

**Tufts University**  
**Department of Civil and Environmental Engineering**  
**Graduate Program Guidebook**  
**2019-2020**

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## ***Civil and Environmental Engineering at Tufts University***

Tufts CEE distinguishes itself from other programs by its interdisciplinary focus and the integrative nature of its graduate education within an intellectually rich environment of a highly ranked undergraduate institution. The CEE graduate program consists of degree programs in applied data science, environmental health, environmental and water resources engineering, geosystems engineering, offshore wind energy, and structural engineering and mechanics. The broad scope of our graduate program provides students with unique opportunities to specialize in areas best suited for their background and research interests. Depending on their interests and career aspirations, students can work toward a Master of Science (M.S.) with or without thesis, and Doctor of Philosophy (Ph.D.) degrees. Students typically enroll on a full-time basis, although part-time enrollment for master's degree students is possible.

Opportunities for interdisciplinary study are provided through graduate programs in Water: Systems, Science and Society (WSSS) and Bioengineering, certificate programs in Environmental Management, Epidemiology, as well as affiliations with the graduate program in Urban and Environmental Policy and Planning (UEP). The CEE Department has active research programs across four themes: Climate and Energy, Extreme Events, Resilient Systems, and Health and the Environment.

### **1. Graduate Programs in Civil and Environmental Engineering**

#### **1.1 Degrees Offered**

##### ***Master of Science***

A Master of Science is awarded in each of the degree programs described in this guidebook. Students must complete the course of study outlined for their chosen specialization. The program is designed for individuals who desire to pursue doctoral education and research or a career in engineering practice within the private or public sector.

The Master of Science includes the option for the preparation and defense of a thesis. The thesis can constitute two of the required ten courses. Detailed program requirements are referenced in Section 3 of this guidebook.

##### ***Doctor of Philosophy***

The Ph.D. is the highest level of study and a serious academic commitment. Graduates of the doctoral program are positioned for careers in academia, industry, government and consulting. Students entering the doctoral program in civil and environmental engineering are expected to meet the general admission requirements of the graduate school; gain acceptance into the Department of Civil and Environmental Engineering; and hold a bachelor's or master's degree in engineering or a related field. Students are required to complete a minimum of twelve courses beyond the baccalaureate level. Students entering the program with a Master of Science degree are required to complete a minimum of five courses. Detailed degree requirements are presented in Section 5 of this guidebook.

## 1.2 Full- or Part-time Study

The Master of Science degree is designed so that full-time students may complete their course work in one to two calendar years. Please note that the actual duration of study depends upon the focus and determination of the student, as well as the selected degree program (M.S. degrees without a thesis typically take one year to complete). An M.S. degree with thesis typically takes two years to complete. Part-time students enrich the programs by bringing valuable real-life experiences to the classroom. Some courses are offered in the early morning, late afternoon, or evening to accommodate working students. Part-time students can complete their master's studies within two to four years, depending on the individual's course load and degree requirements.

The [Graduate Student Handbook](#) provides the following information related to enrollment status. Graduate students are responsible for maintaining proper enrollment status at Tufts. Federal regulations require students to be enrolled (registered) full-time or half-time in order to *receive* and/or *defer* student loans. Tufts provides information regarding student enrollment status to lenders via the National Student Loan Clearinghouse and is required by law to return funds for students who do not maintain proper enrollment status. Enrollment status is either full-time, half-time, or part-time as determined by the number of course credits taken each semester, detailed in the [Graduate Student Handbook](#).

## 1.3 Interdisciplinary, Certificate, and Continuing Education Programs

**Certificate Program in Environmental Management** provides students with the tools and techniques they need to understand the complex issues of future environmental management. The program blends courses in fundamentals such as regulations and compliance issues, with leading edge concepts in life-cycle analysis, risk management, and remediation technologies. Students must complete five courses, including one course in each of three focus areas: environmental engineering and technology, environmental health, and policy. The two remaining courses can be selected from any of the focus areas. *CEE Faculty Advisor: Anne Marie Desmarais*

**Certificate Program in Civil and Environmental Engineering** is a graduate-level program offered to prepare for graduate school or to improve your knowledge of civil and environmental engineering to join the workforce. At Tufts, we provide the opportunity for academically talented, highly motivated adult students, with at least a Bachelor of Science or Bachelor of Arts degree (BS or BA) in any discipline with the appropriate mathematics and science background. The program requires four courses. *CEE Faculty Advisor: Anne Marie Desmarais*

**Joint and Dual Programs with the Department of Urban and Environmental Policy and Planning** are available for students interested in combining their interest in civil or environmental engineering with environmental policy and urban planning. *CEE Faculty Advisor: David Gute*

**Joint Program with the M.S. in Innovation Management** is available for students interested in combining their interest in civil and environmental engineering with the study of innovation and engineering management.

**Continuing Education** Tufts University College allows students with a bachelor's degree who are not matriculated in a degree program to enroll for credit in regular Tufts courses through the University College. Students pursuing this option may take courses during the academic year and the summer; beginning course work in anticipation of entering a degree program; or strengthening their academic record. *CEE Graduate Coordinator: Laura Sacco*

## **2. Matriculation and Registration**

A student matriculates in a degree program only once, but must register each semester. Generally, a new student should expect to arrive on campus a minimum of one week prior to the start of classes. There are several activities, such as orientation programs, scheduled before the start of classes. International students are encouraged to arrive earlier to have ample time to arrange living accommodations, establish financial accounts, become familiar with the region and adjust to the cultural environment.

### **2.1 Matriculation Process**

Upon arrival on the Tufts campus, the entering new student should:

- arrange to meet with their academic advisor as well as the advisor for their research assistantship (RA) or teaching assistantship (TA), if appropriate;
- visit the CEE Main Office to obtain necessary forms, verify dates and locations of orientation and other required activities, and receive supplemental information on the matriculation and registration processes.

**Orientation Programs.** Both the School of Engineering and the Department of Civil and Environmental Engineering schedule mandatory orientation programs in late August or early September for students who are entering Tufts during the Fall semester. Failure to attend these programs may jeopardize the student's financial assistance or make registration more cumbersome. Students entering a graduate program in the spring semester must make arrangements through their advisors to receive pertinent information and orientation on an individual basis. They will be required to attend some or all of the orientation programs in the first August/September following their matriculation for mandatory RA and TA training.

**Meet with Advisor.** Each student should schedule a meeting with his/her academic advisor as soon as possible after arrival on campus. At this meeting, the following points should be discussed:

- the courses to be taken in the first semester of the program;
- the duties associated with a Graduate Teaching or Research Assistantship (if student has a TA or RA advisor separate from their academic advisor, they should meet with them as well);
- the general plan for completing the program (duration, course load, thesis requirements, etc.);
- whether and what credits the student may seek to transfer from other programs;
- how often the student should meet with the academic advisor.

### **2.2 Registration**

All new graduate students and those not registered in the preceding semester register for courses before the first week of classes commence. Before registering, graduate students are required to consult with their academic advisor and obtain approval of the schedule each semester. Your academic advisor will not release an official hold on your online registration without a meeting to discuss your schedule.

## **3. Master of Science Degree Requirements**

The Department of Civil and Environmental Engineering offers programs of study leading to a Master of Science with or without a thesis. A description of this degree is available in Section 1.3 of this guidebook.

Requirements for the different degree programs offered under the Master of Science in Civil and Environmental Engineering can be found here:

<https://engineering.tufts.edu/cee/ms-civil-and-environmental-engineering>

Requirements for the Master of Science in Offshore Wind Energy Engineering can be found here:

<https://engineering.tufts.edu/cee/ms-offshore-wind-energy-engineering>

### **3.1. Thesis Option**

Students are admitted and matched with an academic advisor. Students who would like to pursue the option of a master's thesis should identify a research advisor and thesis topic by the end of their first semester. The topic of the thesis is typically selected to be synergistic with the research of a particular faculty member. **Students are expected to form a thesis committee and present a thesis proposal to their committee within twelve (12) months of entering the M.S. program.** M.S. thesis committees should be composed of at least three members, with the chair being the student's advisor within the department. In addition, one of the committee members may be from outside the Department of Civil and Environmental Engineering. While it is acceptable to select committee members from outside the university, the majority of the committee must comprise faculty members of Tufts University. Thesis research culminates in an oral defense which is open to the public. **M.S. students must defend their thesis no sooner than six (6) months after the first thesis proposal meeting.** The thesis will be prepared in the format specified in the [Graduate Student Handbook](#); however, the main section of the thesis should take the form of a peer-reviewed journal article.

### **3.2. Academic Progress**

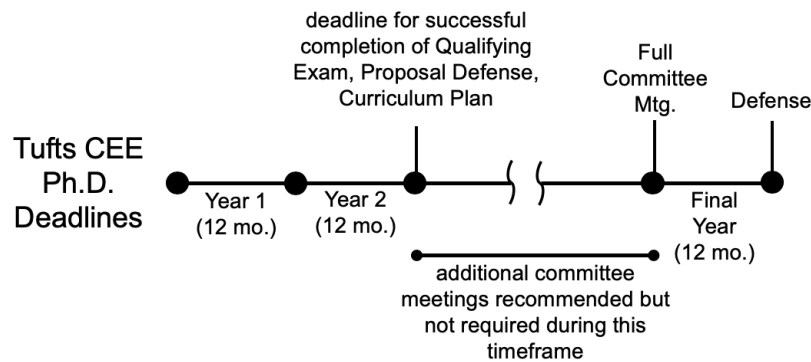
The [Graduate Student Handbook](#) describes academic policy regarding academic progress and standing, which includes information on satisfactory course grades, time limitations for degrees, leaves of absence, and grounds for dismissal.

## **4. Doctoral Degree Programs**

The Ph.D. is a research-oriented degree that requires in-depth knowledge of a specific topic of study. Programs of study are highly individualized, but consist of two main components: course work and independent research. Unlike bachelor's degree and some master's degrees, progress toward the doctoral degree is measured by achievement, not time or number of courses completed. That notwithstanding, it is often constructive for planning purposes to consider that it takes *on average* about five calendar years of concentrated study beyond the bachelor's degree to complete the requirements for the doctoral degree. Doctoral-level research leads to fascinating discoveries and novel technologies. While exhilarating at times, a doctoral research project demands steady commitment generated by self motivation and careful planning.

### **4.1. Overview of Study**

Students are admitted to a specific program of study and assigned an advisor. While most students enter in the fall, it is possible to begin studies in the spring term. Orientation, however, occurs once a year in late August or early September. Admission to the doctoral program does not constitute Ph.D. candidacy. Candidacy is a significant milestone along the path to the doctoral degree, and typically signifies an individual that is prepared to embark upon an individual investigation of a novel research topic. Completion of the subsequent research occurs with the successful oral defense of one's written dissertation.



**Figure:** Tufts CEE Ph.D. deadlines

The graduate program outcomes for the Doctoral Degree Program are:

- In-depth technical knowledge related to one of the Civil and Environmental Engineering subdiscipline (Environmental Health, Environmental Engineering and Water Resources, Geosystems Engineering, and Structural Engineering and Mechanics).
- An ability to conduct independent research on a topic in Civil and Environmental Engineering.
- A scholarly contribution in the field of study with a demonstrated record of scholarship.
- Communication of results of research activity orally and in writing.

## 4.2. Academic Progress

The [Graduate Student Handbook](#) describes academic policy regarding academic progress and standing, which includes information on satisfactory course grades, time limitations for degrees, leaves of absence, and grounds for dismissal.

## 4.3. Doctoral Program Requirements

All doctoral programs in the Department of Civil and Environmental Engineering have the following requirements.

### While a Ph.D. Student:

**A. Complete course work: bachelor’s degree + twelve courses, or master’s degree + five courses** – courses will be selected to provide the student with an individualized curriculum related to the chosen area of study. Students entering with a bachelor’s degree are required to complete the core courses for the M.S. program in the selected area of study. The curriculum plan must be finalized within two calendar years of matriculation.

**B. Pass a qualifying examination** – the exam consists of a test of foundational knowledge in the student’s discipline, consisting of at least a written exam. The format of the exam is determined by the program faculty. The qualifying exam must be completed within two calendar years of matriculation.

**C. Defend a dissertation proposal** – a proposal outlining the student’s proposed dissertation research is submitted to the preliminary dissertation committee, consisting of two faculty within the department. Additional faculty may participate in the proposal defense. The dissertation proposal must be submitted and defended within two calendar years of matriculation.

Determination of the final curriculum plan, passing the qualifying examination and proposal defense admits a doctoral student to doctoral candidacy.

## **While a Ph.D. Candidate:**

**D. Dissertation Committee meeting** – candidates should finalize the dissertation committee, including external members, and convene the dissertation committee at least twelve months prior to the student’s anticipated defense. The purpose of the meeting is to obtain feedback from the committee on the scope of the dissertation research. It is expected that the candidates will present on the progress of the dissertation research and share an updated dissertation proposal with the committee.

**E. Complete dissertation** – conduct research as proposed to the dissertation committee. Candidates are encouraged to guidance from committee members whenever appropriate. It is recommended that candidates have regular committee meetings to keep the committee apprised of progress at regular intervals.

**F. Pass oral dissertation defense** – consists of an oral defense of the dissertation research. An oral defense consists of two parts: 1) students formally present their research in a public forum to the Tufts community and invited guests and respond to questions from the audience; 2) students defend their thesis or dissertation to members of their committee in a closed session.

**G. Submission of final dissertation in accordance with University regulations** – see the [Graduate Student Handbook](#) for more information.

## **4.4. Additional Details and Sequence of Events**

It is important to recognize that many of these requirements have detailed procedures and specific time frames. This section contains an overview of each requirement as they appear in a temporal progression toward the doctoral degree. For summary information and a degree checklist, see Appendix A.

At the **start of a Ph.D.** the department is responsible for the students’ welfare and the quality of the Ph.D. experience. The student and the advisor are matched following an interview and a careful consideration of interests, and availability of funding. Doctoral students are not typically admitted without financial support in place for a minimum of two years.

Requirements for a student to pass from Ph.D. student to Ph.D. candidate must be satisfied within two calendar years of matriculation. The requirements consist of: (1) a qualifying exam testing foundational knowledge; (2) submission and defense of a dissertation proposal; and (3) an approved curriculum. Extensions to the two-year schedule must be approved by joint petition from the student and advisor to the Graduate Program Committee.

Depending on the program, qualifying exam committees may be appointed by the program or organized by the advisor. The qualifying exam will include a test to ensure the student has the necessary foundational knowledge to succeed as a PhD candidate in the program.

Submission of the written dissertation research proposal is followed by an oral defense of the proposal. The dissertation research proposal should outline the student’s proposed chapters in the dissertation and should be sent to the preliminary dissertation committee members at least 10 days prior to the exam.

The proposal and oral defense may be arranged independently of the qualifying exam, but should occur within 12 months of the qualifying exam. The formats of the qualifying exam and dissertation research proposal/defense are determined by each program within the department.

Potential outcomes of the qualifying exam and dissertation evaluation include pass, conditional pass, and failure. The student will be informed of the outcomes of the qualifying exam and proposal defense in a meeting with the advisor and in writing by the Department Chair. An outcome of pass will promote the Ph.D. Student to Ph.D. Candidate. The terms of any conditional pass must be clearly delineated and agreed upon by the examining committees. Students who do not pass are eligible to petition the faculty for permission to re-take the exam. Such petitions may be made once, and are reviewed and accepted/declined by vote of the program faculty. Students who fail and do not petition (or who petition and are declined a second opportunity) will be dismissed from the program.

**An individualized curriculum must be discussed and approved by the student's preliminary dissertation committee.** At a minimum, five credits are required beyond a master's degree. Specific coursework may be required by the program of study chosen.

**Formation of the final dissertation committee** is the responsibility of the student, with the understanding that the committee must comprise at least 4 members. The final dissertation committee must include the two members from the CEE Department who were part of the preliminary dissertation committee. In addition, there is to be one member from outside the CEE Department and within Tufts, and one member outside of Tufts. One of the departmental members is the academic advisor, and the second serves as an independent referee.

**A dissertation committee meeting should be scheduled approximately one year prior to the student's anticipated defense.** The committee meeting is an opportunity for the student to present the progress of the dissertation research and ensure that the committee is supportive of the scope of research to be included in the dissertation. **The dissertation defense will occur after completing the committee's requirements.** The department recommends that the candidate engage in regular communication with committee members from the start of Ph.D. candidacy.

It is expected that the Ph.D. dissertation will lead to published journal articles. The number of publishable articles will be decided by the candidate and the advisor in consultation with the dissertation committee, but at least one article must be submitted to a peer-reviewed journal for review prior to scheduling a Ph.D. dissertation defense.

Doctoral defenses are open to the public, followed by a closed-door session with the dissertation committee. Candidates are required to submit the details (date, time, location) of the meeting, a dissertation abstract, and a listing of all committee members to the administrative staff two-weeks prior to the scheduled defense. The student and all committee members should be physically present, however, in exceptional circumstances one committee member may be allowed to participate electronically.

Potential outcomes include pass and failure. Outcomes are decided by consensus of the committee. Failure of the thesis defense requires that a candidate to substantially rework the dissertation and defend the modified dissertation within twelve months. Candidates passing the dissertation defense are typically required to revise the dissertation as directed by the committee. At the conclusion of a successful defense, all committee members will sign the Certificate of Fitness form; an electronic signature will only be accepted from a committee member who was not physically present at the defense.

**The final dissertation must be submitted in accordance with University regulations.** Tufts University has established requirements and deadlines for submission of the final dissertation. See the [Graduate Student Handbook](#) for more information.



## **5. Certificate Program Requirements**

Requirements for the different degree programs offered can be found here:

<https://engineering.tufts.edu/cee/prospective/certificate>

## **6. Research and Teaching Assistantships**

A number of graduate students receive financial support through Research Assistantships (RAs) and Teaching Assistantships (TAs). While responsibilities and expectations differ between RAs and TAs, there are some important guidelines which are applicable to both roles which are outlined below.

### **6.1 Guidelines for Both Assistantships**

- All RAs and TAs must register for the 0 credit course CEE405 (TAs) and CEE406 (RAs) each semester. This provides a record of performance in the position.
- RAs and TAs, in addition to externally funded graduate students, receive priority for student office space.
- All assistantships (both RAs and TAs) carry a 20 hr/wk appointment. This leaves the remaining time for graduate students to complete their course work and thesis research. Thesis research may be distinct from research conducted as an RA.
- Graduate students and faculty advisor(s) should establish specific expectations at the beginning of each semester. The meetings should outline specific responsibilities and any major deadlines associated with a particular assistantship.
- Graduate students and faculty advisor(s) meet regularly to review progress. Most professors are very busy, and if regular meetings are not scheduled by your faculty advisor(s), you should take the initiative to schedule them.
- Travel should be coordinated with your faculty advisor(s) in advance to avoid interference with responsibilities of graduate assistantships, which may not end with the exam period of a semester.
- In the exceptional case of unsatisfactory performance in the assistantship, procedures outlined in Appendix B may apply.

### **6.2 Guidelines for Teaching Assistantships**

- Each TA will have at most two advisors: (1) the instructor for the course to which the TA is assigned and (2) the research advisor, who is the academic advisor and chair of a thesis committee.
- The primary function of a TA is to provide support and assistance to the course instructor. Their responsibilities may include; attending course lectures and/or laboratories, assisting instructor in preparation of course materials or laboratory experiments, providing instruction for course recitations and/or laboratories, performing trial runs of lab experiments to ensure quality control, grading course assignments, holding office hours for students, ordering, tracking, and cataloging materials and supplies used and needed in the teaching laboratory, maintenance of equipment including routine checks on the proper operation and condition of all laboratory equipment, and *review and enforcement of safety and security guidelines*.
- The TA may have other responsibilities necessary to their position and will be notified of them by the course instructor.

## **7. Additional Information**

### **7.1 Departmental Staff**

**Laura Sacco**, *Department Administrator and Graduate Coordinator*, Anderson 204, [laura.sacco@tufts.edu](mailto:laura.sacco@tufts.edu), 617-627-6367

**Debra McKnight**, *Staff Assistant*, Anderson 204, [debra.mcknight@tufts.edu](mailto:debra.mcknight@tufts.edu), 617-627-3211

**Stephen Fratto**, *Engineering Lab Coordinator*, Anderson 010, [stephen.fratto@tufts.edu](mailto:stephen.fratto@tufts.edu), 617-627-3661

### **7.2 Extramural Resources for Graduate Fellowships**

Graduate students are encouraged to apply for fellowships to support their tuition and stipends. A fellowship often opens up additional opportunities for the PhD student and allows them to focus on their dissertation research. Proposals are typically due in the fall and many fellowships are restricted to students in their first or second year of graduate studies.

The following external fellowships are available to graduate students:

#### **National Science Foundation Graduate Research Fellowship Program (NSF GRFP)**

The National Science Foundation's Graduate Research Fellowship Program (GRFP) helps ensure the vitality of the human resource base of science and engineering in the United States and reinforces its diversity. The program recognizes and supports outstanding graduate students in NSF-supported Science, Technology, Engineering, and Mathematics disciplines who are pursuing research-based master's and doctoral degrees at accredited US institutions. The NSF welcomes applications from all qualified students and strongly encourages under-represented populations, including women, under-represented racial and ethnic minorities, and persons with disabilities, to apply for this fellowship. GRFP Fellows receive three years of support; \$34,000 annual stipend; \$12,000 cost-education allowance to the degree-granting institution; and international research and professional development opportunities.

More information can be found here: <https://www.nsfgrfp.org>

Deadline: 5:00pm October 22, 2019 (Tuesday)

#### **National Defense Science and Engineering Graduate Fellowship (NDSEG)**

The National Defense Science and Engineering Graduate (NDSEG) Fellowship is highly competitive. NDSEG Fellowships last for a period of up to four years (based on continued funding), and covers full tuition and mandatory fees. Fellows also receive a monthly stipend, and up to \$1,500 a year in medical insurance. The NDSEG Fellowship is sponsored by the Air Force Office of Scientific Research (AFOSR), the Army Research Office (ARO), and the Office of Naval Research (ONR), under the direction of the Director of Defense Research and Engineering (DDR&E).

The application deadline is typically late Fall.

To apply, please visit: <http://www.ndsegfellowships.org/application>

#### **Science, Mathematics and Research for Transformation Scholarship for Service (SMART)**

The Science, Mathematics and Research for Transformation (SMART) Scholarship for Service Program is an opportunity for students pursuing an undergraduate or graduate degree in Science, Technology, Engineering, and Mathematics (STEM) disciplines to receive a full scholarship and be employed upon degree completion at a Department of Defense (DoD) research facility.

Scholarships include a cash award of \$25,000 to \$38,000 a year, full tuition, required fees, \$1200 health insurance allowance, and \$1000 book allowance. The program is intended for citizens of the United States; students must be at least 18 years of age to be eligible for an award. Deadline for applications is usually the first week of December.

Visit <https://smartscholarshipprod.service-now.com/smart> for more information and to apply.

### **Switzer Foundation Fellowship Program**

The Switzer Fellowship Program offers one-year Fellowships to highly talented graduate students in New England and California whose studies and career goals are directed toward environmental improvement and who clearly demonstrate leadership in their field. The Fellowship provides a \$15,000 cash award for academic study, leadership training, access to a vibrant network of over 600 Switzer Fellowship alums, and opportunities for professional development during the Fellowship year and beyond.

To participate for a Switzer Fellowship students must: be a U.S. citizen; be enrolled in an accredited graduate institution ONLY in California or New England; have strong academic qualifications with academic and career goals focused on environmental improvement.

For more information, please visit: <http://www.switzernetwork.org/become-fellow>

The deadline is usually in January.

### **7.3 University Resources for Conference Travel**

The Graduate School of Arts, Sciences, and Engineering and the Graduate Student Council have organized a Graduate Student Travel Fund to support graduate student conference attendance once a year. Support is not contingent on the presentation of student research, though greater amounts are available for those students who do so. Information and application details can be found [here](#).

If conference travel is to present student research, the School of Engineering also provides a supplement to any funding provided by the Graduate Student Travel Fund. Information and application details can be found [here](#).

## Appendix A: Guide to Doctoral Degree Requirements

Time Frame	Action	Guidelines and Outcomes
1. Start of PhD	Student and advisor are matched following an interview, careful consideration of interests, and funding.	The department is responsible for the students' welfare and the quality of the PhD experience. Normally a student will not be admitted without the primary advisor committing to ensuring the student has financial support in place for at least two years.
2. Within two calendar years of starting the PhD, the student must complete requirements to advance to candidacy.	The student must take a qualifying exam focused on foundational knowledge in the selected program, submit and defend a dissertation research proposal, and have final curriculum approved by preliminary dissertation committee.	Advancement to candidacy requires successful completion of the qualifying exam, dissertation proposal and defense, as well as a finalized curriculum. At a minimum, 5 courses beyond an MS and 12 beyond a BS are required for the curriculum.
3. Formation of the dissertation committee.	The dissertation committee must include at least 4 members: the student's advisor, another faculty member from the department, a Tufts faculty member from outside the department, and a faculty member from outside of the University with expertise in the dissertation subject matter. The chair of the committee is typically the student's advisor.	Only the two dissertation committee members from the department are required to participate in the qualifying exam and proposal defense. Additional faculty may participate in both.
4. A dissertation committee meeting should be scheduled <i>at least 12 months before the dissertation defense.</i>	The candidate presents dissertation research completed thus far and remaining work. The dissertation committee deliberates on progress made and proposed plans.	The scope of the dissertation is approved by the dissertation committee.
5. The written dissertation is completed and the defense will take place after completing the committee's requirements.	The defense consists of public and closed-door sessions during which the student defends the dissertation research. The written dissertation must be approved by the committee and submitted in accordance with University guidelines	It is expected that the PhD dissertation will lead to published journal articles. Number of publishable articles will be decided by the candidate and the advisor in consultation with the dissertation committee but at least one article must be submitted to a peer-reviewed journal for review prior to scheduling a PhD dissertation defense.

## Doctoral Degree Checklist

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Last name	First name	Middle initial
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Semester & Year of Doctoral Program Matriculation	Advisor
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### **Key Milestones (indicate date of completion)**

1. \_\_\_\_\_ Passed Written Component of Qualifying Exam
2. \_\_\_\_\_ Submitted Dissertation Proposal, Committee Members (external member optional)
3. \_\_\_\_\_ Passed Oral Component of Qualifying Exam
4. \_\_\_\_\_ Final Dissertation Committee Formed (indicate members and depts. below)

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5. Curriculum Approved by Dissertation Committee (indicate courses: 5 for students with a prior Master of Science degree, 12 otherwise)

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6. \_\_\_\_\_ Course Work Complete
7. \_\_\_\_\_ Committee Meeting Held (indicate working title of dissertation below)

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8. \_\_\_\_\_ First Manuscript from Doctoral Research Submitted to Peer-Reviewed Journal (indicate manuscript title and journal to which submitted)

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9. \_\_\_\_\_ Passed Dissertation Defense
10. \_\_\_\_\_ Thesis Submitted Consistent with University Regulation

## **Appendix B: Performance Assessment for Teaching and Research Assistants**

### **Performance of a Research Assistant (RA)**

The relationship between the RA and the RA advisor is an important mentoring experience and a part of the graduate education experience. Open communication and frequent meetings are encouraged. In order to maintain an RA appointment (throughout the year and in subsequent years), the RA must show satisfactory performance to the expectation of the RA advisor. While the general expectation and experience is that RA performance is satisfactory, if performance becomes unsatisfactory the following process may be initiated by the advisor.

1. The faculty research advisor transmits a letter to the student with copies to the chair of the Graduate Program Committee (GPC) and the chair of the Department. The letter will outline the unsatisfactory behavior and provide specific details on how the student can remedy performance within specific deadlines to meet the requirements.
2. If the student fails to meet the corrective actions outlined in the letter described in #1, then the faculty research advisor will meet with the chair of the GPC and the chair of the Department to initiate termination of the RA appointment.
3. After the meeting described in #2 above, the research advisor will transmit the timeframe and process of concluding the RA appointment to the student with copies to the chair of the Department and chair of the GPC.

### **Teaching Assistant Performance (TA)**

All department TAs and instructors with a TA will complete and sign the department's TA Agreement Form at the beginning of a term. The form outlines the responsibilities of the TA for the course. Following on this agreement, there is a midterm assessment conducted in October or March. This assessment consists of a self-review form completed by the TA and shared with the instructor, a feedback form that the instructor shares with the TA and the Graduate Program Committee (GPC), and a final review form that the instructor shares with the GPC.

1. When a TA's overall performance becomes unsatisfactory, the Faculty TA advisor should transmit a letter to the student with copies to Chair of the Graduate Program Committee and the Chair of the Department. The letter will outline the unsatisfactory behavior and provide actions necessary for the TA to meet a satisfactory level of performance along with deadlines for meeting the requirements.
2. If the student does not meet the TA Advisor's requirements as specified in the letter – the Chair of the Graduate Program Committee and the Chair of Department will then meet with the TA Advisor to help facilitate termination of the TA appointment.
3. After the meeting described in #3 above, the TA Advisor will transmit the timeframe and process of concluding the TA appointment to the student with cc to the Chair of the Department and Chair of the Graduate Program Committee.

A student can appeal any decision made through the processes outlined above in the form a written letter to the Chair of the Graduate Program Committee ([robert.viesca@tufts.edu](mailto:robert.viesca@tufts.edu)). The case will be brought before the Graduate Program Committee and the Department Chair.

## **Appendix C: Guidelines for Advisor-Advisee Relationships**

The relationship between the student and advisor is an important mentoring experience and part of the graduate education experience. A successful advisor-advisee relationship will help ensure the student successfully completes program milestones, including coursework and completion of a thesis or dissertation, in a timely manner.

### **Resources for Conflict Resolution Between Advisor-Advisee**

If an advisee wishes to seek resources related to conflict with their primary advisee, they are advised to first discuss concerns with a dissertation committee member that is within the CEE department. All students should have at least one dissertation committee member from the CEE department in addition to their primary advisor. This person should be considered an independent academic referee. Additional resources include:

Department Chair

Dean of Graduate Education

Office of Student Affairs: policy violations/discipline, personal/medical leave, resources for personal life (e.g., divorce, pregnancy, etc), personal advice, funding, students' rights

### **Change of Advisor**

A change of advisor is allowed if the student identifies another faculty member willing to become their primary advisor.

## Civil Engineering TA Agreement

Student Name: \_\_\_\_\_ ID Number: \_\_\_\_\_

Course Title(s): \_\_\_\_\_

Section(s): \_\_\_\_\_ Semester: \_\_\_\_\_ Year: \_\_\_\_\_

Faculty: \_\_\_\_\_

Attend Lectures: \_\_\_\_\_ Office Hours per week: \_\_\_\_\_

Number of homework assignments to grade: \_\_\_\_\_ Exams: \_\_\_\_\_

Laboratory Duties: \_\_\_\_\_

Other requirements:

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TA Signature \_\_\_\_\_

Faculty Name(s) \_\_\_\_\_

Faculty Signature(s) \_\_\_\_\_

*Please give signed copy to Laura Sacco in CEE Office for placement into student file and circulation to GPC Chair*



## Civil and Environmental Engineering TA Mid-term Self Review

Student Name: \_\_\_\_\_ ID Number: \_\_\_\_\_

Course Title(s): \_\_\_\_\_

Section(s): \_\_\_\_\_ Semester: \_\_\_\_\_ Year: \_\_\_\_\_

Faculty: \_\_\_\_\_

1. Describe the expectations that your TA advisor has for your assistantship.
2. What activities comprise your 20 hr/wk TA commitment?
3. In what areas would you like more interaction/communication with your TA advisor?
4. What is/are the most challenging aspect(s) of your assignment?
5. In your assessment, has your performance to date been adequate?
6. If you think your performance has been sub-adequate, then please describe the areas of your work that need improvement.

*This form should be filled out and shared with your TA advisor at your mid-term assessment meeting.*

## Civil and Environmental Engineering TA Mid-term Review Form

Student Name: \_\_\_\_\_ ID Number: \_\_\_\_\_

Course Title(s): \_\_\_\_\_

Section(s): \_\_\_\_\_ Semester: \_\_\_\_\_ Year: \_\_\_\_\_

Faculty: \_\_\_\_\_

Performance Overview: *Briefly describe the responsibilities of the TA as agreed upon in the TA agreement. Describe to what extent the identified responsibilities were or were not accomplished.*

Strengths:

Weaknesses:

Recommendations:

Met/Exceeded Expectations

Did Not Meet Expectations

Faculty Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

*This form should be given to Laura Sacco in CEE office to be filed in the student's file with a copy to the GPC.*

## Civil and Environmental Engineering TA Mid-term Feedback Form

Student Name: \_\_\_\_\_ ID Number: \_\_\_\_\_

Course Title(s): \_\_\_\_\_

Section(s): \_\_\_\_\_ Semester: \_\_\_\_\_ Year: \_\_\_\_\_

Faculty: \_\_\_\_\_

Performance Overview: *Briefly describe feedback given to student during mid-term evaluation.*

Mentoring meeting between Faculty and Student Complete on \_\_\_\_\_

Faculty Signature: \_\_\_\_\_ Student Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_ Print Name: \_\_\_\_\_

*This form should be shared with the student at mentoring meeting between Faculty and Student and then submitted with signatures to Laura Sacco in the CEE office to be placed in Student's file with a copy to GPC.*