

Doctoral Program

Transportation and Environmental Engineering Doctor of Philosophy (Ph.D.)

(Minimum of 72 credits required)

The Department of Civil, Environmental and Geomatics Engineering offers a Doctor of Philosophy (Ph.D.) degree focused on urban mobility and environmental/water resources sustainability. This degree provides students with a fundamental and applied research-based education suitable for seeking employment in industry, government or academia.

Admission Requirements

Applicants should have a master's degree in Engineering, Science, Urban Planning, Transportation Logistics or Mathematics from an accredited college or university. A student with outstanding scholastic achievement who holds only a baccalaureate degree in Engineering, Science, Urban Planning, Transportation Logistics or Mathematics from an accredited college or university may be admitted directly to this Ph.D. program and be eligible to earn the *Master's en Passant*. Specific requirements for the B.S. to Ph.D. are found [here](#).

Requirements for students with previous degrees in non-engineering disciplines are found [here](#). Additional eligibility requirements are:

1. A cumulative GPA of 3.00;
2. Completion of at least two semesters of college calculus with grades of "B" or better;
3. Satisfaction of departmental minimum GRE score requirements; and
4. A letter of recommendation from their potential graduate advisor.

The Department of Civil, Environmental and Geomatics Engineering requires the following deficiency coursework for students without an engineering bachelor's degree from an accredited program: two fundamental engineering courses in the relevant area, as determined by the dissertation advisor or department graduate committee.

1. Applicants must have a 3.0 GPA (on a 4.0 scale) or better in the last 60 credits of work attempted coursework and must have an official transcript forwarded directly to the FAU Graduate College from each college-level institution attended;
2. Applicants must submit the Graduate Record Examination (GRE) score. The GRE requirement is waived with proof of passing the Fundamentals of Engineering (FE) or Principles and Practice of Engineering (PE) exam. The GRE requirement is waived for applicants who have a previous degree from FAU's College of Engineering and Computer Science;
3. ~~Applicants must demonstrate proficiency in both written and spoken English. Students from non-English-speaking countries are required to take an English language proficiency test and are expected to achieve a minimum TOEFL score of 550 on PBT (paper-based test), 79 on IBT (internet-based test) or 213 on CBT (computer-based test); 6.0 on IELTS; or 100 on Duolingo.~~ This requirement may be waived for students who have obtained a prior degree from a U.S. institution;
4. Applicants must submit to the Graduate College at least two letters of recommendation attesting to the student's ability to pursue with distinction a curriculum of advanced study and research in a chosen area;

Deleted: (For this degree program, the GRE admission requirement is waived through and including fall 2023.)¹

Deleted: A student from a non-English-speaking country is required to take the Test of English as a Foreign Language (TOEFL) and achieve a score of at least 550 (paper-based) or 213 (computer-based) or 79 (IBT). ...

5. Applicants must abide by the policies and regulations and the graduate admission requirements of the University as outlined in this University Catalog;
6. Conditional admission may be permitted if the above conditions are not met.

Graduation Requirements

The degree will be conferred on candidates who have fulfilled the following requirements:

1. Completed the curriculum for the Ph.D. in Transportation and Environmental Engineering, which entails:
 - o Successful completion of 72 credits of course and dissertation work beyond the baccalaureate degree with a minimum grade of "B" in each course. Up to 30 credits of coursework from an approved master's degree program may be applied. [Cross-listed courses are offered at the 4000/5000 and 4000/6000 levels. Students may not enroll in the 5000/6000 level course if they have completed the corresponding 4000 level course;](#)
 - o Successful completion of any remedial course(s) determined by the departmental graduate program committee and/or the dissertation supervisory committee.
 - o Maintain a minimum 3.0 GPA in all coursework attempted for the degree. Failure to maintain a minimum GPA of 3.0 may result in creating an Academic Progression Plan (APP) for the student.

Core Courses - two courses for 6 credits

Advanced Research	CGN 7978	3, and
Sustainability and Pollution Prevention	ENV 6932	3, or
Transportation System Analysis	TTE 6501	3, or
Advanced Structural Analysis	CES 6106	3

Graduate Seminar (CGN 5937) - two semesters

Technical Electives - three courses for 9 credits

Select three courses at the 5000 or 6000 level from the Department of Civil, Environmental and Geomatics Engineering. The courses must be approved by the dissertation advisor.

Other Electives - two courses for 6 credits

Select two courses at the 5000, 6000 or 7000 level from the College of Engineering and Computer Science or other FAU colleges. No more than 3 credits of Directed Independent Study (DIS). The courses must be approved by the dissertation advisor.

Dissertation (CGN 7980) - 21 credits (minimum) for students entering with a master's degree

Up to 3 credits of graduate internship (EGN 5940) may be used to satisfy the 21-credit dissertation minimum requirement, with approval of the dissertation advisor.

2. Successful completion of a qualifying exam is required;

Deleted: or Advanced Research (CGN 7978)

Deleted: Graduate Seminar (CGN 5937) - two semesters

Deleted: upon completion of 15 credits of core and technical elective courses

3. Successful completion of a dissertation proposal defense is ~~required~~;
4. Prior to the dissertation defense, the student is required to have published or have accepted for publication a refereed research paper in a field of study deemed acceptable by the dissertation committee. A journal article is preferred, but a peer-reviewed conference paper is also acceptable;
5. Successful completion of an oral defense of the written doctoral dissertation based on original research in the student's area of specialization. The Dissertation/Supervisory Committee, the Department Chair and the Graduate College must have approved the dissertation and oral defense;
6. Complied with the University's Graduate Policies and Regulations and satisfied the University's Graduate Degree Requirements.

Deleted: typically

Deleted: within two semesters after passing the qualifying exam

Dissertation/Supervisory Committee

Upon acceptance into the Ph.D. Program, a student will select an advisor from the department faculty members to serve as chair of the Dissertation/Supervisory Committee. The student's Ph.D. Dissertation/Supervisory Committee will have a minimum of four members with at least two of them having expertise in the research area. At least two committee members must be from the Department of Civil, Environmental and Geomatics Engineering. One member and/or co-chair of the committee can be from outside the department. Also, the committee may include a member from another institution or industry. ~~For students with two co-advisors, the committee must have a minimum of five members.~~ The Dissertation/Supervisory Committee shall approve the dissertation proposal, monitor academic progress every semester, evaluate the dissertation defense and approve the final doctoral dissertation document.

Deleted: a

Qualifying Exam

~~All doctoral students are expected to complete a Qualifying Exam by their fourth semester in the program. The examination will assess the student's content knowledge, critical thinking, and communication skills. Students shall enroll in the Advanced Research (CGN 7978) course in the semester they plan to take the Qualifying Exam. A Qualifying Exam Committee consisting of at least 3 departmental faculty members will determine the structure of the exam (written, oral, or both) and will evaluate the student's performance (pass, fail, or conditional pass). The student is allowed to retake the exam once. Normally, two failures will result in the student's dismissal from the Ph.D. program. After passing the Qualifying Exam, the student advances to candidacy and will be permitted to enroll in dissertation credits (CGN 7980).~~

Deleted: Upon successful completion of core and technical elective courses, the student will be required to complete a qualifying examination. The examination is scheduled after the last day of the final examination period and before the end of the fall semester and the spring semester each year. The examination will be in two parts: One covering the core courses and one covering the technical elective subjects. An overall grade of 70 percent on each part of the written examination is passing. Students who score below 70 percent on certain parts of the written examination are given the option of retaking exams on areas in which they scored less than 70 percent. The student must score at least 70 percent in each subject that is retaken. Normally, two failures will result in the student's dismissal from the Ph.D. program. After passing the Qualifying Exam, the student advances to candidacy.

Proposal Defense: Within ~~four~~ semesters after successful completion of the Qualifying Exam, the candidate must orally defend the dissertation proposal to the Dissertation/Supervisory Committee for approval. The student ~~shall~~ submit a written proposal report to the Dissertation/Supervisory Committee for review prior to the oral presentation.

Deleted: two

Deleted: should

Dissertation Defense: The doctoral dissertation shall be written in the format specified by the Graduate College. The dissertation must be defended orally and represent an original piece of research that advances the body of knowledge in the field. A written dissertation is submitted to the members of the committee who may approve, suggest additional work or reject the dissertation work after the defense.