall show commitment to learning by persevering despite adversity and seeking guidance in order to adapt to change. Students shall strive for academic excellence and pursue and incorporate all critique, both positive and negative, in the acquisition of knowledge in order to understand and respect the community in which they work.
- 5. Professional Appearance: Students shall convey a positive, professional appearance to represent the Program in a dignified manner. Appearance includes a person's dress, hygiene, and appropriate etiquette/protocols for the environment (including safety protocols and protective clothing in environments that require them).

This graduate Program, the Graduate School, and the Division of Student Life all uphold the UW-System policies and procedures in place for academic and non-academic misconduct. Furthermore, unprofessional behavior towards clients/subjects, faculty, staff, peers and the public are significant issues in the evaluation and promotion of students. In turn, we hold expectations for the highest level of academic integrity and expect professional, ethical, and respectful conduct in all interactions. Students may be disciplined or dismissed from the Program for misconduct or disregard for professional conduct expectations regardless of their academic standing in the Program. Separate and apart from a violation of Professional Conduct, a student may face University disciplinary action with regard to the same action.

10.2 Academic Misconduct

Academic misconduct is governed by state law, UW System Administration Code Chapter 14. For further information on this law, what constitutes academic misconduct, and procedures related to academic misconduct, see:

The Graduate School

Academic Policies & Procedures: Misconduct, Academic

Office of Student Conduct and Community Standards

Academic Misconduct Website

Academic Misconduct Flowchart

10.3 Non-Academic Misconduct

Non-academic misconduct is governed by state law, UW System Administration Code Chapters 17 and 18. For further information on these laws, what constitutes non-academic misconduct, and procedures related to non-academic misconduct, see:

The Graduate School

<u>Academic Policies & Procedures: Misconduct, Non-Academic</u>

Office for Student Conduct and Community Standards

Non-Academic Misconduct Website

University of Wisconsin System (UWS)

Chapter 17: Student Non-Academic Disciplinary Procedures

Chapter 18: Conduct on University Lands

10.4 Hostile and Intimidating Behavior (Bullying)

Hostile and intimidating behavior (HIB), sometimes referred to as "bullying," is prohibited by university policy applicable to faculty, academic staff, and university staff. For further definition, policy, and procedures related to HIB see the Hostile and Intimidating Behavior Website. Students who feel they have been subject to HIB are encouraged to review the informal and formal options on the "Addressing HIB" tab of this website.

10.5 Grievance Process

Each college or program on campus has a grievance process that students can use to address other concerns regarding their experience in the program. This Program's grievance process can be found detailed at the <u>Guide for Civil and Environmental Engineering.</u>

10.6 Process and Sanctions for Violations of Conduct Standards

The Dean of Students Office may have grounds to issue one or more of the following:

- Reprimand
- Probation
- Suspension
- Expulsion
- Restitution
- A zero or failing grade on an assignment/exam
- A lower grade or failure in the course
- Removal from course
- Enrollment restrictions in a course/program
- Conditions/terms of continuing as a student

11.0 Incident Reporting (Hate, Bias, Sexual Assault, Hazing, Students of Concern, Bullying)

The Dean of Students Office maintains a portal to report incidents of hate, bias, sexual assault, hazing, dating/domestic violence, stalking, missing students, and students displaying other concerning behaviors at UW-Madison:

Dean of Students Incident Reporting

As noted above in "Personal Conduct Expectations," students who feel they have been subject to hostile and/or intimidating behavior (i.e., bullying) are encouraged to review the informal and formal options for addressing this behavior (including filing complaints when desired) at:

Human Resources Hostile and Intimidating Behavior Website

12.0 Tuition, Funding, Employment, and Finances

As of the 2021-22 academic year, tuition is \$1,300 per credit regardless of your residence location. This tuition rate is subject to change in future academic years. Students in the Program do not pay segregated fees. Current and previous tuition rates can be found at the <a href="https://doi.org/10.2016/jwa.2016-jwa

12.1 Finding Funding

"Funding" is a term used to describe financial support to cover some of your costs of graduate education. It varies in kind, amount, and level of guarantee.

12.1.1 Campus-Wide and External Sources

To help you find resources to pay for costs related to graduate education, the Graduate School provides a comprehensive overview of the funding process on campus as well as descriptions of the types of funding available, sources of funding, and links to applicable human resources policies (e.g. GAPP).

- Graduate School Funding and Financial Aid
- UW-Madison Libraries Grants Information Collection
 - Grants Information Collection
 - o Grants / Scholarship
- **Student loans** may be available through local sources or by applying through FAFSA. Students may need to enroll in at least 4 credits a semester to be eligible for FAFSA loans. For more information visit the Office of Student Financial Aid.

12.1.2 In Our Program/Department

Students in this Program are generally not eligible for UW-Madison teaching or research assistantships because they are not located on campus and are not eligible for tuition remission. Rarely, students may be granted permission to work for UW-Madison as a grader or teaching assistant. However, students would not be eligible for tuition remission regardless of the hours worked or their assistantship level. For more information, see Guide.

We recommend you contact the Director of Graduate Studies or Department Administrator before considering or accepting UW-Madison employment. Based on past information from students, students in this Program often obtain financial assistance from their employer, student loans, the GI Bill if applicable, or they self-fund their education. Occasionally grants can be obtained through professional or other organizations. As a starting point refer to the Office of Student Financial Aid webpage.

12.2 Additional Policies & Resources

GI Bill Funding – this funding may require students to maintain a minimum number of credits for half-time or full-time status. Full benefits may require one or more credits a semester of "brick and mortar" course work, where the class has to be on-campus. Refer to the GI Bill federal web site and if you have specific questions, you may contact <a href="https://www.uww.number.com/www.number.com/www.number.com/www.number.com/www.number.com/www.number.com/www.number.com/www.number.com/ww.

13.0 Professional Development

When you participate in professional development, you build skills needed to succeed academically and thrive in your career. The following are professional development activities that we recommend for your consideration.

13.1 On Campus

The Graduate School develops and curates a wide variety of resources for professional development, including a tool to assess your skills, set goals, and create a plan as well as programming to help you explore careers, prepare for a job search, build your network and learn from alumni, manage projects, communicate about your research, and much more.

DiscoverPD helps master's and doctoral students at UW-Madison advance their academic and professional goals with customized recommendations based on a skills self-assessment. The 400+ professional development recommendations available in the DiscoverPD database are available in a range of formats to best meet your diverse needs, including in-person, virtual, asynchronous, and synchronous opportunities. All of this can be found at:

Professional Development from the Graduate School

The Graduate School communicates professional development opportunities through an e-newsletter, *GradConnections*, that all graduate students receive at their wisc.edu email. Graduate students in online degree programs, including this Program, receive the newsletter every other week during the academic year and monthly during the summer.

13.2 In Our Program and Discipline

Refer to the section in this handbook titled *Department & Program Overview* for tips on getting involved in student and professional organizations, which can help your professional development.

Your faculty advisor or Program faculty can assist you with professional development and information about career subtracts. They can sometimes assist with employment opportunities, too. Feel free to contact them by e-mail or make an appointment for a virtual meeting or phone call.

Appendix



Course Planning Guide, March 29, 2023

Curriculum Requirements (Some flexibility may be possible; consult your academic advisor	·.)
The MEng EnvE degree requires 30 credits, with the following minimum requirements:	
Students must complete two courses from the following group of three courses (all may be taken):	Credits:
CEE 721 – Biological Principles of Environmental Engineering (3 cr)	
CEE 722 – Chemical Principles of Environmental Engineering (3 cr)	
CEE 723 – Energy Principles of Environmental Engineering (3 cr)	6 to 9
Students must complete one course from the following group of two courses (both may be taken):	
CEE 821 – Environmental Engineering: Biological Treatment Processes (3 cr)	
CEE 822 – Environmental Engineering: Physical-Chemical Treatment Processes (3 cr)	3 to 6
Students must complete the following three courses:	
CEE 820 – Hydraulics and Applied Fluid Mechanics for Environmental Engineers (3 cr)	
CEE 823 – Environmental Engineering Design Project (3 cr)	
CEE 929 – Seminar - Environmental Engineering (1 cr)	7
Students must complete elective courses to suit their program and to achieve the requirement of 30 total credits:	
CEE 320 – Environmental Engineering (3 cr) ¹	
CEE 414 – Hydrologic Design (of Urban Stormwater Systems) (3 cr)	
CEE 423 - Air Pollution Effects, Measurement and Control (3 cr)	
CEE 426 – Design of Wastewater Treatment Plants (3 cr)	
CEE 427 – Solid and Hazardous Waste Engineering (3 cr)	
CEE 428 – Water Treatment Plant Design (3 cr)	
CEE 522 – Hazardous Waste Management (3 cr)	
CEE 621 –Wastewater Process Modeling (1 cr)	
CEE 629 – Special Topics in Environmental Engineering (e.g., Infrastructure Sustainability and Climate, 3 cr)	
CEE 699 – Mentored Independent Study (1-6 cr)	
EPD 690 – Special Topics in Engineering Professional Development (e.g., Sustainable Microgrids, 3 cr)	
EPD 701 – Writing for Professionals (1 cr)	
EPD 702 – Professional Presentations (1 cr)	
EPD 708 – Creating Breakthrough Innovations (1 cr)	
EPD 713 – Key Legal Concepts for Professionals (1 cr)	
CEE 729 – Environmental Sustainability Tools (3 cr)	_
CEE 721, 722, 723 – One of these may be taken as an elective if only two are taken to meet above requirement	8 to 14
CEE 821, 822 – One of these may be taken as an elective if only one is taken to meet above requirement	22
Total Minimum enrollment: Students must maintain enrollment in a minimum of 2 credits in Fall and Spring semesters	30

- Minimum enrollment: Students must maintain enrollment in a minimum of 2 credits in Fall and Spring semesters. No minimum enrollment is required for summer terms. However, students must be enrolled in a minimum of 2 credits during the final, graduating term (including Summer). If you receive financial aid, the minimum credit load is higher, depending on the program. For more details, see Graduate School Academic Policies and Procedures Enrollment Requirements at: https://grad.wisc.edu/academic-policies/
- A minimum of 16 credits must be conferred as "residence credits," meaning by the University of Wisconsin-Madison.
- For more details see Graduate Guide, (https://guide.wisc.edu/graduate/) CEE M.Eng, EnvE Named Option

¹ This introductory course is recommended, or may be required, for students in the online master's program who have not had coursework in environmental engineering as an undergraduate. Students who have already taken an introductory environmental engineering course should not take/retake this course.



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Number	Name		2022 – 2023 AY			2023 – 2024 AY			2024 – 2025 AY	
		F22	Sp23	Su23	F23	Sp24	Su24	F24	Sp25	Su25
CEE 320	Environmental Engineering		-	Х		-	Х		-	Х
CEE 414	Hydrologic Design (of Urban Stormwater Systems)			Х			Х			Х
CEE 423	Air Pollution Effects, Measurement and Control		Х			Х			Х	
CEE 426	Design of Wastewater Treatment Plants	Х			Х			Х		
CEE 427	Solid Waste Engineering	Х			Х			Х		
CEE 428	Water Treatment Plant Design		Х			Х			Х	
CEE 522	Hazardous Waste Management		Х			Х			Х	
CEE 621	Biological Treatment Process Modeling			Х			Х			Х
CEE 699	Mentored Independent Study ²	Х	Х		Х	Х		Χ	Х	
CEE 721	Biological Principles of Environmental		Х						Х	
	Engineering									
CEE 722	Chemical Principles of Environmental Engineering				Х					
CEE 723	Energy Principles of Environmental Engineering	Х						Х		
CEE 729	Environmental Sustainability Tools			Х			Х			Х
CEE 820	Hydraulics and Applied Fluid Mechanics for Environmental Engineers			Х						Х
CEE 821	Biological Treatment Processes	Х						Х		
CEE 822	Physical-Chemical Treatment Processes		Х						Х	
CEE 823	Environmental Engineering Design Project					Х				
CEE 929	Environmental Engineering and Science Seminar	Х	Х		Х	Х		Χ	Х	

For EPD courses, use the Course Search and Enroll App or contact studentservices@interpro.wisc.edu.
For Special Topics courses, use the Course Search and Enroll App or contact academic advisor.

Note that summer courses are typically on an accelerated 8- or 12-week schedule. EPD courses that are 1-credit and offered in spring or fall may also be 8-weeks.

Note that when courses have more than one section, Section 003 is often reserved for the online MEng EnvE students. Check the details in the Course Search and Enroll App.

² This course may be taken in the summer by special arrangement with and approval by instructor-mentor.



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	Course Learning Outcomes or Topics				
Number	Name	Learning Outcomes/Topics			
CEE 320	Environmental Engineering	 Describe a control volume and perform mass balance equations using conservation of mass and differential equations. Describe phase changes that may occur for a substance, given changes in temperature and/or pressure. Describe basic fundamentals of equilibrium chemistry, and apply skills in computing solutions to pH, and precipitation reactions. Describe basic theory of batch, completely mixed, and plug flow reactors and apply skills to compute required residence times given reactor configuration and rate constants. Describe basics of water and air quality regulation. Describe basics of water supply and treatment, wastewater collection and treatment, solid waste management, air pollution control, and apply skills in performing related basic calculations. 			
CEE 414	Hydrologic Design (of Urban Stormwater Systems)	 Describe and apply models common to environmental and water resource engineering practice to predict hydrologic response of watersheds to storms of varying return frequency. Describe and apply green practices to reduce peak stormwater flow rate and volume in the urban environment. Describe and apply built systems to convey, attenuate, treat and store stormwater in the urban environment. 			
CEE 423	Air Pollution Effects, Measurement and Control	 Describe the influence of human-caused pollution on the atmosphere, globally and locally. Evaluate human health, economic, and aesthetic effects of air pollution. Describe the techniques for measurement of atmosphere pollutant concentrations and determination of local and regional air quality. Describe air pollution sources and methods for their control. Describe the role of local, state, and federal government in air pollution control. 			
CEE 426	Design of Wastewater Treatment Plants	 Describe basics of preliminary investigations for capacity requirements. Describe physical-chemical and biological unit operations applied in wastewater treatment. Describe processes for thickening, stabilizing and dewatering solids generated in wastewater treatment. Describe and apply the fundamentals of performance and design of wastewater treatment plant process units commonly used. Apply basics of plant layout and hydraulics. Demonstrate skills in team-based wastewater treatment design project. 			
CEE 427	Solid and Hazardous Waste Engineering ³	 Describe types, sources of and generation rates for solid waste. Describe fundamentals of waste reduction, resource recovery, collection, storage, and disposal methods including land disposal and incineration. Describe key operational, political and legal aspects of engineered systems for solid waste management. Demonstrate skills in team-based design project. 			
CEE 428	Water Treatment Plant Design	 Describe basics of preliminary investigations for capacity requirements. Describe unit processes employed in water treatment, their performance factors, and sizing criteria. Apply treatment concepts to groundwater and surface water source waters. Describe methods for project control in design. Demonstrate skills in team-based design project. 			

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³ This course is currently focused on solid waste engineering. Check with course instructor before taking this course if your interest is primarily in hazardous waste engineering; this may be available through CEE 522 or CEE 699.



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	Course Learning Outcomes or Topics				
Number	Name	Learning Outcomes/Topics			
CEE 522	Hazardous	Describe fundamentals of applicable environmental regulations.			
	Waste	Describe basic principles of waste characterization.			
	Management	Describe fundamentals of characterization of sites requiring remediation.			
		Describe fundamentals in the design and operation of hazardous waste remediation systems			
		involving water, air, and groundwater pollution.			
CEE 621	Biological	Biological treatment process modeling using Biowin			
	Treatment	Good modeling practices			
	Process	Interpreting process monitoring results, model set up, model calibration, use of model for			
	Modeling	process design and optimization			
		Prerequisites: CEE 426, 721, or 821.			
EPD 690	Sustainable	Describe fundamentals of integrating various renewable energy resources such as solar, wind			
	Microgrids	and biofuel systems, classical electrical utilities, electrical loads and energy storage systems to			
		form microgrids. • Describe and apply basics of modeling and design approaches for each type of energy resource,			
		integration approaches, and operation of microgrids from business and economic perspectives.			
CEE 699	Mentored	Increase knowledge and application skills in areas of special interest within the practice of			
CEE 099	Independent	environmental engineering.			
	•	Gain expertise in self-study and research.			
	Study	Demonstrate written and verbal communication skills.			
		May be taken in increments of 1 or more credits at a time, for up to 6 credits total.			
EPD 700	Connected	Set up and understand your online learning environment.			
	Learning	Prepare a learning plan and calendar, and your personal mission statement.			
	Ü	Develop effective and efficient document management, information retrieval, and file			
		organization skills.			
		Use online tools to successfully complete group projects.			
		Demonstrate your ability to create and present information in an efficient, clear, and useful way.			
EPD 701	Writing for	Prepare students to produce effective written communication that is suitable for inter-			
	Professionals	professional and inter-disciplinary audiences in a variety of workplaces.			
		Informal and formal workplace writing, including email, memos, proposals and executive			
		summaries			
EPD 702	Professional	Describe best practices in presentation design and delivery in professional formats.			
	Presentations				
EPD 708	Creating	Explore innovation and how design thinking is a driver of innovation.			
	Breakthrough	Learn to use various design thinking methods and tools for analysis and decision-making.			
	Innovations				
EPD 713	Key Legal	Describe and apply basic legal rules and concepts regarding contracts			
	Concepts for	Describe and apply basic legal rules and concepts of intellectual property (including patents,			
	Professionals	copyrights, trademarks, trade secrets) to business methods			
		Describe and apply basic legal rules and concepts of product liability, safety, product labeling,			
		and consumer protection regulations to business ventures			



Master of Engineering in Civil and Environmental Engineering Environmental Engineering Option (MEng EnvE) Course Planning Guide, March 29, 2023

	Course Learning Outcomes or Topics				
Number	Name	Learning Outcomes/Topics			
CEE 721	Biological Principles of Environmental Engineering	 Describe how microorganisms gain energy from chemical contaminants Describe how organisms gain energy from sunlight Perform calculations to quantitatively estimate the contribution of microorganisms to the transformation of chemical contaminants Analyze different contaminant situations and estimate what nutrients are necessary for a microorganism to transform a chemical contaminant Describe why we use microorganisms to produce biofuels Analyze different types of pathogens and determine their life cycles, and their characteristics, and provide solutions for treatment of water containing these pathogens. 			
CEE 722	Chemical Principles of Environmental Engineering	 Describe the relationships between principal chemicals of concern in the environment and human health and the health of ecosystems. Describe principal chemical processes in the environment that are affected by human activities. Describe methods for laboratory and in-situ measurement of principal chemicals of concern. Apply knowledge, including knowledge of statistics, to describe significance of environmental datasets. Apply chemical properties, concepts and reactions in processes to reduce or control chemical pollution in air, water and soil. 			
CEE 723	Energy Principles of Environmental Engineering	 Describe energy resources, availability and stocks, typical energy conversion efficiencies, and concept of energy returned on energy invested (EROEI). Describe and apply ideal gas law relationships and use of physical constants in computations involving ideal gases. Utilize specific heats of substances in calculations involving energy flow. Utilize thermodynamic properties of liquids, gases and liquid-vapor systems in energy balance calculations. Apply concepts of efficiency in systems involving energy, heat and power. Apply energy equation to perform calculations involving heating, cooling and mechanical work. Calculate thermodynamic properties of reactants and products. Apply basic principles of thermal conductivity and heat transfer, and perform computations involving heating and cooling of structures and contents of process vessels and transferring heat using heating systems and heat exchangers. 			
CEE 729	Environmental Sustainability Tools	Environmental impact must be quantified systematically and rigorously in order to inform decision making, process improvement, and policy. Life cycle assessment will be utilized in a project-based framework to evaluate the environmental impacts of products and process across multiple environmental impact categories.			



Master of Engineering in Civil and Environmental Engineering Environmental Engineering Option (MEng EnvE) Course Planning Guide, March 29, 2023

	Course Learning Outcomes or Topics					
Number	Name	Learning Outcomes/Topics				
CEE 820	Hydraulics and Applied Fluid Mechanics for Environmental Engineers	 Apply concepts of conservation of mass and conservation of energy related to fluid flow. Describe principal factors affecting major and minor energy losses in conduit flow and analyze and apply those factors using accepted relationships to estimate total energy losses in a given flow system for water, other liquids, sludge/biosolids mixtures, or gas under steady flow conditions. Describe problems of unsteady flow and transient flow conditions that may be encountered in environmental engineering, and how related problems may be addressed by design. Describe systems normally employed for flow measurement and select appropriate method and equipment for application in conduits carrying water, liquids, sludge/biosolids mixtures or gases normally encountered in environmental engineering. Apply theory and practice in the analysis and design of hydraulic control structures commonly employed in environmental engineering. Analyze and design full-pipe and open channel systems, including pumping systems, for conveying liquids, sludge/biosolids mixtures and gases normally encountered in environmental engineering problems. Using normal capacity factors, and knowledge gained in the course, analyze water and sewer needs for a small community and design associated systems. Apply knowledge gained in the course to perform analyses and design of hydraulic components of plant facilities including sizing of hydraulic control structures, piping, channels, pumps, weirs, etc., for series and parallel flow distributive arrangements, and compute related hydraulic profiles. 				
CEE 821	Biological Treatment Processes	 Describe how microbial communities work in synergistic ways to achieve removal of organic and inorganic contaminants from wastewater. Describe the specific microbial metabolism associated with nitrogen and phosphorus removal in wastewater treatment plants. Describe how anaerobic microbial communities function for removal of organic contaminants and production of bioenergy Perform calculations to quantitatively estimate the contribution of specific microbial groups to the overall treatment process. Perform calculations to predict the efficiency of different wastewater treatment processes. Analyze data from biological treatment process to identify causes of poor performance. 				
CEE 822	Physical- Chemical Treatment Processes	 Apply advanced theory and applications of physical-chemical systems for the treatment of water and wastes. Apply statistical methods for the design of experiments and analysis of data from laboratory and bench scale experiments to assess water and waste treatability and to provide design parameters. Apply experimentally derived factors and experiential factors in the design of advanced physical-chemical unit operations. 				
CEE 823	Environmental Engineering Design Project	 Develop teamwork and leadership skills needed to plan and design solutions to open ended problems in environmental engineering. Apply knowledge gained in ME EnvE curriculum and baccalaureate program to provide analysis of options and develop effective solution to an open-ended design challenge. Develop written and spoken communication skills necessary to gain client and public input to solutions development and acceptance of a developed solution to an environmental engineering challenge. Gain experience in preparing key deliverables required in environmental engineering practice. 				



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Course Learning Outcomes or Topics				
Number	Name	Learning Outcomes/Topics		
CEE 929	Seminar: Environmental Engineering	Weekly online seminar viewing and brief report on environmental engineering and science topics presented by faculty, invited speakers, in-residence graduate students, or others; optional forum discussions with fellow students and faculty concerning seminar information and conclusions. One seminar must be on professional development and lifelong learning.		

Potential Program Schedule of Courses

Following are potential programs based on the degree requirements, the schedule of classes, and the timing of a student's entry to the program. Note that students may also enter the program in Summer term, and this is encouraged for students who have not had coursework in environmental engineering as an undergraduate and wish to start with CEE 320. Considerable flexibility is possible based on core courses and electives chosen.

Semester	Fall 2023 Entry	Spring 2024 Entry	Fall 2024 Entry	Spring 2025 Entry
Fall '23	CEE 722			
Spring '24	CEE 423, 428 or 522	CEE 423, 428 or 522		
Summer '24	CEE 414	CEE 414		
Fall '24		CEE 723		
Spring '25	CEE 721, CEE 929	CEE 721 CEE 929	CEE 721	CEE 721
Summer '25	CEE 820	CEE 820	CEE 820	CEE 820
Fall '25	CEE 426 or CEE 427	CEE 427 or CEE 427	CEE 722 CEE 699	CEE 722
Spring '26	CEE 823	CEE 823	CEE 823	CEE 423, 428 or 522
Summer '26	CEE 629 modeling	CEE 629 modeling	CEE 414 or CEE 729	CEE 414 or CEE 729
Fall '26	CEE 821	CEE 821	CEE 821	CEE 723 CEE 699
Spring '27		CEE 822	CEE 423, 428, 522, or 822	CEE 822
Summer '27			CEE or EPD elective	CEE or EPD elective
Fall '27			CEE 426 or 427 CEE 929	CEE 426 or 427 CEE 929
Spring '28				CEE 823