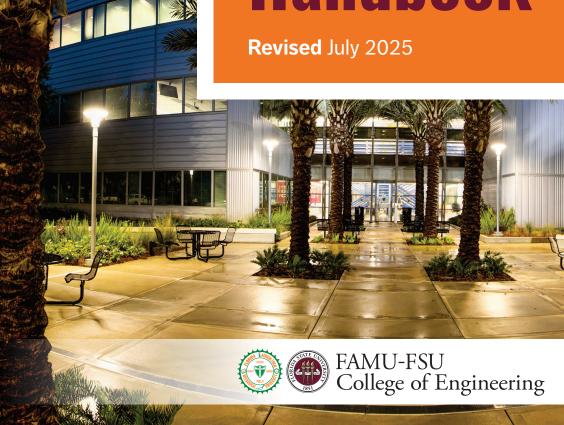




Department of Civil and Environmental Engineering

Graduate Student Handbook







FAMU-FSU Department of Civil and Environmental Engineering Engineering Graduate Student Handbook

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1. Background

The Florida A&M University-Florida State University (FAMU-FSU) College of Engineering is a joint college that serves Florida A&M University, which is a historically black institution founded in 1887, and The Florida State University, which traces its history back to 1851. Established in 1982 and located in Tallahassee, Florida, the mission of the FAMU-FSU College of Engineering is as follows: to provide an innovative academic program of excellence at the undergraduate and graduate levels, as judged by the highest standards and recognized by national peers; to attract and produce greater numbers of women and minorities in professional engineering, engineering teaching, and engineering research; and to attain national and international recognition of the College through educational and research achievements and professional service of its faculty and students. The FAMU-FSU College of Engineering has an enrollment of more than 2,700 undergraduate students and approximately 570 graduate students.

The Department of Civil and Environmental Engineering (CEE) at the FAMU-FSU College of Engineering has had a Master of Science (M.S.) in Civil Engineering program since 1987 and a doctoral degree program since 1999. Since its first EAC/ABET accreditation in 1985, the undergraduate program in the CEE department has held continuous accreditation.

1.1 Degrees Offered

The Civil and Environmental Engineering department maintains undergraduate and graduate programs that lead to the following degrees:

- Bachelor of Science (B.S.) in Civil Engineering (with Civil Engineering and Environmental Engineering majors), which is fully accredited by EAC/ABET
- Master of Science (M.S.) in Civil Engineering (course work and thesis)
- Master of Engineering (M.Eng.) in Civil Engineering (course work only; non-thesis)
- Doctor of Philosophy (Ph.D.) in Civil Engineering (B.S. Ph.D. and M.S. Ph.D. tracks)

The CEE department has specialty areas in structural engineering, geotechnical engineering, transportation engineering, construction engineering and management, environmental engineering, and water resources engineering. Students may have the option, with prior approval, to pursue a nontraditional civil engineering specialty, such as infrastructure or sustainability, by combining a focused set of courses from the existing specialty areas and from courses outside of the department.

1.2 Graduate Program Objectives and Outcomes

Program Objectives: To provide the highest quality civil engineering graduate education possible for our students and to achieve state, regional, national, and international reputations for excellence in engineering education.

Student Outcomes: Upon graduation, civil and environmental engineering students will be able to:

- Demonstrate fundamental knowledge across the broad interdisciplinary field of Civil or Environmental Engineering well beyond the knowledge gained at the undergraduate level.
- 2. Identify needs, define problems, and apply analysis and/or design techniques to obtain solutions in at least one area of specialization.
- 3. Demonstrate independent self-learning and/or research capabilities that will enable students to grow throughout their careers after graduation.
- 4. Communicate effectively in written, oral, and visual forms.

2. Admissions Requirements

Individuals seeking admission to one of the graduate programs in the CEE department must meet the criteria set by both the university and the department. The following sections detail the admission requirements as set by the department. Applicants should note that the Graduate Offices at both FAMU and FSU have additional requirements, including application fees. Information on FAMU admission requirements be found may at https://www.applyweb.com/famug and FSU admission requirements may be found at http://admissions.fsu.edu. Since the college is owned jointly by FAMU and FSU, applicants can apply for the CEE graduate program either through FAMU or FSU depending on individual circumstances or preferences.

The application deadlines set by the department are as follows:

- Fall admission
 - January 15 (deadline for priority assistantship consideration)
 - May 1 (final deadline for Ph.D. applicants); July 1 (final deadline for master's applicants)
- Spring admission
 - November 1 (final deadline for all applicants)

The department does not typically admit graduate students during the summer term, except online M.Eng. students. The universities may accept applications after these deadlines. The department will try its best to accommodate late applications, but timely processing of late applications is not guaranteed. It is advised that applications and all supporting documents be submitted well in advance of these department deadlines, especially for applicants who are interested in being considered for financial aid.

2.1 M.S. Program

The Master of Science (M.S.) degree has a research component and requires completion of a thesis. The CEE department admissions requirements for the M.S. degree program are as follows:

- Bachelor's degree in civil engineering, environmental engineering, or a closely related engineering or science discipline from an accredited college or university.
- Good academic standing at the academic institution last attended.

- Minimum grade point average (GPA) of 3.0 on a 4.0 scale on all coursework attempted as an upper division student (beyond 60 semester credit hours).
- The Graduate Record Examination (GRE) requirement has been waived for all engineering master's applicants.
- Research Area of Interest Form Select up to two research areas of interest. Indicate which faculty members you are interested in working with.
- CV/Resume Information should be current.
- Three signed letters of recommendation on official letterhead from academics or professionals attesting to the M.S. study potential of the applicant.
- Statement of Purpose describing reasons for pursuing the Master of Science degree and career goals.
- International students whose native language is not English will be required to pass the
 Test of English as a Foreign Language (TOEFL) and demonstrate proficiency in English
 prior to admission per university guidelines. The minimum TOEFL score is 80 (internetbased). International English Language Testing System (Academic IELTS) score of 6.5 is
 also accepted. This requirement may be waived for students who have obtained a prior
 degree from a U.S. institution.

2.2 M.Eng. Degree Option

The Master of Engineering (M.Eng.) degree is a courses-only degree program. The CEE department admissions requirements for the M.Eng. degree program are as follows:

- Bachelor's degree in civil engineering, environmental engineering, or a closely related engineering or science discipline from an accredited college or university.
- Good academic standing at the academic institution last attended.
- Minimum grade point average (GPA) of 3.0 on a 4.0 scale on all coursework attempted as an upper division student (beyond 60 semester credit hours).
- The Graduate Record Examination (GRE) requirement has been waived for all engineering master's applicants.
- CV/Resume Information should be current.
- Two signed letters of recommendation on official letterheads from academics or professionals attesting to the M.Eng. study potential of the applicant.
- Statement of Purpose describing reasons for pursuing the Master of Engineering degree and career goals.
- International students whose native language is not English will be required to pass the Test of English as a Foreign Language (TOEFL) and demonstrate proficiency in English prior to admission per university guidelines. The minimum TOEFL score is 80 (internet-based). International English Language Testing System (Academic IELTS) score of 6.5 is also accepted. This requirement may be waived for students who have obtained a prior degree from a U.S. institution.
- The department offers a fully online MEng program along with the traditional MEng program. The admission requirements are the same for both MEng programs. More details regarding the online MEng program can be found on the following website:

https://eng.famu.fsu.edu/meng.

2.3 B.S. – Master's Pathway

This pathway provides academically talented engineering undergraduate students at FAMU and FSU an opportunity to complete both a bachelor's and a master's degree in 5 years. Upon approval, this pathway allows six graduate hours taken at the student's home institution to be double-counted toward the student's undergraduate degree program. The student will earn the Bachelor of Science (B.S.) degree upon completion of the undergraduate program and the master's degree upon completion of the graduate program at the same institution. The master's degree can be either the M.S. (course and thesis) or M.Eng. (course only). The admission process has two parts:

- When the student is in the undergraduate program, the student submits an online application to the combined degree pathway. Overall GPA of 3.2 as well as area-specific requirements must be met. To ensure smooth transition to the graduate program, it is recommended that the students apply during Terms 5 or 6 (the Junior year) according to the CEE Undergraduate Academic Map. Additional information and the online application are available at https://eng.famu.fsu.edu/cee/bs-meng-pathway.
- During the last year as an undergraduate, the student applies to the master's program. The admission requirements for this step are identical to the M.S. or M.Eng. admission requirements described in Sections 2.1 and 2.2.

The pathways program is intended to be limited to your home undergraduate institution. As such, the dual-counted credits may not be transferrable to another institution for graduate credit, including the other parent institution at the College of Engineering (e.g., FAMU may not accept transfer of graduate credits that were previously applied to an undergraduate degree at FSU, and vice versa).

2.4 Ph.D. Program

The CEE department has two tracks for the Ph.D. program. The typical track is M.S. – Ph.D. for applicants who already have an M.S. degree. An alternative is the B.S. – Ph.D. track where exceptionally-qualified applicants who are well prepared may enter the Ph.D. program with only a B.S. degree. Admissions requirements for the Ph.D. program are as follows:

- M.S. Ph.D. Track: Master's degree in civil engineering, environmental engineering, or a closely related engineering or science discipline from an accredited college or university.
- B.S. Ph.D. Track: Bachelor's degree in civil engineering, environmental engineering, or a closely related engineering or science discipline from an accredited college or university.
- Good academic standing at the academic institution last attended.
- A minimum grade point average (GPA) of 3.0 on a 4.0 scale on all coursework attempted as an upper division student (beyond 60 semester credit hours).
- Graduate Record Examination (GRE) recommended minimum percentile ranks of 35% on the verbal reasoning section and 70% on the quantitative section. For tests taken

after 2015, the corresponding scaled scores are 148 (verbal) and 159 (quantitative). However, the decision to admit will be based on a prospective student's entire application package. Ph.D. applicants can request a GRE waiver: https://eng.famu.fsu.edu/student/gre-waiver-form. The Graduate Director will review each request, and qualified applicants will be given the GRE waiver.

- Research Area of Interest Form Select up to two research areas of interest. Indicate which faculty members you are interested in working with.
- CV/Resume Information should be current.
- Three signed letters of recommendation on official letterheads from academics or professionals attesting to the Ph.D. study potential of the applicant.
- Statement of Purpose describing reasons for pursuing the Ph.D. degree and career goals.
- International students whose native language is not English will be required to pass the
 Test of English as a Foreign Language (TOEFL) and demonstrate proficiency in English
 prior to admission per university guidelines. The minimum TOEFL score is 80 (internetbased). International English Language Testing System (Academic IELTS) score of 6.5 is
 also accepted. This requirement may be waived for students who have obtained a prior
 degree from a U.S. institution.

2.5 GRE Waiver

The Graduate Record Examination (GRE) requirement has been waived for all engineering master's applicants. The GRE exam is still required for Ph.D. applicants. However, Ph.D. applicants can request a GRE waiver: https://eng.famu.fsu.edu/student/gre-waiver-form. The Graduate Director will review each request, and qualified applicants will be given the GRE waiver. In order to receive the GRE waiver, at least two of the following criteria should be met:

- Earned or will earn a bachelor's degree from the FAMU-FSU College of Engineering with an upper-division undergraduate GPA of 3.0 (on a 4.0 scale) or higher.
- Earned or will earn a bachelor's degree in engineering or related field with an upperdivision undergraduate GPA of 3.3 (on a 4.0 scale) or higher from any other regionally or internationally accredited college or university.
- Earned a graduate degree in engineering or related field and earned a GPA of 3.0 (on a 4.0 scale) or higher from any regionally or internationally accredited college or university.
- Undergraduate research experience in engineering or relevant field with detailed research statements and reports/publications.
- Post-graduate research experience in engineering or relevant field.
- Co-authored a research paper published in a peer-reviewed journal in engineering or relevant field.
- Relevant employment for 3 years or more in an engineering field.
- A 1-year funding offer from a faculty member from the FAMU-FSU College of Engineering.

3. Program Requirements

3.1 M.S. Program

The Master of Science (M.S.) in Civil Engineering provides students with education in advanced civil engineering topics as well as research experience culminating in a thesis.

Curriculum. The M.S. curriculum includes a total of 30 semester hours, consisting of coursework and thesis research (Table 3.1). To enroll in a course, students must satisfy the course prerequisites. Students entering the major without a civil or environmental engineering degree also must satisfy a set of articulation courses (see Section 3.6). Students are expected to enroll in Graduate Seminar (CGN 5935) each semester in which they have full-time status.

The *specialty (depth) area* courses provide students an advanced education beyond the bachelor's degree in a specific civil engineering sub-discipline. The majority of the specialty area courses should be taken from the CEE department.

The *supplementary electives* are intended to develop the student's complementary multidisciplinary skills and knowledge. Supplementary electives may include courses from other civil and environmental engineering areas outside of the chosen specialty, other engineering disciplines, the sciences, computer/computational science, urban and regional planning, and geography.

Mathematics and quantitative skills are critical in civil engineering work. Therefore, a student is required to take at least one course (a minimum of three (3) credit hours) in mathematics, statistics, or computational science. Engineering courses with significant mathematics content are also acceptable with the approval of supervisory committee.

| Course Type | Total Hours |
|---|-------------|
| Articulation courses (if required) | 0-22 |
| Specialty (depth) area | 12-15 |
| Supplementary electives | 6-9 |
| Mathematics, statistics, or computation | 3 |
| Thesis research CGN 5971 | 6 |
| Thesis defense CGN 6972 | 0 |
| Graduate seminar CGN 5935 | 0 |
| Minimum Total Hours | 30 |

Table 3.1. Summary of M.S. degree requirements

Major professor and supervisory committee. The M.S. student must select a major professor and a supervisory committee by the end of the first semester. The major professor must agree to serve as the student's academic advisor and thesis supervisor and must be a full-time CEE faculty with Graduate Faculty/Directive status.

The M.S. student chooses the supervisory committee in consultation with the major professor. The supervisory committee consists of three (3) full-time faculty members, including the major

professor as the chair; one member may be from outside of the CEE department. All committee members must have Graduate Faculty status. Additional members may be appointed to the committee, if deemed appropriate by the major professor. The supervisory committee oversees and supervises the student's research effort, approves the written thesis, attends the oral defense of the thesis, and recommends granting of the degree.

Major professor and supervisory committee: Panama City campus. M.S. students in the Panama City (PC) campus are encouraged to find the major professor from the PC faculty. In this case, no co-chair is needed. The PC faculty chair will choose two additional committee members either from the Tallahassee campus and/or other departments in the PC. If the PC faculty member cannot be the chair (because the student's area of interest is outside the expertise), then the committee will have one co-chair from PC and one co-chair from Tallahassee. Co-chairs will choose one additional committee member.

Student & Major Professor Checklist. Each M.S. student receiving an assistantship is expected to schedule a meeting with their major professor and discuss the program expectations by the end of the first semester using the Student & Major Professor Checklist. These expectations cover not only degree program requirements but also graduate assistantship duties as well. Faculty and student perspectives should be taken into consideration when setting expectations. The checklist can be downloaded from the CEE website with all the graduate student forms: https://eng.famu.fsu.edu/cee/student/forms. The completed and signed checklist should be returned to the CEE Graduate Coordinator.

Plan of Study. The M.S. student, in consultation with his/her major professor, is required to submit an approved Plan of Study to the departmental Graduate Staff in the second semester by the end of the second week of classes or at the completion of 9 credit hours of coursework. The Plan of Study (see Section 8) includes a list of proposed courses, a time schedule for completion of these courses, and a summary of the proposed thesis topic. Upon recommendation of the Graduate Committee, the Department Chair will approve the proposed Plan of Study. The Plan of Study is used by the student and major professor as a guideline throughout the student's M.S. study and must be updated and re-approved if changes occur.

Internships. The department highly recommends that M.S. students consider internships as a means of obtaining practical training in the field. A prior approval from the major professor should be obtained before considering internships to ensure that internships do not negatively impact student performance in coursework and thesis research.

Degree requirements certification. The M.S. degree candidate must submit an approved Degree Requirements Certification form to the CEE department at the beginning of the final semester (an exact deadline will be announced either by the CEE Graduate Coordinator or Graduate Director). The form certifies that the student has satisfied all degree requirements as set forth in the latest approved Plan of Study (see Section 8). If courses shown in the Degree Requirements Certification form differ from those shown in the latest approved Plan of Study, the department will not approve the certification form.

Thesis. The M.S. student prepares the thesis under supervision by the major professor and supervisory committee. The student selects the thesis topic in consultation with the major

professor and supervisory committee. Before registering for thesis hours, the student must consult the major professor as to the proportion of time to be devoted to thesis work.

It is the student's responsibility to comply with the required thesis format of his/her university and the deadlines and requirements for thesis submission <see https://graduateschool.famu.edu/index.php/ or <a href="https://graduateschool

When the complete thesis is ready for review by the supervisory committee, the major professor will authorize its distribution to committee members. The thesis should be complete in every respect, including data analysis, figures, and tables. The supervisory committee can recommend editorial and/or substantive changes after review and the oral thesis defense. The thesis should be provided to the supervisory committee at least ten (10) working days before the date of the oral thesis defense.

Journal manuscripts. In partial fulfillment of the M.S. degree requirements, the M.S. student must prepare a minimum of one (1) complete manuscript that is ready for submittal to a peer-reviewed journal. It is expected that the major professor will submit the manuscript and complete the publication process.

Thesis defense. A thesis defense with oral examination is a mandatory part of the degree requirements. The student must satisfactorily pass this oral examination, as determined by the supervisory committee, before submission of the final thesis to the university.

- The thesis defense will be scheduled only with approval of the major professor, supervisory committee, and department. The approvals are documented in the Request for Thesis Defense Examination form (see Section 8). The student will be permitted to schedule the thesis defense only if the student has 1) completed the research work, 2) written a complete thesis, and 3) satisfied the journal manuscript requirement.
- The defense should be scheduled before the final thesis submission deadline with sufficient time to allow for revisions; see university deadlines.
- The thesis defense shall be announced and open to the public.
- The oral defense consists of two parts: 1) a defense presentation that includes appropriate use of visual aids and has duration of 30-40 minutes and 2) oral examination by the supervisory committee.
- The outcome of the thesis defense is determined by the supervisory committee and is reported by the major professor to the department on the Thesis Defense Outcome form (see Section 8).

Suggested timeline and checklist. A suggested timeline for completion of the M.S. degree requirements and a milestones checklist are provided in Tables 3.2 and 3.3, respectively. Students may need to enroll in additional hours to maintain full-time status each semester.

| Semester | Degree requirement item(s) | |
|------------|--|--|
| Semester 1 | 9 hours of approved coursework | |
| | Complete the Student & Major Professor Checklist | |
| | Complete the RCR training* | |
| | Identify the thesis topic | |
| Semester 2 | 9 hours of approved coursework | |
| Semester 3 | 6 hours of approved coursework | |
| | 3 hours of thesis research CGN 5971 | |
| Semester 4 | 3 hours of thesis research CGN 5971 | |
| | Prepare a complete journal manuscript | |
| | Thesis defense CGN 6972 | |
| | Complete the thesis | |

Table 3.2. Suggested M.S. timeline

Table 3.3. M.S. milestones checklist

| Milestone or Action | When |
|---|--|
| Select an Advisor/Major Professor | By the end of the first semester |
| Complete the Student & Major Professor Checklist | By the end of the first semester |
| Submit an approved Plan of Study | In the second semester by the end of |
| | the second week of classes or at the |
| | completion of 9 credit hours |
| Request transfer credit (if applicable) | By completion of 9 credit hours |
| Complete the RCR training | By the end of the first semester |
| Submit an approved Degree Requirements | At the beginning of the final semester |
| Certification form | |
| Apply for graduation with the university | At the beginning of the final semester |
| Prepare a manuscript for journal submission | Final semester |
| Schedule the thesis defense | In the final semester at least two weeks prior to planned defense date |
| Defend the thesis | Check with the university for |
| Submit the thesis outcome form to the department | deadlines |
| Submit the approved final M.S. thesis to the university | |
| Complete the Exit Survey | End of the final semester |

3.2 M.Eng. Degree Option

The Master of Engineering (M.Eng.) in Civil Engineering is a course-only degree that provides students with education in advanced civil engineering topics, management, and professional issues. The M.Eng. degree option is ideal for students who will pursue a master's degree part-time or for full-time students who desire an option for accelerated completion within one year.

^{*}See Section 4.3 RCR Training

Curriculum. The M.Eng. curriculum includes a total of 30 semester hours of coursework (Table 3.4). To enroll in a course, students must satisfy the course prerequisites. Students entering the major without a civil or environmental engineering degree also must satisfy a set of articulation courses (Section 3.6).

| Course Type | Total Hours |
|---|-------------|
| Articulation courses (if required) | 0-22 |
| Specialty (depth) area | 15 |
| Supplementary electives | 12 |
| Mathematics, statistics, or computation | 3 |
| Minimum Total Hours | 30 |

Table 3.4. Summary of M.Eng. degree requirements

The *specialty (depth) area* courses provide students an advanced education beyond the bachelor's degree in a specific civil engineering sub-discipline. The majority of the specialty area courses should be taken from the CEE department. A minimum of 15 credit hours of specialty (depth) is required in the M.Eng. curriculum.

The *supplementary electives* are intended to develop the student's complementary multidisciplinary and professional skills required in the civil engineering profession. Supplementary electives may include courses from other civil and environmental engineering areas outside of the chosen specialty, as well as courses from other disciplines that support the professional development focus of the M.Eng. Example supplementary electives outside of engineering include courses in the sciences, mathematics, statistics, computer/computational science, social sciences, public policy, urban and regional planning, business, and law. A minimum of 12 credit hours of supplementary electives is required in the M.Eng. curriculum.

Mathematics and quantitative skills are critical in civil engineering work. Therefore, a student is required to take at least one course (a minimum of three (3) credit hours) in mathematics, statistics, or computational science.

Major professor. The M.Eng. student selects a major professor, who agrees to serve as the advisor for the Master of Engineering study by the end of the first semester. The major professor must be a full-time CEE faculty with Graduate Faculty/Directive status. The major professor oversees and guides the student in the Master of Engineering study.

Plan of Study. The M.Eng. student, in consultation with his/her major professor, is required to submit an approved Plan of Study to the departmental Graduate Staff by the last day of the first semester or at the completion of 9 credit hours of coursework. The Plan of Study (see Section 8) includes a list of proposed courses and a time schedule for completion of these courses. Upon recommendation of the Graduate Committee, the Department Chair will approve the proposed Plan of Study. The Plan of Study is used by the student and major professor as a guideline throughout the student's M.Eng. study and must be updated and approved if changes occur.

Internships. The department highly recommends that M.Eng. students consider internships as a means of obtaining practical training in the field. A prior approval from the department should be obtained before considering internships to ensure that internships do not negatively impact student performance in coursework.

Degree requirements certification. The M.Eng. degree candidate must submit an approved Degree Requirements Certification form to the CEE department at the beginning of the final semester (an exact deadline will be announced either by the CEE Graduate Coordinator or Graduate Director). The form certifies that the student has satisfied all degree requirements as set forth in the latest approved Plan of Study (see Section 8). If courses shown in the Degree Requirements Certification form differ from those shown in the latest approved Plan of Study, the department will not approve the certification form.

Suggested timeline and checklist. A suggested timeline for completion of the M.Eng. degree requirements and milestones checklist are provided in Tables 3.5 and 3.6, respectively.

| Semester | Full-time option* | Part-time option |
|------------|---------------------------------|--------------------------------|
| Semester 1 | 15 hours of approved coursework | 6 hours of approved coursework |
| Semester 2 | 15 hours of approved coursework | 6 hours of approved coursework |
| Semester 3 | N/A | 6 hours of approved coursework |
| Semester 4 | N/A | 6 hours of approved coursework |
| Semester 5 | N/A | 6 hours of approved coursework |

Table 3.5. Suggested M.Eng. timeline

^{*} Depending on the specialty area, three semesters may be necessary due to the frequency of course offering

| Milestone or Action | When | |
|--|--|--|
| Select an Advisor/Major Professor | By the end of the first semester | |
| Submit an approved Plan of Study | By the end of the first semester or at the | |
| | completion of 9 credit hours | |
| Request transfer credit (if applicable) | By completion of 9 credit hours | |
| Submit an approved Degree Requirements | At the beginning of the final semester | |
| Certification form | | |
| Apply for graduation with the university | At the beginning of the final semester | |
| Complete the Exit Survey | End of the final semester | |

Table 3.6. M.Eng. milestones checklist

3.3 B.S. – Master's Pathway

This pathway provides academically talented undergraduate students an opportunity to complete both a bachelor's and a master's degree in 5 years. Upon approval, this pathway allows 6 graduate hours to be double-counted toward an undergraduate degree program. The student will earn the Bachelor of Science (BS) degree upon completion of the undergraduate

program and the Master of Science (MS) or Master of Engineering (MEng) degree upon completion of the graduate program.

The program requirements for the graduate portion of this pathway are identical to the M.S. or M.Eng. program requirements (Sections 3.1 and 3.2). The only difference is that the pathway students take 24 hours of coursework instead of 30 hours, because 6 graduate hours were already taken while earning the undergraduate degree.

The College of Engineering offers a tuition supplement to cover the tuition differential for up to six credit-hours of graduate coursework taken by eligible undergraduate students in the program. This means that undergraduate students will pay only undergraduate rates for the two double-counted graduate courses, as long as eligibility criteria are maintained. Once the student completes their undergraduate degree and enrolls in the graduate program, regular graduate tuition rates apply. The non-thesis Master of Engineering degree is intended to be self-funded: assistantships and tuition waivers are not available, although many engineering firms offer tuition reimbursement to employees working toward advanced degrees.

Suggested timeline and checklist. A suggested timeline for completion of the pathway requirements and milestones checklist are provided in Tables 3.7 and 3.8, respectively.

Table 3.7. Suggested B.S.-Master's pathway timeline

| | Semester | B.SM.Eng.: Full-time | B.SM.Eng.: Part-time | B.SM.S. |
|--------|-------------|-------------------------|-------------------------|---|
| Under- | Junior year | Su | bmit an online ap | pplication for the pathway |
| grad | | (<u>http</u> | s://eng.famu.fsu. | edu/cee/bs-meng-pathway) |
| | Senior year | Tak | e two 5000-level | courses (a total of 6 hours) |
| | | Apply to the M | 1.Eng. program | Apply to the M.S. program (see |
| | | (see sect | tion 2.2). | section 2.1); Find a thesis advisor and |
| | | | | begin research work. |
| Grad | Semester 1 | Complete t | he internal credit | transfer form (FSU students only) |
| | | 12 hours of | 6 hours of | 9 hours of coursework and 3 hours of |
| | | coursework | coursework | thesis; Take the RCR Training (see |
| | | | | section 4.3) |
| | Semester 2 | 12 hours of | 6 hours of | 9 hours of coursework and 3 hours of |
| | | coursework | coursework | thesis; Defend the thesis |
| | Semester 3 | N/A | 6 hours of | if research work is not sufficient, |
| | | | coursework | Semester 3 may be needed |
| | Semester 4 | N/A | 6 hours of | N/A |
| | | | coursework | |

Milestone or Action When Under-Submit the online pathway application During the junior year grad Complete 6 credit hours of graduate By the end of the senior year courses Apply to the M.S. or M.Eng. program; Find During the senior year; before the a thesis advisor and begin research (M.S.) application deadline Grad Complete the internal credit transfer form At the beginning of the first semester (FSU students only) Select an Advisor/Major Professor (M.Eng.) By the end of the first semester Submit an approved Plan of Study By the end of the first semester or at the completion of 9 credit hours At the beginning of the final semester Submit an approved Degree Requirements Certification form Apply for graduation with the university At the beginning of the final semester Schedule the thesis defense (M.S.) In the final semester at least two weeks prior to planned defense date Defend the thesis (M.S.) Check with the university for deadlines Submit the thesis outcome form to the department Submit the approved final M.S. thesis to the university Complete the Exit Survey End of the final semester

Table 3.8. B.S.-Master's pathway milestones checklist

3.4 Ph.D. Program (M.S. – Ph.D. Track)

The Ph.D. degree in Civil Engineering is a research degree designed to produce a scholar; it is granted only to students who have demonstrated mastery in a specialty of civil engineering and the capacity to conduct original and independent scholarly work.

Curriculum. The curriculum for the M.S. to Ph.D. track includes a total of 51 semester hours, consisting of coursework and dissertation research (Table 3.9). To enroll in a course, students must satisfy the course prerequisites. Students entering the major without a civil or environmental engineering degree must also satisfy a set of articulation courses (see Section 3.6). Students are expected to enroll in Graduate Seminar (CGN 5935) each semester in which they have full-time status.

The *specialty (depth) area* courses provide students an advanced education in a specific civil engineering sub-discipline and support the student in attaining mastery in a specialty area. Courses in the specialty area may include related courses from other departments.

The *supplementary electives* are intended to develop the student's complementary multidisciplinary skills and knowledge. Supplementary electives may include courses from other civil and environmental engineering areas outside of the chosen specialty, other engineering

disciplines, the sciences, advanced mathematics and statistics, computer/computational science, urban and regional planning, and geography.

Table 3.9. Summary of M.S – Ph.D. track degree requirements

| Course Type | Total Hours |
|------------------------------------|-------------|
| Articulation courses (if required) | 0-22 |
| Specialty (depth) area | 15 |
| Supplementary electives | 12 |
| Preliminary exam CGN 8988 | 0 |
| Dissertation research CGN 6980 | 24 |
| Dissertation defense CGN 8985 | 0 |
| Graduate Seminar CGN 5935 | 0 |
| Minimum Total Hours | 51 |

Major professor and supervisory committee. The Ph.D. student selects a major professor and a supervisory committee by the end of the first semester. The major professor must agree to serve as the student's academic advisor and dissertation supervisor and must be a full-time CEE faculty with Graduate Faculty/Directive status.

The Ph.D. student will choose the supervisory committee in consultation with the major professor. The supervisory committee consists of four (4) full-time faculty members, including the major professor as the chair; one member must be from outside of the CEE department and serves as the University Representative. The University Representative must be a tenured member of the faculty. All committee members must have Graduate Faculty/Directive status. Additional members may be appointed to the committee, if deemed appropriate by the major professor. The supervisory committee oversees and supervises the student's research effort, administers the Ph.D. Preliminary Examination, recommends doctoral candidacy, attends the oral defense of the dissertation, approves the written dissertation, and recommends granting of the degree.

Student & Major Professor Checklist. Each Ph.D. student receiving an assistantship is expected to schedule a meeting with their major professor and discuss the program expectations by the end of the first semester using the Student & Major Professor Checklist. These expectations cover not only degree program requirements but also graduate assistantship duties as well. Faculty and student perspectives should be taken into consideration when setting expectations. The checklist can be downloaded from the CEE website with all the graduate student forms: https://eng.famu.fsu.edu/cee/student/forms. The completed and signed checklist should be returned to the CEE Graduate Coordinator.

Plan of Study. The Ph.D. student, in consultation with his/her major professor, is required to submit an approved Plan of Study to the departmental Graduate Staff in the second semester by the end of the second week of classes or at the completion of 9 credit hours of coursework. The Plan of Study (see Section 8) includes a list of proposed courses, a time schedule for completion of these courses, and a summary of the proposed dissertation topic. Upon recommendation of the Graduate Committee, the Department Chair may approve the

proposed Plan of Study. The Plan of Study is used by the student and major professor as a guideline throughout the student's Ph.D. study and must be updated and approved if changes occur.

Internships. The department highly recommends that Ph.D. students consider internships as a means of obtaining practical training in the field. A prior approval from the major professor should be obtained before considering internships to ensure that internships do not negatively impact student performance in coursework and doctoral research.

Annual evaluation. All Ph.D. students must report the annual research progress to the committee members once per academic year (one review in Fall or Spring). Exceptions are:

- If the Ph.D. student began in the spring semester, the annual review clock begins in the next academic year.
- If the student is certain to defend in the summer, the annual review for the last academic year may be skipped but is still encouraged.
- If the student is a part-time student who by the end of Spring will have completed 15 or fewer credit hours, the annual review will begin in the next academic year.

The student will receive this annual assessment in writing. The instructions and the form for the annual evaluation can be found online (https://eng.famu.fsu.edu/cee/student/forms). With the permission of the dissertation advisor, the university representative may be excluded from the annual review until the preliminary exam. All the committee members, including the university representative, are expected to be present during the preliminary exam.

Requirements for candidacy. Students are admitted to candidacy for the Ph.D. degree only after passing the Preliminary Examination (see below) and being certified to the University Registrar. The candidacy form needs to be submitted. A student becomes eligible to register for dissertation credits only after the student becomes a candidate for the doctoral degree.

Preliminary exam. Following completion of all, or a major portion, of the course work defined in the Plan of Study, the supervisory committee must issue certification to the Graduate Committee that the student has maintained a minimum 3.0 GPA, demonstrated sufficient progress towards mastery of a sub-discipline, and developed a command of requisite research tools to begin independent research in the area of the proposed dissertation. It is recommended that the student takes the preliminary examination in the semester that the coursework is completed. With the permission of the dissertation advisor, it is allowed for the student to take the prelim in the immediately following semester.

The Preliminary Examination evaluates whether the student has demonstrated the ability to conduct independent research, obtain sufficient relevant scientific knowledge in the area of research, and show the ability to integrate that knowledge into a coherent Ph.D. dissertation. The examination is in both written and oral formats, and is administered by the committee and complies with the requirements of the college and the university in which the student is registered.

The written portion of the Preliminary Examination is a proposal describing the proposed research work for the student's dissertation. The proposal should represent two years' worth of

research (or less if prelim is taken earlier) on the proposed topic of study. The proposal should be in a format suitable for research proposals submitted to funding agencies. At a minimum, the proposal should include the following components: abstract, problem statement, research objectives, critical literature review, research plan and tasks, preliminary results, intellectual merit and broader impact, expected outcomes, and timeline for completion. The oral portion of the Preliminary Examination will involve a presentation by the student on the written proposal and dissertation research. This policy permits the committee to add any oral or written elements of exam to assess the proficiency of the student.

The supervisory committee shall report the outcome of the Preliminary Exam according to the anonymous voting by the committee members. The committee chair will collect anonymous votes, shuffle them, and make one of the following decisions based on the voting. If the committee has 6 or more members, select 5 members to vote.

| Committee Votes | Recommendation (First Attempt) | Recommendation (Second Attempt) |
|-----------------|--------------------------------|---------------------------------|
| All Yes | Pass | Pass |
| One No | Fail (Re-examination next | Pass |
| Two No's | semester) | Fail |

The annual evaluation form (Section 4.5) is also used for the prelim, but the overall recommendation must follow the above guideline. Students are admitted to candidacy for the Ph.D. degree only after passing the Preliminary Examination. If any student requires reexamination, the outcome can only be reported as "passed" or "failed." If the student does not pass the preliminary examination, at least one semester must elapse before re-examination is permitted. Any student who fails re-examination will be dismissed from the program.

Preliminary Exam Preparation course. The course "Preliminary Exam Preparation (CGN 6960)" guides a doctoral student to develop the research plan for the preliminary exam. The student is eligible to enroll in this course after completing their coursework. Since the Ph.D. student cannot register for Dissertation Research until they have passed the preliminary exam, CGN 6960 can be taken before passing the prelim if the student has already completed coursework but needs to register for course credits to meet the full-time requirement.

Dissertation. The most important element of the doctoral program is original and fundamental research resulting in a Doctoral Dissertation. Students will enroll in dissertation research (CGN 6980) only after the successful completion of the Preliminary Examination and admittance to doctoral candidacy. The student selects the dissertation topic in consultation with the major professor and supervisory committee. The supervisory committee approves the dissertation research topic based on the student's dissertation proposal and oral portion of the Preliminary Examination. To be acceptable, the dissertation must be original research that is a significant contribution to the discipline, and it must reflect a substantial scholarly effort on the student's part.

It is the student's responsibility to comply with the required dissertation format of his/her university and the deadlines and requirements for dissertation submission <see https://graduateschool.famu.edu/index.php/ or https://gradschool.fsu.edu/>.

At the completion of the dissertation research and when the complete dissertation is ready for review by the supervisory committee, the major professor will authorize its distribution to committee members. The dissertation should be complete in every respect, including data analysis, figures, and tables. The supervisory committee can recommend editorial and/or substantive changes after review and the oral dissertation defense. The dissertation should be provided to the supervisory committee at least ten (10) working days before the date of the dissertation defense.

The Ph.D. student is encouraged to present the dissertation at a department Graduate Seminar at a time scheduled by the faculty seminar coordinator.

Journal manuscripts. In partial fulfillment of the Ph.D. degree requirements, the Ph.D. student must prepare a minimum of two (2) manuscripts for peer-reviewed journals, of which at least one (1) should have the status of "Accepted" or "Accept with minor revisions." The publication requirement should be met by the time the student submits the paperwork for the graduation check (normally, at the end of the first month of each semester). If the publication requirement is not met before the graduation check, then the student should plan graduating in the following semester.

Dissertation Defense. A dissertation defense with oral examination is a mandatory part of the degree requirements. The student must satisfactorily pass this oral examination, as determined by the supervisory committee, before submission of the final dissertation to the university.

- The dissertation defense will be scheduled only with approval of the major professor, supervisory committee, and department. The student will be permitted to schedule the dissertation defense only if the student has 1) completed the research work, 2) written a complete dissertation, and 3) satisfied the journal manuscripts requirement.
- The defense should be scheduled before the final dissertation submission deadline with sufficient time to allow for revisions; see university deadlines.
- The dissertation defense shall be announced and open to the public.
- The oral defense consists of two parts: 1) a defense presentation that includes appropriate use of visual aids and has duration of 45-55 minutes and 2) oral examination by the supervisory committee.
- The outcome of the dissertation defense is determined by the supervisory committee and is reported by the major professor to the department.

Suggested timeline and checklist. A suggested timeline for completion of the Ph.D. degree requirements and a milestones checklist are provided in Tables 3.10 and 3.11, respectively. Students may need to enroll in additional hours to maintain enrollment requirements (see Sections 5.1 and 5.3).

Table 3.10. Suggested M.S. – Ph.D. track timeline

| Semester | Degree requirement item(s) |
|------------|--|
| Semester 1 | 9 hours of approved coursework |
| | Complete the Student & Major Professor Checklist |
| | Complete the RCR training* |
| | Identify the dissertation topic |
| Semester 2 | 9 hours of approved coursework |
| Semester 3 | 9 hours of approved coursework |
| | Preliminary exam CGN 8988 |
| Semester 4 | 9 hours of dissertation research CGN 6980 |
| Semester 5 | 9 hours of dissertation research CGN 6980 |
| | Submit journal manuscript 1 |
| Semester 6 | xx hours of dissertation research CGN 6980 |
| Semester 7 | xx hours of dissertation research CGN 6980 |
| | Prepare a complete journal manuscript 2 |
| | Dissertation defense CGN 8985 |
| | Submit the approved final dissertation |

^{*}See Section 4.3 RCR Training

Table 3.11. M.S. - Ph.D. track milestones checklist

| Milestone or Action | When |
|--|---|
| Select an Advisor/Major Professor | By the end of the first semester |
| Identify the dissertation topic | |
| Complete the Student & Major Professor Checklist | By the end of the first semester |
| Submit an approved Plan of Study | In the second semester by the end of the |
| | second week of classes or at the |
| | completion of 9 credit hours of |
| | coursework |
| Request transfer credit (if applicable) | By completion of 9 credit hours |
| Complete the RCR training | By the end of the first semester |
| Request a preliminary exam | By the end of the third semester but no |
| Take a preliminary exam (written and oral) and | later than the end of the fourth |
| write a proposal | semester |
| Journal manuscript 1 accepted for publication | Submit by the semester prior to |
| | graduation or earlier |
| Submit an approved Degree Requirements | At the beginning of the final semester |
| Certification form | |
| Apply for graduation with the university | Beginning of the final semester |
| Request the dissertation defense | Final semester |
| Dissertation oral defense | |
| Submit an approved final Ph.D. dissertation | Final semester; check with the university |
| | for deadlines |
| Prepare a complete journal manuscript 2 | Final semester |
| Complete the Exit Survey | End of the final semester |

3.5 Ph.D. Program (B.S. – Ph.D. Track)

The Ph.D. degree in Civil Engineering is a research degree designed to produce a scholar and is granted only to students who have demonstrated mastery in a specialty of civil engineering and capacity to conduct original and independent scholarly work. The B.S. to Ph.D. track is intended for exceptionally qualified applicants who are well prepared for the coursework and research demands of the B.S.—Ph.D. program. Except the details described below, all elements of the B.S.—Ph.D. program are the same as the M.S.—Ph.D. program as described in Section 3.4.

Curriculum. The curriculum for the B.S. to Ph.D. track includes a total of 69 semester hours, consisting of coursework and dissertation research (Table 3.12). Any student who starts the Ph.D. program with a B.S. degree will be required to take a 3-credit hour Directed Individual Study (DIS) course with the objective of demonstrating the student's ability to develop a scholarly paper based on a comprehensive literature review and understanding of research methodology. Students are also required to take a 3-credit-hour Supervised Research course.

To enroll in a course in the curriculum, students must satisfy the course prerequisites. Students entering the major without a civil or environmental engineering degree also must satisfy a set

of articulation courses (see Section 3.6). Students are expected to enroll in Graduate Seminar (CGN 5935) each semester in which they have full-time status.

The *specialty (depth) area* courses provide students an advanced education in a specific civil engineering sub-discipline and support the student in attaining mastery in a specialty area. Courses in the specialty area may include related courses from other departments.

The *supplementary electives* are intended to develop the student's complementary multidisciplinary skills and knowledge. Supplementary electives may include courses from other civil and environmental engineering areas outside of the chosen specialty, other engineering disciplines, the sciences, advanced mathematics and statistics, computer/computational science, urban and regional planning, and geography.

Table 3.12. Summary of B.S. - Ph.D. track degree requirements

| Course Type | Total Hours |
|------------------------------------|-------------|
| Articulation courses (if required) | 0-22 |
| Directed Individual Study (DIS) | 3 |
| Supervised Research | 3 |
| Specialty (depth) area | 21 |
| Supplementary electives | 18 |
| Preliminary exam CGN 8988 | 0 |
| Dissertation research CGN 6980 | 24 |
| Dissertation defense CGN 8985 | 0 |
| Graduate Seminar CGN 5935 | 0 |
| Minimum Total Hours | 69 |

Major Professor and Supervisory Committee, Student & Major Professor Checklist, Plan of Study, Internships, Annual Evaluation, Requirements for Candidacy, Preliminary Exam, Dissertation, Journal Manuscripts, Dissertation Defense. These are identical to the M.S. – Ph.D. track. See Section 3.4.

Suggested timeline and checklist. A suggested timeline for completion of the Ph.D. degree requirements and a milestones checklist are provided in Tables 3.13 and 3.14, respectively. Students may need to enroll in additional hours to maintain full-time status each semester.

Table 3.13. Suggested B.S. – Ph.D. Track timeline

| Semester | Degree requirement item(s) | |
|------------|--|--|
| Semester 1 | 9 hours of approved coursework | |
| | Complete the Student & Major Professor Checklist | |
| | Complete the RCR training* | |
| | Identify the dissertation topic | |
| Semester 2 | 9 hours of approved coursework | |
| | Conduct the literature review for the dissertation | |
| Semester 3 | 6 hours of approved coursework | |
| | 3 hours of Directed Individual Study (DIS) | |
| Semester 4 | ster 4 6 hours of approved coursework | |
| | 3 hours of Supervised Research | |
| | Preliminary exam CGN 8988 | |
| Semester 5 | 6 hours of approved coursework | |
| | 3 hours of dissertation research CGN 6980 | |
| Semester 6 | 3 hours of approved coursework | |
| | 6 hours of dissertation research CGN 6980 | |
| Semester 7 | 9 hours of dissertation research CGN 6980 | |
| | Submit journal manuscript 1 | |
| Semester 8 | xx hours of dissertation research CGN 6980 | |
| | Prepare a complete journal manuscript 2 | |
| | Dissertation defense CGN 8985 | |
| | Submit the approved final dissertation | |

^{*}See Section 4.3 RCR Training

Table 3.14. B.S. – Ph.D. Track milestones checklist

| Milestone or Action | When |
|--|---|
| Select an Advisor/Major Professor | By the end of the first semester |
| Identify the dissertation topic | |
| Complete the Student & Major Professor Checklist | By the end of the first semester |
| Submit an approved Plan of Study | In the second semester by the end of the |
| | second week of classes or at the |
| | completion of 9 credit hours of |
| | coursework |
| Request transfer credit (if applicable) | By completion of 9 credit hours |
| Complete the RCR training | By the end of the first semester |
| Take the Directed Individual Study (DIS) course | By the end of the third semester |
| Take the Supervised Research course | |
| Request a preliminary exam | By the end of the fourth semester |
| Take a preliminary exam (written and oral) and | |
| write a dissertation proposal | |
| Journal manuscript 1 accepted for publication | Submit by the semester prior to |
| | graduation or earlier |
| Submit an approved Degree Requirements Certification form | At the beginning of the final semester |
| Apply for graduation with the university | At the beginning of the final semester |
| Request the dissertation defense | Final semester |
| Dissertation oral defense | |
| Submit an approved final Ph.D. dissertation | Final semester; check with the university |
| | for deadlines |
| Prepare a complete journal manuscript 2 | Final semester |
| Complete the Exit Survey | Before the end of the final semester |

3.6 Articulation Courses

Students who do not possess an undergraduate degree in civil or environmental engineering, but who otherwise meet admissions requirements, will be granted provisional admission and must successfully complete articulation courses and the prerequisite courses necessary for the articulation courses. The articulation courses for students pursuing graduate degrees with civil engineering specialties without a degree in civil or environmental engineering will be assigned during the application process, based on an evaluation of the applicant's academic transcripts.

4. Academic Policies

All students are required to adhere to the policies of the university, the FAMU-FSU College of Engineering, and the CEE department. It is the student's responsibility to be familiar with these policies and to refer to them throughout his/her studies. This includes academic policies, graduation requirements, and thesis and dissertation guidelines.

The major university requirements and policies are briefly discussed in Section 5, but students are encouraged to review university bulletins and websites (https://gradschool.fsu.edu/ and https://graduateschool.famu.edu/index.php/, respectively) for additional information. The department academic policies are described in this section.

4.1 Academic Performance

Once enrolled in a CEE graduate program, the student must satisfy the following requirements for retention:

- Maintain a cumulative GPA of at least 3.0. If a student's GPA falls below 3.0, the student will be placed on academic probation.
- No grade below a "C" will be credited towards graduate degree requirements.
- Satisfy all the university graduate student policies (see Section 5).

4.2 Coursework

A minimum of one-half the total required coursework must be taken at the FAMU-FSU College of Engineering. The remaining coursework may be taken at either main campus. See below for limitations on transferring courses from other universities.

Prerequisites. Students must satisfy prerequisites to enroll in a course. Students entering the major without a civil or environmental engineering degree may also have to satisfy a set of articulation courses.

Undergraduate Courses. For students enrolling in Fall 2019 and later, the university no longer accepts undergraduate courses toward the graduate degree. All courses must be 5000-level or 6000-level courses. Any 4000-level courses taken by a graduate student must be taken as articulation courses or supplemental to their Plan of Study, which may affect the ability to apply for tuition waivers for those courses. Students who enrolled prior to Fall 2019 may elect to follow the curriculum in place at the time that they enrolled.

Directed Individual Study (DIS) and other custom courses. A maximum of six (6) credit hours from up to two (2) Directed Individual Study (DIS) courses may be applied towards degree requirements with prior approval from the CEE department. The content of the DIS may not directly overlap with thesis or dissertation research work, nor may it duplicate the content of an existing course. The student and respective major professor must work with the faculty member directing the DIS (i.e., DIS instructor) to define course contents consistent with the student's Plan of Study. The DIS should be viewed as a stand-alone graduate class equivalent to regular classes that supports a student's particular areas of interest that is not offered in regular classes.

The approval and registration process is as follows. At least one week before the beginning of the semester, a DIS course approval form, a syllabus, and an abstract should be submitted to the Graduate Coordinator (a.k.a. Graduate Program Associate) for final review by email at civil@eng.famu.fsu.edu. Graduate students are expected to discuss the need for DIS courses (and other special courses, such as supervised research, thesis research, dissertation research, preliminary exam, thesis defense, dissertation defense, etc.) with their major professors, and

major professors should provide the list of special courses their students plan to take to the Graduate Coordinator. If the DIS course approval form passes the administrative audit, the Graduate Coordinator will create a unique course section, and the major professor will be notified by email of the class and section number. The list of special courses should be provided by major professors at least two weeks before the first day of classes to prevent potential delays with the course creation. The student must enroll in the course through their student account (iRattler at FAMU, Student Central/my.fsu.edu at FSU). The student must sign up for the correct section to receive credit for the class.

A maximum of 3 hours of Supervised Research (CGN 5910) and 6 hours of DIS may be applied towards degree requirements for B.S. – Ph.D. students. M.S. – Ph.D. students can take up to 3 hours of Supervised Research and 3 hours of DIS (or 0 hours of Supervised Research and 6 hours of DIS) to fulfill their degree requirements. M.S. and M.Eng. students are also eligible to take Supervised Research and DIS courses. However, all students must take a minimum number of letter-graded courses, as described in the next paragraph. Technically, graduate students can register for more hours of Supervised Research and DIS than indicated above in order to keep the full-time status, but all the extra credit hours will not count towards the degree requirements.

Letter Grade and S/U Grading. The minimum number of hours of coursework taken on a letter-grade basis is as follows: M.S. students, at least 18 hours; M.Eng. students, at least 21 hours; and Ph.D. students, at least 21 hours.

Transfer Credit. Transfer of courses not counted toward a previous degree from another accredited graduate school is limited to six (6) semester hours for master's students. For Ph.D. students, more than 6 credit hours can be potentially transferred upon approval from the department. In addition, transfer of courses not counted toward a previous degree from the institution in which the student is enrolled (i.e., FAMU or FSU) is limited to twelve (12) semester hours total. In all cases, transfer credits require approval of the department and shall be completed with grades of "B" or better.

4.3 RCR Training

M.S. and Ph.D. students are required to successfully complete the Responsible Conduct of Research (RCR) training as part of the degree requirements.

- M.S. and Ph.D. students must complete the RCR training within the first semester of their initial enrollment in a CEE graduate program. The RCR training is optional for M.Eng. students. Ph.D. students who completed the RCR training as M.S. students at the FAMU-FSU College of Engineering do not need to repeat this training.
- Two options are available for the RCR training at FSU:
 - Option 1: The FSU Office of Research Compliance offers a one-day Responsible Conduct of Research Workshop. The workshop is conducted each fall and spring semester and provides eight (8) hours of face-to-face instruction and discussion. This series fulfills the National Science Foundation requirements for formal RCR instruction. Certificates of completion will be provided to individuals who complete

- the program. For details, see https://www.research.fsu.edu/research-compliance/rcr/.
- Option 2: FSU offers online training (the CITI training) that includes seven 1-hour modules with quizzes. Topics include: Research Misconduct, Data Acquisition and Management, Responsible Authorship and Publication, Responsible Peer Review, Responsible Mentoring, Conflicts of Interest, and Collaborative Science. For additional information, see https://www.research.fsu.edu/research-compliance/rcr/.
- FAMU offers only one option for the RCR training the CITI option. For additional information, see https://www.famu.edu/administration/research/training/Responsible-Conduct-in-Research-Training.php/.
- The department recommends the CITI option for FAMU and FSU students, as it can be completed in a timely manner, based on the experience of our graduate students. M.S. and Ph.D. students need to confirm that they have completed the RCR training in a timely manner and note this in their advising, Plan of Study, and graduation certification forms. Students who have not successfully completed the RCR training by the end of the first semester will receive a registration hold, which will be removed once the training is completed.

4.4 Academic Advising

All graduate students must meet with their advisor (major professor) each semester during the registration period. The meeting may be a face-to-face meeting, email, phone, or online conferencing. First-semester students who have not selected an advisor can meet with any CEE faculty with Graduate Directive status, preferably in their specialty area. Graduate students will need to verify that they have met with their advisor and provide this information (via a signed advising form or email verified by advisor) to the Graduate Coordinator to have their registration hold removed. **Students will not be able to register for the next semester without advising confirmation.**

4.5 Annual Assessment of Progress

All Ph.D. students must report on their research progress at least once each year to the supervisory committee. The annual review meeting takes the form of an oral presentation before the committee members, typically at the end of the spring semester. The preliminary examination and dissertation defense will serve as the annual evaluation for the years in which they occur. The student will receive this annual assessment in writing; feedback addresses the research plan, progress toward completion, and oral and written communication skills. The instructions and the form for the annual evaluation can be found online (https://eng.famu.fsu.edu/cee/student/forms). Students with teaching assistantship (TA) or research assistantship (RA) will also receive written assessment on their performance of their duties by their supervisor. M.Eng. and M.S. students will receive feedback from the advisor. For M.S. students, research evaluation by the committee will be conducted in conjunction with the thesis defense.

5. University Requirements and Policies

The university requirements and policies are provided by the FAMU Office Graduate Studies and Research https://graduateschool.famu.edu/index.php/ and by The Graduate School at FSU https://gradschool.fsu.edu/ (see the FSU Graduate Student Handbook). The key requirements and policies are highlighted here.

5.1 Full-time and Part-time Status

A full-time load is nine (9) hours per semester. Nine (9) hours is also considered a full-time load for students with teaching or research assistantship appointments of at least quarter time (10 hours per week). For international students, at least nine (9) credit hours per semester is considered full-time.

A PhD student who has completed the required course work, but has not made a final dissertation submission (i.e. a doctoral candidate), shall include in the required full-time load a minimum of two (2) credit hours of dissertation per semester until completion of the Ph.D. degree. M.S. students do not have to be continuously enrolled in 2 credit hours of thesis research every semester. The expectation is to complete at least 6 credit hours of thesis research and be enrolled in at least 2 credits of thesis research in the final semester.

A student is typically required to register for at least nine (9) credit hours in a term in which he/she receives an assistantship. A student with underload permission must register for at least two (2) credit hours of thesis or dissertation per semester.

5.2 Scholarly Engagement

The purpose of the Scholarly Engagement requirement is to ensure that doctoral students are active participants in the scholarly community. To meet the Scholarly Engagement requirement, doctoral students should interact with faculty and peers in ways that may include enrolling in courses; attending seminars, symposia, and conferences; engaging in collaborative study and research beyond the university campus; and utilizing the library, laboratories, and other facilities provided by the university. The goal is to prepare students to be scholars who can independently acquire, evaluate, and extend knowledge, as well as develop themselves as effective communicators and disseminators of knowledge.

5.3 Continuous Enrollment

Students who are not actively participating in research are allowed to skip one semester without having to reapply for admission through the university (e.g., take courses in fall and spring and take time off in summer). Students who skip more than one semester consecutively will need to reapply for admission through the university. The minimum dissertation enrollment requirement (at least two credits per semester) still applies to PhD candidates who are actively participating in research or using university resources. See Section 5.1 for more information.

5.4 Time to Completion

For master's students, all work towards the master's degree must be completed within five years (FAMU) or seven years (FSU) from the time the student originally registers for graduate studies. For doctoral students, all requirements for the Ph.D. degree must be completed within seven years (FAMU) or five calendar years (FSU) from the time the student passes the preliminary examination or the student must pass a new preliminary examination.

5.5 International Students

International students must comply with the U.S. Department of Homeland Security rules and regulations.

- International students enrolled at FAMU are encouraged to consult with the FAMU Office of International Education and Development <https://www.famu.edu/students/international-education-and-development/index.php/.
- International students enrolled at FSU are encouraged to consult with the FSU Center for Global Engagement http://www.cge.fsu.edu/>.

5.6 University-Wide Standards for Teaching Assistants

Students who assume any teaching assistant (TA) role (e.g., grader, lab TA, course TA) must satisfy the minimum requirements for the specific teaching role(s). Requirements include graduate coursework or a master's in the discipline, participation in the Program in Excellence teaching conference Instructional (PIE) and TΑ https://teaching.fsu.edu/required-training/, certification of spoken English for those whose native language is not English, supervision by a faculty member, and periodic evaluations. For specific requirements, see the document "University-wide Standards for Graduate Teaching Assistants," which may be https://registrar.fsu.edu/bulletin/graduate- found at information/teaching-assistants-standards>.

6. Offered Courses

A list of courses offered by the CEE department is provided in the university general bulletins. Students are responsible for checking the graduate edition of the general bulletin for the university in which they are enrolled to confirm course information:

- FAMU: see http://catalog.famu.edu/
- FSU: see https://registrar.fsu.edu/bulletin/graduate-departments/civil-and-environmental-engineering

Classes with insufficient enrollment are subject to cancellation. Students are encouraged to sign up for classes early in the registration period. Through the FAMU-FSU Cooperative Program, students at either university may take a class at the other parent university if that course is not offered at their home university in a given semester.

7. Checklist for New Students

7.1 FAMU Students

Refer to the FAMU School of Graduate Studies and Research for information on requirements at https://graduateschool.famu.edu/index.php/.

7.2 FSU Students

The Graduate School at FSU provides an information packet and checklist for new graduate students at https://gradschool.fsu.edu/newcurrent-students. In addition, an orientation for new graduate students is held each August. International students enrolled through FSU are encouraged to consult with the Center for Global Engagement http://www.cge.fsu.edu/.

7.3 All Graduate Students

- College and department orientations are held each fall before classes begin.
- Students must meet with a faculty advisor prior to registering for classes. First-semester students who have not selected an advisor can meet with any CEE faculty with Graduate Directive status, preferably in their specialty area (see Section 4.4).
- See the College Computing Services (CCS) in Room A332 to request an engineering account, which is required to access the public computers at the College of Engineering.

8. Forms

The following forms may be found at the CEE department webpage http://www.eng.famu.fsu.edu/cee (see CEE Students link). FAMU forms may be found at https://graduateschool.famu.edu/index.php/, and FSU forms may https://gradschool.fsu.edu/forms. Check with your university for additional required forms.

Forms for all graduate students:

- Advising
- Annual Assessment
- Exit Survey
- Other forms (e.g., transfer credit, DIS, etc.) may be found in the CEE main office (A129) or downloaded on the CEE website: https://eng.famu.fsu.edu/cee/student/forms.
- Announcement of annual evaluation, prelim, and defense is done by emailing Graduate Coordinator (<u>civil@eng.famu.fsu.edu</u>) the title of the presentation, abstract, name of the advisor, day & time, and location (e.g., classroom number).

Additional forms for M.S. students:

- M.S. Plan of Study
- M.S. Degree Requirements Certification
- Request for Thesis Defense Examination
- Thesis Defense Outcome (department form)

- FAMU Defense Outcome
- FSU Manuscript Signature (online starting 2019)

Additional forms for M.Eng. students:

- M.Eng. Plan of Study
- M.Eng. Degree Requirements Certification

Additional forms for Ph.D. students:

- Ph.D. Plan of Study
- Annual Evaluation (includes Preliminary Exam Outcome and Defense Outcome)
- Ph.D. Degree Requirements Certification
- FAMU Defense Outcome
- Admission to Candidacy Form (FAMU and FSU)
- FSU University Representative Doctoral Defense Report
- FSU Manuscript Signature (online starting 2019)

9. Funding Information

9.1 Teaching and Research Assistantships

A limited number of teaching assistantships (TAs) and research assistantships (RAs) are available through the CEE department to qualified M.S. and Ph.D. students on a competitive basis each semester. The department has a limited amount of funding for TAs especially in the summer. The only way to get in the TA pool is to have the student's advisor apply on one's behalf. Therefore, both for the TA and RA positions, the student must coordinate closely with the thesis/dissertation advisor. University matriculation (tuition) waivers may be also granted as supplementary awards to students with assistantship appointments of at least 10 hours/week. Students with University Graduate Fellowships are expected to perform teaching and/or research related tasks equivalent to 20 hours/week effort for the CEE department.

In addition to the department sources of financial support, the universities and external organizations provide fellowships for graduate study.

- FAMU School of Graduate Studies and Research compiles information about fellowships provided by FAMU and by external sources
 https://graduateschool.famu.edu/index.php/> (see the links to Financial Aid and Funding Opportunities)
- Fellowships provided by the FSU Graduate School < http://gradschool.fsu.edu/Funding-Awards/Graduate-School-Fellowships-and-Grants
- FSU Office of Graduate Fellowships and Awards provides information about external fellowships <http://ogfa.fsu.edu/>
- College of Engineering provides information about scholarships and fellowships at https://eng.famu.fsu.edu/prospective/graduate/funding/

M.S. and Ph.D. students are strongly encouraged to apply for fellowships from federal funding agencies, such as:

- National Science Foundation
 http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201>
- Department of Energy < https://science.energy.gov/wdts/scgsr/>
- US Environmental Protection Agency < https://www.epa.gov/research-fellowships-graduate-students >
- Federal Highway Administration < http://www.fhwa.dot.gov/tpp/ddetfp.htm

9.2 Travel Support for Graduate Students

The department will announce the CEE Graduate Student Research Excellence Award each fall semester. The award recognizes excellence in graduate student research. Each recipient will receive up to \$1,000, which can be used for presenting a paper in a conference. The award money can be used any time before the student leaves the college. In each cycle, up to 5 students will be awarded. Application package includes: CV, one-page statement of research accomplishment, and two representative journal papers or conference papers. The award announcement as well as evaluation criteria will be sent to the student email list (ceegrad@lists.eng.famu.fsu.edu). Travel grants may also be available through the universities for students who are attending and/or presenting their work at conferences. Check your university email frequently for these and other announcements.

10. Contact Information

For more information about graduate studies in the Department of Civil and Environmental Engineering at the FAMU-FSU College of Engineering, please contact:

Department of Civil and Environmental Engineering FAMU-FSU College of Engineering 2525 Pottsdamer Street Tallahassee, Florida 32310

Phone: 1.850.410.6136

Email: civil@eng.famu.fsu.edu

Individuals who have submitted graduate admissions applications and have questions can contact:

Graduate Coordinator Phone: 1.850.410.6136

E-mail: civil@eng.famu.fsu.edu