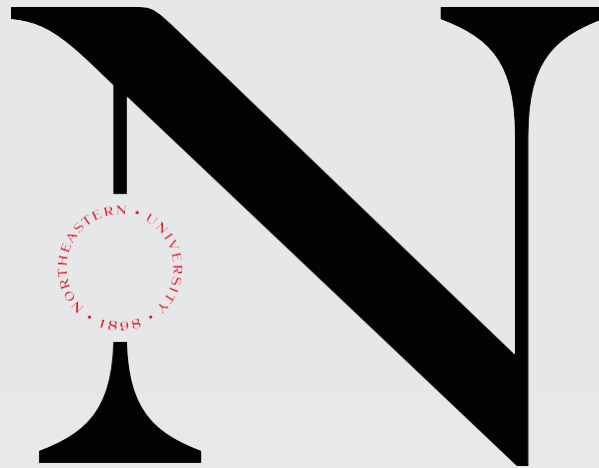


*Revised by the Graduate Studies Committee 2023*



Department of  
Civil and  
Environmental  
Engineering

# Graduate Student Guidebook

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# 1. INTRODUCTION

Welcome to the Northeastern University Civil and Environmental Engineering (CEE) Graduate Program! You have joined a dynamic, diverse, and highly-ranked program in one of the world's great centers of education and innovation. During your time here as a graduate student, you will have the opportunity to build your engineering expertise through advanced coursework and to participate in important research for the betterment of society and the environment.

This graduate student guidebook contains an overview of department policies and resources, as well as college and departmental graduation requirements. This document is designed to give CEE and Interdisciplinary graduate students within CEE<sup>1</sup> the basic information needed to successfully complete our programs. It is also a living document that embodies our academic goals and focus on excellence in graduate education and research. An online version of this document is kept up-to-date through an annual review by the faculty and graduate students and can be found [here](#). We welcome your comments and suggestions!

Many of the steps in your journey as a graduate student also involve submitting an appropriate form so that the faculty and staff can monitor your progress. Required forms are available in the Appendix section of this document, can be found on the [CEE Student SharePoint Site](#) or can be picked up at the Graduate School of Engineering (GSE) offices. Although this guidebook is intended to be a first resource for common information students need, it is ultimately your responsibility to verify graduation requirements and necessary deadlines with the College of Engineering (COE) Graduate School of Engineering.

Good luck as you start your graduate education, and once again, welcome to NU CEE!

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<sup>1</sup> Interdisciplinary students whose primary advisor is a faculty member in CEE: All department programs and policies apply unless overridden by the COE policies for Interdisciplinary PhD.

## 2. GETTING STARTED

Many resources are available to graduate students at Northeastern, across the university as well as within the Department of Civil and Environmental Engineering. This section introduces you to the department, answers common questions for new graduate students, and highlights where to go when more information may be needed on a specific topic.

### **Faculty Academic Advising**

Each master's graduate program within CEE has a graduate advisor from the faculty, who should be the first contact for all questions about academics, especially course selection, research interests, and program requirements. If your admission letter does not specify an academic advisor, you will be assigned an initial academic advisor during Orientation, based on your concentration area. Typically, you will meet your program advisor during orientation. Students will have access to sample programs as a tool for course planning.

PhD students will work directly with a specific faculty member, who will serve as the primary research and academic advisor for the duration of their studies. In addition, the Graduate School of Engineering (GSE) provides advising services to address university and college policies and meeting degree requirements (see Graduate Academic Advising below).

### **Department Leadership**

The Department Chair is available to speak with you if you have questions or concerns about any aspect of the department, including issues related to advising, degree programs, university programs, research facilities, professional opportunities, safety, or life on and off campus. In addition, the Associate Chair for Graduate Studies can also help answer questions and provide guidance about the graduate programs within the department. Feel free to reach out and make appointments with either person if you would like to meet.

### **Department Staff**

The department has a fantastic team to help graduate students, both as they get started in their programs and for logistical and operational support during their time at Northeastern. For any department questions that are non-academic students should visit the main CEE department office in 400 Snell Engineering Center (SN) where they will be directed to the most relevant staff member. Any academic questions should first be directed to your advisor.

### **PhD Network**

The university provides support to doctoral students from around the university through a centralized program called the PhD Network. Supporting student health and wellness is a priority at Northeastern, where students have many opportunities for social and intellectual engagement outside of academics. [Here](#) you can find links to research and travel funding opportunities, training programs, career advice, education, health plans and resources provided by Northeastern University Student Health Plan (NUSHP), and other activities around campus.

### **CEE Graduate Student Council**

Within our department, the Graduate Student Council serves as a voice for all graduate students. Its role is to provide input and feedback to the faculty about all aspects of the graduate student experience and is made up of student representatives from different concentrations and degree programs. The CEE Graduate Student Council also organizes regular social events in order to maintain community among CEE graduate students. Students are welcome to reach out to them for any questions or concerns at [CEEGSC@northeastern.edu](mailto:CEEGSC@northeastern.edu).

### **Graduate Academic Advising**

In addition to advising at the department level, the College of Engineering provides a range of services to graduate students to ensure a successful journey through the graduate programs. Each graduate program has a Graduate Student Services Advisor assigned to the program. When visiting the Graduate School of Engineering, bring with you: your NUID, course information, and CRN (Course Registration Number – the 5-digit number identifying course section), if relevant. Some of their services include the facilitation of registration, graduation clearance, administration of stipended graduate assistantships, and review of the Office of Global Services (OGS) forms for international students. The Graduate School of Engineering Office is located at 130 Snell Engineering Center. More information is available [here](#). An FAQ for new students is available [here](#). Graduate forms processing times can be found [here](#).

### **International Student Advising**

For international students, additional services are provided by the Office of Global Services (OGS), [here](#).

### **Obtaining and Using the Husky Card**

The Husky Card is used for a number of purposes, including building/lab access, libraries, printing, dining services, etc. New students can receive Husky Cards when they arrive to campus. Their Husky Cards will remain active until graduation or withdrawal from the university. In order to receive a new Husky Card without being charged the lost ID fee, the old or broken Husky Card has to be traded-in. A Husky Card can be obtained at the Husky Card Services office in 4 Speare Commons, and more information can be found [here](#).

### **myNortheastern Account**

This is a web portal providing access to many student services and information. After you confirm your enrollment, you will be able to access your [myNortheastern portal](#).

If you have not set up your myNortheastern account, [login to your electronic application](#) and look for instructions to do so.

## **Graduate Ombudsperson**

An Ombudsperson is a resource exclusively for graduate students who need to speak with someone confidentially concerning a graduate-related issue or problem, and can help you evaluate your situation, explore and assess alternative avenues for resolution, and facilitate a constructive solution. Northeastern's Graduate Ombudsperson is Dr. Kimberly Wong and you can reach out her in many ways: email [graduateombuds@northeastern.edu](mailto:graduateombuds@northeastern.edu), her office phone 617-373-6904, or her cell phone 617-545-7989. You can also get more details on the Office of the Graduate Ombudsperson [website](#).

## **Counseling Services**

For those who seek counseling, university resources are available. Students can contact [University Health and Counseling Services](#) by calling 617.373.2772. Student support is also available from the [Center for Spirituality, Dialogue and Service](#) at 617.373.2728 or [csds@northeastern.edu](mailto:csds@northeastern.edu), and from the [We Care](#) team in Student Affairs at 617.373.7591 or [wecare@northeastern.edu](mailto:wecare@northeastern.edu). We Care especially assists students who are experiencing unexpected challenges to maintain their academic progress. The staff works with students to coordinate among university offices, to offer appropriate referrals, and to help develop viable options to support their continued success at the university.

## **Contact Information for CEE Points of Contact**

*CEE Main Departmental Office*      400 Snell Engineering Center

*CEE Department Chair*                      Prof. Jerome F. Hajjar  
[jf.hajjar@northeastern.edu](mailto:jf.hajjar@northeastern.edu)

*2023-2024 Associate Chair for  
Graduate Studies*                      Prof. Andrew Myers  
[an.myers@northeastern.edu](mailto:an.myers@northeastern.edu)

*2023-2024 Graduate Studies  
Committee (by Concentration)*      **MS in Civil Engineering and PhD in Civil Engineering  
and Environmental Engineering**

*Construction Management:* Prof. Ryan Wang  
[q.wang@northeastern.edu](mailto:q.wang@northeastern.edu)

*Water, Environmental, and Coastal Systems:* Prof. Ed  
Beighley [r.beighley@northeastern.edu](mailto:r.beighley@northeastern.edu)

*Geotechnical/Geoenvironmental:* Prof. Craig Shillaber  
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*Structures:* Prof. Michael Kane  
[m.kane@northeastern.edu](mailto:m.kane@northeastern.edu)

*Transportation:* Prof. Peter Furth  
[p.furth@northeastern.edu](mailto:p.furth@northeastern.edu)

*Data and Systems:* Prof. Amy Mueller  
[a.mueller@northeastern.edu](mailto:a.mueller@northeastern.edu)

**MS in Environmental Engineering:**

Prof. Matthew Eckelman  
[m.eckelman@northeastern.edu](mailto:m.eckelman@northeastern.edu)

**MS in Engineering & Public Policy:**

Prof. Matthew Eckelman  
[m.eckelman@northeastern.edu](mailto:m.eckelman@northeastern.edu)

**MS in Sustainable Building Systems:**

Prof. David Fannon  
[d.fannon@northeastern.edu](mailto:d.fannon@northeastern.edu)

**Interdisciplinary PhD:**

Prof. Q. Jim Chen [q.chen@northeastern.edu](mailto:q.chen@northeastern.edu)

**Certificate in Climate and Engineering**

Prof. Matthew Eckelman  
[m.eckelman@northeastern.edu](mailto:m.eckelman@northeastern.edu)

**Certificate in Sustainability Engineering:**

Prof. Matthew Eckelman  
[m.eckelman@northeastern.edu](mailto:m.eckelman@northeastern.edu)

*CEE Director of Operations and  
Business Management*

Taryn Quiroa-Sullivan  
[t.sullivan@northeastern.edu](mailto:t.sullivan@northeastern.edu)

*CEE Program Coordinator*

Rebecca Ricard  
[r.ricard@northeastern.edu](mailto:r.ricard@northeastern.edu)

<i>CEE Marketing and Communications Manager</i>	David Deeter <a href="mailto:d.deeter@northeastern.edu">d.deeter@northeastern.edu</a>
<i>CEE Laboratory Manager</i>	Michael MacNeil <a href="mailto:m.macneil@northeastern.edu">m.macneil@northeastern.edu</a>
<i>CEE Director of Laboratories (STReSS Lab in Burlington)</i>	Sujit Bhandari <a href="mailto:sujit.bhandari@northeastern.edu">sujit.bhandari@northeastern.edu</a>
<i>CEE Operations Manager and Department Safety Officer</i>	Rozanna Riley <a href="mailto:r.riley@northeastern.edu">r.riley@northeastern.edu</a>
<i>CEE Senior Laboratory Technician</i>	Kurt Braun <a href="mailto:k.braun@northeastern.edu">k.braun@northeastern.edu</a>
<i>CEE Administrative Assistant</i>	Mickaela Weidman-Melanson <a href="mailto:m.weidman-melanson@northeastern.edu">m.weidman-melanson@northeastern.edu</a>
<i>ITS Coordinator</i>	David Louis <a href="mailto:help@coe.neu.edu">help@coe.neu.edu</a>
<i>CEE Associate Co-op Coordinator</i>	Jessica Ormsby <a href="mailto:j.ormsby@northeastern.edu">j.ormsby@northeastern.edu</a>
<i>CEE Associate Co-op Coordinator</i>	Nora Salmon <a href="mailto:n.salmon@northeastern.edu">n.salmon@northeastern.edu</a>
<i>COE Associate Director of Graduate Student Services</i>	Allison Jacobs <a href="mailto:a.jacobs@northeastern.edu">a.jacobs@northeastern.edu</a>
<i>COE General Academic Advising</i>	<a href="mailto:coe-gradadvising@northeastern.edu">coe-gradadvising@northeastern.edu</a>
<i>Engineering Librarian</i>	Jodi Bolognese <a href="mailto:j.bolognese@northeastern.edu">j.bolognese@northeastern.edu</a>



### 3. GENERAL FACILITIES

#### **Computer and Printing Facilities**

The CEE Design Studio (418 SN) has a large number of computers configured with a range of software for use by CEE students. A number of printers, including two large-format poster printers, are available in the CEE Design Studio for use by CEE faculty, students, and staff. All CEE students automatically have access to the CEE Design Studio using their Husky Card. For questions related to access, please contact the CEE Operations Manager.

Computers in the Design Studio are preconfigured for use with these printers. For CEE computing questions, contact the ITS Coordinator via the COE Helpdesk at 617-373-5421 or send an email to [help@coe.neu.edu](mailto:help@coe.neu.edu). In order to log into the computers in the Design Studio, students need to obtain COE credentials [here](#).

The College of Engineering also manages computer lab facilities located in 208, 268, and 274 SN. For questions related to any computing facilities in the College of Engineering, please contact the COE Helpdesk at 617-373-5421 or send an email to [help@coe.neu.edu](mailto:help@coe.neu.edu).

Although there is no designated study or work space for MS students, there are many available options for studying on campus, including but not limited to the CEE Design Studio, Snell library or other on-campus common spaces.

#### **Software for Use on Personal Computers**

For students wishing to access software on their personal computers for academic use (course or research related), there are two venues for doing so:

- The COE Virtual Lab (Vlab) is an extension of the COE Windows lab environment that students can use on their own PC or Mac wherever it has network access. All memory, CPU, and graphics rendering is provided by the COE Virtual Lab servers, so applications will still run on a range of PC or Mac computers, including older systems. To get started, download [VMware Horizon Clients](#) from the NU campus network. From off-campus one must first connect to the [NU VPN](#). There are two ways to connect: install the VMware Horizon Client and connect to [vlab.coe.neu.edu](http://vlab.coe.neu.edu) (for better performance), or use HTML Access. For more information, see the [COE Virtual Lab Help Page](#).
- Some software is available for download and installation on students' personal machines. For more information on availability and download instructions visit the [Information Technology Services site](#). Alternately, students can check with developers for education versions of software (e.g., AutoDesk) and request assistance from the COE to get them installed on their computers.

#### **Libraries**

All students automatically have 24/7 access to Snell Library using their Husky Card. Engineering research librarians are on staff there to assist with access to books, journals,

e-journals, other printed materials, and obtaining materials on interlibrary loan. Graduate students have access to specific individual study rooms and PhD have exclusive access to the Digital Scholarship Common workspace on the second floor.

There are additional computer workstations with alternative and specialty software available for your use, including collaborative workspaces. Students can reserve specific workstations and individual or group study rooms through the [library website](#) and NUSSO (Northeastern University Space Scheduling Online) in [my.neu.edu](#).

The library (and other locations around campus) is equipped with printing stations that students can use their Husky Card to print from, and each semester students receive \$120 Husky Dollars to utilize the printers.

Center for Advancing Teaching and Learning Through Research (CATLR) is located on the second floor of the Snell Library. CATLR provides opportunities for educators at Northeastern (faculty, staff, graduate students and postdoctoral fellows) to enhance their teaching abilities through workshops, consultations, research and innovative programming. For example, one of their most popular programs for PhD students is the [Future Faculty Program](#). Learn more about all the work CATLR does [here](#).

There are additional services and training opportunities offered through the library that can be very valuable resources for students. For more information, please visit their [website](#).

## 4. CEE RESEARCH AND EDUCATION FACILITIES

Northeastern is a world-class research institution, classified as R1 (highest research activity) by the Carnegie Classification of Institutions of Higher Education. The CEE department maintains numerous experimental and computing laboratories used for faculty and student research, including:

CEE Sensor Technology Laboratory	008 SN
CEE Innovation Studio	050 SN
CEE Fabrication Facility and Machine Shop	050A SN
CEE Infrastructure Engineering Laboratory	050C SN
CEE Experiential Learning Laboratory	050D SN
CEE Infrastructure Engineering Laboratory	050E SN
CEE Collaboration Laboratory	050G SN
CEE Seismic Recording Station	050G SN
CEE Soils/Materials Teaching Laboratory	068 SN
CEE Environmental Biotechnology Laboratory	402 SN, 406 SN
CEE Environmental Chemistry/Process Laboratory	408 SN
CEE Coastal Resilience Laboratory	456 SN
CEE Geoenvironmental Laboratory	458 SN
CEE Environmental Analytical Laboratory	466 SN, 468 SN
Environmental Ecosystems Laboratory	118 MU
Environmental Organic Chemistry Laboratory	231 EC
Environmental Sensing Laboratory	257 EC 12A – MSC (Nahant)
Coastal Hazard Assessment, Mitigation and Prediction (CHAMP) Laboratory	16A – MSC (Nahant)
Wind Tunnel Test Facility	233 FR
Clean Air Smart City and Digital Earth (CASCADE) Laboratory	229 CU
Smart Cities Laboratory	400-403 BV
Sustainability and Data Sciences Laboratory	400-403 BV
STReSS Laboratory in the George Kostas Research Institute for Homeland Security	Burlington Innovation Campus
Research Center: PROTECT Headquarters	501 ST
Research Center: CRECE Headquarters	501 ST

A link to the Northeastern University campus map can be found [here](#). Access to facilities for research using your Husky Card is managed by the faculty in charge of the space or the CEE Operations Manager.

### **Working in Labs and Training Requirements**

All CEE graduate students are required to attend safety-training and waste management sessions as required by University regulations. A mandatory safety orientation is held at the beginning of the fall semester for all graduate students. In addition to the mandatory safety training as required by the Department of Environmental Health and Safety (EHS), students are required to complete additional training depending on their research work. This training will be defined by the student's research advisor and the CEE Department Safety Officer. Training information may be found on the [Office of Environmental Health and Safety website](#).

All students working in research laboratories are expected to take responsibility for laboratory safety, maintenance, and training of new personnel. This includes but is not limited to: participating in annual laboratory organization and clean-up efforts, training and mentoring undergraduate researchers, and reporting any laboratory safety issues to the research advisor and the CEE Department Safety Officer.

## 5. ACADEMIC COURSES AND REQUIREMENTS

### Program Requirements

Graduate program requirements are listed for each program in the online [course catalog](#).

Degree requirements consist of core courses, restricted electives, and general electives. Program requirements are adjusted periodically to account for new course offerings or updated standards. Additional information on MS and PhD programs is provided in the later sections of this document. Students can fulfill their program requirements using either the list in their year of original enrollment or the year of their graduation, but not both.

If a student is interested in enrolling in a course that is not listed in the course catalog, they need to complete a [petition form](#) to request to have the course count towards their degree program.

The student must complete the petition form and have it signed by their faculty concentration or degree advisor. Once reviewed, the petition form should be submitted to the Graduate School of Engineering for review. The petition will then be reviewed and a copy will be sent back to the student via email within 5 business days. This occurs frequently with new courses that have not yet been added to the requirements listed in the course catalog.

### Course Registration

The registration period for courses typically opens 2-3 months ahead of each semester, during November (for spring), February (for summer), and April (for fall). Some courses have limited registration capacity, and therefore students are encouraged to register early to ensure availability in course sections. Please check the following link for [instructions on how to register](#) using your myNortheastern account.

### What if my course is full?

Although rare, if a course is full, you may contact the course instructor and ask if an additional seat can be accommodated in the classroom. If a seat is not available in your preferred classes right away, you can also join the waitlist, if applicable. Enrollments are always shifting as students get co-ops or change their course registrations. To join a waitlist, enter the class CRN number directly into your registration sheet and hit submit. You will then have an option to select “waitlist” from a drop-down menu. The waitlist system will automatically inform you when a seat opens up- just log into your account and accept it within the 24-hour time limit.

### What if I want to audit a class?

In this case, you need to complete the [University Petition to Audit form](#), obtain the course instructor's signature, and submit it to the Registrar's Office.

### What if I am unable to register for a course?

If you are unable to register for a course online due to restrictions placed on the course, complete the [Registration Override Request Form](#) and submit it to your academic advisor and the course instructor (if required) for approval and signature. If approved, submit to the Graduate School of Engineering, or email the signed scanned form to your designated Graduate Student Services Advisor. Students are notified via email when the request has been processed.

### **Future Course Schedules**

Current academic year course schedules are [available from the Registrar](#). Because many courses are not offered yearly, graduate students may require information about course offerings in upcoming semesters. Questions about future course offerings should be directed to the student's advisor, who may be able to provide a tentative indication of course availability for the subsequent academic years, or to the Department Chair. Each academic year, the department will have program samples available for each degree and concentration that will list the courses to be offered during the academic year. For new courses offered every semester, a "New Courses" flyer is sent by email to all CEE students with information on course names, course numbers, descriptions and level restrictions for graduate and/or undergraduate students.

*In the case of any inconsistency between the curriculum guides and other University or College of Engineering documents, the University or College document shall take precedence. Future course availability is dependent on enrollment and scheduling and cannot be guaranteed until published by the Registrar.*

### **Academic Performance and Integrity**

Students must maintain good academic standing, as defined [here](#).

All students are expected to know and adhere to [University policies on academic integrity and honesty](#).

Offenses such as data fabrication, plagiarism, and cheating may be reported to the University Office of Student Conduct and Conflict Resolution (OSCCR) and may result in course failure or dismissal from graduate school.

## 6. GRADUATE CERTIFICATE PROGRAMS

Students enrolled in a graduate degree program in the College of Engineering have the opportunity to pursue an engineering graduate certificate in addition to or in combination with the MS degree. More information can be found [here](#). The [Graduate Catalog](#) has information on other certificates at the university.

Moreover, the Gordon Engineering Leadership Program (GEL) offered by the Gordon Institute of Engineering Leadership in the College of Engineering is a transformational graduate program designed to build a future corps of engineering leadership professionals. Graduate students can pursue this program as a stand-alone certificate or in conjunction with existing Master of Science degrees offered by the College of Engineering. More information can be found [here](#).

## 7. CO-OPERATIVE EDUCATION

Northeastern is known around the world for its emphasis of experiential education, especially its co-op program. Graduate students are also eligible for co-op, provided that they meet the requirements listed on the [website](#).

## 8. CEE DEPARTMENT SEMINARS

Participation in the Civil and Environmental Engineering Graduate Seminars (CIVE 7400, 0 credits) is a degree requirement each fall and spring semester for all full-time graduate students. The Graduate Seminar series provides students with an opportunity to meet leaders in the field and learn about cutting-edge research from universities, national laboratories, industry, and government. In terms of graduate education, the Seminar series can also guide students to develop and refine their own professional presentations and build skills to listen, assess, and discuss research presented by fellow professionals. All full-time graduate students should register for the seminar course each semester while enrolled in their degree program and meet the requirements of the course, which entails a certain level of attendance.

### Other Relevant Seminar Series

Informative seminars presenting cutting edge research and topics relevant to civil and environmental engineering occur on campus frequently. The following represent a sampling of other seminar programs, however students should pay attention to departmental, College of Engineering, and university-level announcements for other one-time talks and visiting speakers.

- Northeastern Graduate Structural Engineering Association ([NGSEA](#))
- Students of Environmental and Water Resources Engineering, Research, and Sustainability ([SEWERS](#))
- Institute of Transportation Engineers ([ITE](#))
- Northeastern University Sustainable Buildings Organization ([NUSBO](#))
- Northeastern University Energy Systems Society ([NU-ESS](#))
- [ALERT education programs](#)
- [Gordon Leadership Program Seminars](#)



## 9. GUIDELINES FOR SUPPORTED STUDENTS

### **Desk Assignments**

All full-time, funded CEE PhD students are assigned a desk within one of the CEE graduate student offices. Seating assignments are managed by the CEE Senior Business Manager. The department strives to place students in groups that are conducive to sharing ideas and expertise, subject to the realities of space constraints.

### **Stipend Information**

Students supported by a Stipended Graduate Assistantship (SGA), college/department fellowship, or hourly appointment, can direct questions related to their appointment to the CEE Senior Business Manager and/or the College of Engineering Graduate School of Engineering Office. Questions related to payment processing can be directed to Student Employment Office. More information can be found [here](#).

General information on Financial Assistance and Funding Opportunities for Graduate Students are provided on the [Graduate School of Engineering webpage](#).

All full-time supported students are entitled to benefits as specified by the university. Planned vacation must be discussed in advance with the student's faculty advisor and with the course instructor for teaching assistants (TAs).

PhD students can be financially supported through fellowships, research assistantships (RAs), and/or teaching assistantships (TAs).

Students receiving research fellowship funding through the College of Engineering or an external source (e.g., fellowships provided by the U.S. or foreign governments) generally have a research advisor assigned at the time of the fellowship offer, who will work with the student to outline a research plan that will help the student progress toward his or her degree. Fellowship students are required to contribute to the teaching mission of the department (Teaching Practicum) for two academic semesters.

#### ▪ **Fellowship Students on Teaching Practicum and Teaching Assistants (TAs)**

Fellowship students on teaching practicum and TAs are assigned to specific courses on a semester-by-semester basis. The student should report to the professor in charge of their assigned course before the course begins. The professor in charge will inform the TA of their specific duties at that time so that they may be adequately prepared.

The workload of a full-time TA or fellowship student on teaching practicum is 20 hours/week (on average over the course of the semester) spent assisting classroom learning. Note that some students may be assigned part-time TA responsibilities on one or more courses concurrently if a single course is not expected to require 20 hours/week of commitment. In this case, the student should ensure they understand the expected breakdown of time commitment between courses.

Duties may include such tasks as assisting with laboratory courses; leading recitation sessions; grading laboratory reports and homework assignments; holding office hours and addressing student queries; assisting the faculty in general execution of the course such as creating solution sets for homeworks or handouts. Occasionally students may be asked to conduct a lecture in the absence of the faculty member in charge.

- **Research Assistants (RAs)**

RAs should report to their faculty advisors on or before the first day of their assignment. RAs are responsible for conducting research related to the project to which they are assigned. The specifics of these duties are discussed between the student and the faculty advisor. RA research may or may not be connected to their own independent dissertation work.

## 10. GRADUATE STUDENT GROUPS

Northeastern has many student groups you can join. Listed below are few:

### [Students of Environmental and Water Resources, Engineering, Research and Sustainability \(SEWERS\)](#)

**Mission:** To provide students with engaging speakers and activities in the environmental field. Email [nu.sewers@gmail.com](mailto:nu.sewers@gmail.com) if interested.

### [Northeastern Graduate Structural Engineering Association \(NGSEA\)](#)

**Mission:** To provide many opportunities for the enrichment of all graduate structural engineering students in addition to any students who are interested in topics related to structural engineering. Students will find the chance of learning about current structural engineering projects and research from invited speakers. They will also have the opportunity to present their own research in addition to more general structural engineering topics of interest.

### [Northeastern University Sustainable Building Organization \(NUSBO\)](#)

**Mission:** NUSBO seeks to engage and connect members interested in the field of sustainable building. Through meetings, events, and the Sustainable Building Systems (SBSY) Speaker Series, NUSBO will foster multi-disciplinary relationships between students, educators and professionals in the industry.

Professionally affiliated with USGBC-MA (US Green Building Council - Massachusetts Chapter) and ASHRAE. Open to students in all programs and concentrations - in true interdisciplinary fashion.

Attend a meeting or email [nusbo16@gmail.com](mailto:nusbo16@gmail.com) to get plugged in.

### **Graduate Student Council (GSC)**

**Mission:** CEE GSC strives to enhance the graduate student community in the Civil and Environmental Engineering department and transcend program concentration boundaries. By serving as a voice for the student body, the CEE GSC leadership team builds bridges between department administration and students. Personal relationships are strengthened through engaging social events – geared towards celebrating department diversity – and promote a sense of inclusion within the CEE community. CEE GSC continually identifies the gaps in the evolving community and tirelessly attempts to provide solutions to address any personal, academic, or professional development needs. The primary goal of CEE GSC is to exist for students and the community.

Email: [CEEGSC@northeastern.edu](mailto:CEEGSC@northeastern.edu)

WhatsApp: [bit.ly/CEEGSC-WhatsApp](https://bit.ly/CEEGSC-WhatsApp)

Instagram: neu\_cee\_gsc

Facebook: NEUCEEGSC

WeChat: Reach out to someone to get the most recent QR Code

Teams: [CEE Graduate Student Team](#)

### **Graduate Women in Science and Engineering (GWISE)**

**Mission:** To identify and break down the barriers limiting the representation of women of all backgrounds in STEM careers and empower their participation and advancement. We work to plan events to achieve our mission and foster a strong community for graduate students.

## 11. INTRODUCTION TO GRADUATE DEGREES

The Department of Civil and Environmental Engineering offers the degrees of Master of Science (MS) and Doctor of Philosophy (PhD). The Master of Science degree is offered with a thesis, report, or course-work only option. Any deviation from the traditional programs listed above must be addressed through petition to the Graduate Studies Committee and will be considered on a case-by-case basis. Definitions of full-time and part-time status are determined by the Graduate School of Engineering Office [here](#).

Both full-time PhD and full-time MS degree students pursuing a thesis are able to select thesis topics from a diverse range of faculty research interests. New graduate students can learn about ongoing research topics from discussing with the faculty.

The following sections describe each of the graduate programs offered by the Department of Civil and Environmental Engineering; however, for the most up-to-date information, students are to refer to the COE website. CEE degree program requirements, course listings, and much more information can be found in the [catalog](#).

**Please note that information on the COE website is the official version, and supersedes information provided in this Guidebook.**

## 11.1. MASTER OF SCIENCE DEGREES

The Master of Science (MS) degree is normally pursued by students with a Bachelor of Science in Civil and Environmental Engineering or a closely aligned field. Students pursuing MS degrees with undergraduate educational backgrounds other than Civil and Environmental Engineering may be required to complete supplementary undergraduate work in addition to the minimum course requirements. The Graduate Studies Committee will specify any additional requirements during the admission process.

Full-time MS students are expected to remain registered for courses, or on co-op, for consecutive Fall and Spring (or Fall, Spring, and Summer) semesters from initial enrollment to completion of the degree. In some cases, MS students may be considered enrolled full-time by registering for *CIVE 7986 Research*, e.g., during a semester where no courses are being taken but thesis research is being conducted.

### Course Requirements

A minimum of 32 credits (semester hours) of academic work is required of all full-time students to qualify for the Master of Science degrees. Degree and program requirements are published and maintained in the [catalog](#).

When pursuing a report option, at least four semester hours of thesis credit must be included as part of the 32 required semester hours.

When pursuing a thesis option, at least eight semester hours of thesis credit must be included as part of the 32 required semester hours. More than eight semester hours can be counted as thesis credit upon approval of the faculty research advisor. Full-time MS students who complete the required eight semester hours (SH) of thesis work (*CIVE 7990 Thesis*) have the option to register for *CIVE 7996 Thesis Continuation* until their thesis is completed. If they are registered for enough credits in other courses to be considered full-time, enrollment in *CIVE 7996 Thesis Continuation* is not mandatory. This is especially important for international students to maintain their F1 VISA status.

The faculty advisor and student establish the sequence of courses the student will take to work towards completing the Master of Science in Civil and Environmental Engineering.

### **Report Option Requirements**

Students pursuing a Master of Science with Report must complete a suitable technical project, which culminates in submission of a professional-level written report, including a review of the technical and/or academic literature. Once the student and advisor have decided an appropriate report topic, the student must submit a proposal of the methodology and anticipated nature of the results (see [\*Master's Report Proposal Approval Form\*](#) in Appendix). The student should submit this form to the CEE Graduate Studies Committee concentration representative for approval and signature. It is the student's responsibility to ensure the form is then submitted to the CEE Department front office. Once the Master's Report is completed, both the faculty member who has agreed to be the Report Supervisor and the Department Chair must provide approval of the report with a [\*Master's Report Cover Page\*](#) (see Appendix).

### **Thesis Option Requirements**

Students pursuing a Master of Science with Thesis must innovate or advance the state-of-the-science in either analytical or experimental methods, or the application of such methods to engineering problems. The thesis must also include an appropriate review of the technical and/or academic literature. Once the student and advisor have decided on an appropriate thesis topic, the student must complete a proposal of the methodology and anticipated nature of the results with the [\*Master's Thesis Proposal Approval Form\*](#) (see Appendix). The student should submit this form to the CEE Graduate Studies Committee concentration representative for approval and signature. It is the student's responsibility to ensure the form is then submitted to the CEE Department front office.

The graduate school requirements, deadlines, and electronic submittal instructions can be found on the web. The required format for the Master's thesis body is also provided on the [website](#).

The Master's thesis must be reviewed and approved by an additional reader, who is chosen jointly by the student and faculty advisor. Students must submit a signed [\*Master's Thesis Proposal Approval Form\*](#) (see Appendix) to the CEE front office.

Students are responsible for contacting the Graduate School of Engineering to ensure they are aware of any updates to thesis requirements and appropriate deadlines. In addition to submission of the thesis document, it is recommended that each MS candidate authors, from their thesis work, at least one manuscript for peer-reviewed publication.

### **Petitioning for Course Inclusion**

In pursuit of their education, research, and career goals, a student may wish to follow an academic path that varies from the standard program of study. In such cases, a petition form (available in the Graduate School of Engineering Office), must be completed by the student and submitted to the appropriate CEE Graduate Studies Committee concentration representative for approval and signature. It is the student's responsibility to ensure the form is then submitted to the CEE Department Office.

### **Switching MS Degree Programs or Concentrations**

Students who wish to switch between MS degree programs must petition the appropriate Graduate Studies Committee representatives. Switching among the MS Civil Engineering with Concentration in Environmental & Water Systems, MS Environmental Engineering, and MS Engineering and Public Policy with Concentration in Energy & Environment degrees typically only requires the petition form. Switching between other degree programs will require re-applying for admission, however the application process can be streamlined and the student is encouraged to speak with the appropriate Graduate Studies Committee representative before initiating this process.



## 11.2. DOCTOR OF PHILOSOPHY DEGREE

The Civil and Environmental Engineering Department offers the degree of Doctor of Philosophy. A doctoral (PhD) student becomes a Doctoral (PhD) *Candidate* upon meeting the *Qualifications for Doctoral Candidacy* (see subsection below). After becoming a Doctoral Candidate, a student must complete the required academic course work and a dissertation under the direction of a Dissertation Advisor. To be granted the degree of Doctor of Philosophy in Civil and Environmental Engineering, a candidate must pass a *Dissertation Defense* and *Final Oral Examination*.

Details on the requirements for a PhD in Civil Engineering can be found in the catalog [online](#).

### Course Requirements and Advising

For students entering a PhD program with only a bachelor's degree, a minimum of 48 semester hours (credits) of graduate-level coursework is required. For students entering with a master's degree, a minimum of 20 semester hours (SH) of academic coursework is required. Courses should be decided through discussion with the research advisor. Some concentrations may require a certain number of core topics for the purposes of the qualifying exam. Students who have taken graduate courses at another institution that are duplicate of courses in their program here may petition to have them included for credit, only if they have not counted towards a previous degree. Students and advisors should keep in mind that the requirements for doctoral candidacy include any core coursework, a proposal defense, and the residency requirement of a minimum of one full year of academic studies after becoming a doctoral candidate.

Prior to achieving candidacy, students can register for *CIVE 8960 Exam Preparation - Doctoral*, if needed to meet the full-time status requirement. Students must register for the section with their research or academic advisor listed as the "instructor." If there is not a section listed with the appropriate instructor, please contact the CEE Department office to have the correct section of the course created. *CIVE 7978 Independent Study* or *CIVE 9986 Research* can also be considered to fill credits up to the amount allowed by the Graduate School of Engineering.

Upon successful completion of the qualifying exam, each doctoral candidate must register for two semesters of dissertation courses. The first semester, a doctoral candidate will register for *CIVE 9990 Dissertation*. The second semester, a doctoral candidate will register for *CIVE 9991 Dissertation Term 2*. Upon completion of this sequence, the candidate must register for *CIVE 9996 Dissertation Continuation* every semester until the dissertation is complete. Students are not able to register for *CIVE 9996 Dissertation Continuation* until the two-semester *CIVE 9990 Dissertation* and *CIVE 9991 Dissertation Term 2* sequence requirement is fulfilled. All students pursuing a doctoral degree should also enroll in the Department's seminar course (*CIVE 7400 Civil and Environmental Engineering Seminar*) for each Fall and Spring semester they are working toward their degree.

### **Petitioning for a Master's Degree**

PhD Students who enter the program at the Bachelor's level can petition the Graduate School to receive an MS degree in their respective concentration by fulfilling all of the MS requirements listed in the catalog. Doctoral students can opt to write a Master's Thesis as part of their MS degree program; however, this work must be independent of their doctoral dissertation.

### **Annual Progress and Review**

At the beginning of each calendar year, all CEE doctoral students including Interdisciplinary students within CEE, should complete the Annual PhD Student Progress Report, which details academic and research activities and accomplishments over the previous year. Forms are available from the CEE front office. These forms will be reviewed by the faculty in each respective concentration to ensure satisfactory progress, with feedback provided to the students as necessary.

### **Qualifications for Doctoral Candidacy**

To qualify for doctoral candidacy, the student must demonstrate mastery of the core areas of the relevant concentration of Civil and Environmental Engineering (as well as Interdisciplinary Engineering), measured through course performance (minimum GPA), and a Qualifying Examination (written and oral), covering four topic areas selected from the concentration field. The student earns the classification of Doctoral Candidate upon successful completion of the following requirements:

#### **PhD Qualifying Examination**

- **Purpose.** The objective of the doctoral qualifying examination (QE), which consists of written and oral parts, is to determine whether the applicant possesses the attributes of a successful doctoral candidate: mastery of the fundamentals and ability to apply them to solve unfamiliar problems that require analysis, synthesis, and independent thinking; communication skills to present research ideas and plans, motivate problems, respond to related questions and defend assumptions and technical approach.
- **Qualifying Examination Committee.** The Qualifying Examination Committee (QEC) consists of no fewer than three members, of which at least two are full-time (or affiliated) faculty members of the CEE Department. The QEC is formed after the student applies for the QE by the Concentration Coordinator in consultation with the concentration faculty.

**Timing.** The QE is administered depending on the semester of admission and on the entry status of the student, following the schedule in the table below. Advanced entry means that a student starts their graduate program at Northeastern with a M.S. degree. Regular entry means that a student starts their program at Northeastern with a B.Sc. degree

Regular entry (with B.Sc.)	Advanced entry (with M.S.)
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<b>Summer/fall semester admit</b>	On or before 3 <sup>rd</sup> spring semester	On or before 2 <sup>nd</sup> spring semester
<b>Spring semester admit</b>	On or before 3 <sup>rd</sup> fall semester	On or before 2 <sup>nd</sup> fall semester

Under extraordinary circumstances, a student may be granted one additional semester before taking the QE, but only by prior petition approved by the advisor, Concentration Representative, and Graduate Studies Committee.

The QEs take place once per semester (Fall and Spring). The written QE typically takes place in the week of the first Monday of October (Fall) or the week of the first Monday of February (Spring). The oral part of the exam should take place as soon as possible after the written exam, preferably within 2 weeks after the written exam.

Students planning to take the QE, in consultation with their advisor, should submit a copy of their proposed program ([\*PhD Qualifying Examination Application Form\*](#)) to their Concentration Representative with the required signatures (in the first week of May if they plan to take the QE in the Fall, and in the first week of November if in the Spring semester).

The Graduate Studies Committee should notify participating students of the detailed schedule and format of the exams at least four weeks before the exam.

- **Process and Format.** The QE consists of a written and an oral portion.

The written portion is based on four general areas, consistent with student's education and research interests, and should be approved by the student's Qualifying Examination Committee. The written exams take place during the week specified above with one exam per day on Monday, Tuesday, Thursday, and Friday (Wednesday is a free day). Each part of the written exam can be in-class or take home as determined by the QEC. In-class exams are typically open book over a three-hour period (usually starting at 9:30 a.m.). Take home exams are handed out at 9:30 a.m. and are due by 9:30 a.m. the following day. Take home exams are normally administered electronically. In some cases (interdisciplinary QE) a take home format may also be used for the written exam as a whole, over a period of at most 7 days (during the same week) organized based on the recommendation of the student's QEC.

All students taking the QE in the same area will have the same questions for that area and on the same day, where possible.

The oral part of the QE should take place within two weeks of the completion of the written part. It includes a 20-40 minute presentation followed by a Q&A session. The presentation may or may not be related to the topic of the student's PhD research but must be research-oriented. The ability of the student to prepare and present a topic in a coherent, well-organized fashion is an integral part of the QE requirements. Following the presentation, the student will answer questions from the members of the QEC. The questions may address issues related to the presentation or any other aspect that is reasonably contained within the four technical areas covered in the written exam. The oral exam is not open to the public.

The student will be notified of the decision immediately after the QEC finishes its deliberations. If the student needs to repeat the QE, or any of its parts, the exam typically takes place during the next time the QE exam is offered.

- **Grading Guidelines and Outcomes.** The QE is integrated and the outcome is based on the performance on both the written and oral parts of the exam. Therefore,

every student, regardless of performance in the written part, will participate in the oral exam. This can provide a more comprehensive evaluation of the student's qualifications, ability to perform research and be a successful PhD candidate.

Each portion of the written part of the exam is graded on the following scale:

EXCELLENT  
GOOD  
FAIR  
POOR

Passing the written part of the exam requires GOOD or better in at least three areas and no POOR grade in any.

Passing the oral part requires a grade of at least GOOD.

The possible outcomes for students who take the QE for the first time are:

1. Pass
2. Fail: Retake all or certain parts of the exam one additional time
3. Fail: Not allowed to retake the exam and the student will be dismissed from the PhD program

If a student fails the QE for the second time, they are dismissed from the PhD program.

The above outcomes are based on consensus from a majority of the QEC and are summarized in the Ph.D. Qualifying Examination Results Form. A single grade of either excellent, good, fair, or poor must be determined by the QEC for each portion of the written part of the exam and for the oral part of the exam

### Qualifying Examination Timeline

	Fall exam	Spring exam	Responsibility
<b>PhD Qualifying Examination Application Form</b>	1 <sup>st</sup> week in May before the exam	1 <sup>st</sup> week in November before the exam	Student and Advisor. Form to be submitted to the Concentration Representative
<b>Qualifying Examination Committee and schedule</b>	3 <sup>rd</sup> week in May before the exam	3 <sup>rd</sup> week in November before the exam	Concentration Representative, GSC
<b>Exam Questions</b>	Monday before the QE		Concentration Representative to collect exam questions
<b>Written Exam</b>	Mon-Tue, Thu-Fri Starting on first Monday of October (Fall) or February (Spring)		QEC
<b>Oral Exam</b>	Within two weeks after the written portion. Students are notified of the outcome after the oral exam		QEC

<b>QE Results Form</b>	Advisor will submit results to front office and GSC after QEC finishes deliberations.	Advisor
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### **Dissertation Committee Selection**

The Dissertation Committee (DC) is formed by the student and their research advisor(s) and approved by the Department Chair. The DC shall be formed as soon as possible after the QE is passed. The committee must have a minimum of four members, including at least two members from the Civil and Environmental Engineering Department. The primary dissertation research advisor must be a full-time faculty member in the Civil and Environmental Engineering Department, or Affiliated Faculty with the Department, and at least one of which shall have their primary appointment outside of the CEE Department.

For a student defined as “Interdisciplinary” and having the CEE Department as the academic sponsoring department, the dissertation committee will be formed according to College guidelines. Additionally, at least two full-time (or affiliated) faculty members from the CEE Department need to be represented on the committee for an interdisciplinary student having the CEE Department as the academic sponsoring department. The duties of the committee will be as defined in the College guidelines.

Committee membership is not limited to faculty at Northeastern University, nor to engineering faculty, and the student is encouraged to consider outside experts in the dissertation topic. The student should work with the faculty advisor to create a meaningful and helpful dissertation committee. Once the DC has been formed, students should submit a [PhD Dissertation Committee/Proposal Approval Form](#) (see Appendix) to the CEE front office. Committee membership may be changed, with approval of the dissertation advisor, up to one semester prior to the dissertation defense.

### **Dissertation Proposal Presentation**

The Dissertation Proposal Presentation consists of a written dissertation proposal and an oral presentation of that proposal, presented to the Dissertation Committee within one year after passing the Qualifying Examination. The Dissertation Proposal Presentation should include the problem definition, a critical review of the literature, the research goals, a proposed experimental plan, a methodology for analysis of results, and a summary of work conducted to date. The format of the document should match the format of the final dissertation as much as feasible. The oral portion should present the same information in a presentation of ~30-45 minutes. The DC gives the final approval on the student’s oral proposal defense and sign a [PhD Dissertation Committee/Proposal Approval Form](#) (see Appendix) upon successful completion. The student must submit it to the CEE front office.

### **Change in Dissertation Topic or Advisor**

Typically, students choose research topics and faculty advisors before or during the first year as a graduate student. In the event that circumstances require a change of dissertation topic or advisor, all changes must be approved by the advisor of record, the Associate Chair for Graduate Studies, and the Department Chair.

### **Dissertation**

To be granted the PhD, a candidate must complete a written dissertation which embodies the results of original research and includes material suitable for publication. The required dissertation format is determined by the COE. Graduate School of Engineering requirements and instructions can be found on the [web](#).

Students are responsible for contacting the Graduate School of Engineering for any updates to dissertation requirements and appropriate deadlines. It is required that each doctoral candidate author several archival papers in refereed journals from their dissertation research.

### **Dissertation Defense**

The dissertation defense is an oral defense of the doctoral research work and an examination on subject matter related to the dissertation area. The oral presentation must be open to the public, including students, faculty, and the student's committee. Questions may be posed by the public and the doctoral student's Dissertation Committee, with a separate closed session with just the Dissertation Committee at the discretion of the Committee.

Approximately one month prior to the dissertation defense, the candidate should arrange for the time and location of the defense and ensure that the full committee will be present. At least two weeks prior to the dissertation defense and oral examination, the candidate should:

- (1) Announce the agreed-upon defense date and time to the public. The announcement to the public (including all CEE faculty, graduate students, and committee members) should include a brief abstract of the dissertation. This is typically done through the CEE front office.
- (2) Place a pdf copy of the full dissertation (after dissertation is approved by the primary advisor) in the Civil and Environmental main office to be available to faculty.
- (3) Submit copies of the full dissertation to each dissertation committee member.

Following the dissertation defense, the Dissertation Committee members may require that certain changes be made to the written dissertation prior to their approval, which should be completed in time for the final version of the dissertation to be submitted to the Graduate School of Engineering.

The signatures of the Dissertation Committee members and the Department Chair on the signature page of the final written dissertation signify that the student has passed the dissertation defense. For graduation clearance procedures, dates, and deadlines see [here](#).

## Summary of Documents for Doctoral Students

(Forms and Templates provided in Appendix)

- Every year: [\*Annual PhD Student Progress Report\*](#) to the front office.
- In preparation for Qualifying Exam (Student and Advisor): [\*PhD Qualifying Examination Application Form\*](#) to the concentration representative.
- In preparation for Qualifying Exam (Concentration Representative and Advisor): [\*PhD Qualifying Examination Committee Form\*](#) to the Graduate Studies Committee.
- Following formation of Doctoral Committee: [\*PhD Dissertation Committee/Approval Form\*](#) to the CEE front office.
- Following Dissertation Defense: Dissertation Signature Page with the dissertation.



## 12. APPENDIX: GRADUATE STUDENT FORMS

Here you can find the various forms and templates that you may need to use over the course of your graduate studies.

For College or University documents that are submitted to the COE Graduate School of Engineering, links are provided. For the MS Thesis and PhD Dissertation signature pages, you must first submit these to the CEE front office for the Chair's signature.

For Department documents that are submitted to the CEE front office, the actual forms are included in this Appendix.

### COE Documents:

- **COE Guide to the Preparation and Submission of Theses and Dissertations**
- **COE Style Guide for Theses and Dissertation**
- **Master's Thesis Title page template**
- **Master's Thesis Signature Page Template** (submit to CEE front office first)
- **PhD Dissertation Title page template**
- **PhD Dissertation Signature Page Template** (submit to CEE front office first)

### **CEE Documents:** (These are now online forms)

- [Form 1: Master's Report Proposal Approval Form](#)
- [Form 2: Master's Report Cover Page Template](#)
- [Form 3: Master's Thesis Proposal Approval Form](#)
- [Form 4: Annual PhD Student Progress Report](#)
- [Form 5: PhD Qualifying Examination Application Form](#)
- [Form 6: PhD Qualifying Examination Committee Form](#)
- [Form 7: PhD Dissertation Committee / Proposal Approval Form](#)
- [Form 9: PhD Qualifying Exam Petition Form](#)

