

Doctor of Philosophy Degree in Civil Engineering with Specialization in: Transportation Engineering

DEGREE REQUIREMENTS: The Ph.D. degree requires at least 90 credits beyond the bachelor's degree. The Ph.D. student does the major work in an academic unit specifically approved for offering doctoral courses and supervising dissertations. At least a B (3.00 truncated) is needed for courses included in the major (overall and major/departmental courses).

ADVISING: Students will arrange to meet with their committee chair/advisor to complete the Program Plan of Study (PPS) found on the ESSIE website under the forms area. The student will also be provided with information about the completion of the Individual Development Plan (IDP). The PPS is done one time unless changes are made. The IDP, which is found in Canvas, is done annually in conjunction with a scheduled advisement meeting with your Chair.

Program Plan of Study (PPS)

The PPS includes supervisory committee member approvals, course advisement, transfer credit requests, and optional minor and certificate request information. Your program plan is due by the mid-point of your third semester. If it is not received by that point, you will have a hold placed on your record and you will not be permitted to register for subsequent terms until the form is submitted by you to gradforms@essie.ufl.edu and processed by the ESSIE Graduate Academic Student Records staff.

Supervisory Committee Establishment and guidelines

Membership: The supervisory committee for a doctoral candidate comprises at least four members selected from the Graduate Faculty. At least two members, including the chair, must be from the academic unit recommending the degree. At least one member serves as an external member and should be from a different educational discipline, with no ties to the home academic unit. One regular member may be from the home academic unit or another unit. A co-chair may also be appointed.

Co-chair: To substitute for the chair of the committee at any examinations, the co-chair must be in the same academic unit as the candidate.

External member:

- Represents the interests of the Graduate School and UF
- Knows Graduate Council policies
- Serves as an advocate for the student at doctoral committee activities.
- If the academic unit's committee activity conflicts with broader University policies or practices, the external member is responsible for bringing such conflicts to the attention of the appropriate governing body. Therefore, the external member is prohibited from holding any official interest in the doctoral candidate's major academic unit. Faculty holding joint, affiliate, courtesy, or adjunct appointments in

the degree-granting academic unit cannot be external members on a student's committee.

Minor member: The Graduate Faculty member who represents a minor on a student's committee may be appointed as the external member if he/she does not have a courtesy graduate appointment in the student's major academic unit.

Retired faculty: Graduate Faculty members who retire may continue their service on supervisory committees for 1 year. With approval of the academic unit, retired faculty may continue serving on existing or new committees beyond this period.

Special appointments: People without Graduate Faculty status may be made official members of a student's supervisory committee through the special appointment process. Appropriate candidates for special appointments include

- Individuals from outside UF with specific expertise who contribute to a graduate student's program of study
- Tenure-track faculty not yet qualified for Graduate Faculty status
- Non-tenure-track faculty or staff at UF who do not qualify for Graduate Faculty status

The following limitations are in place for special appointments:

- These individuals do not hold Graduate Faculty appointments
- They have a special appointment that is specific only to an individual student's committee
- **They may not serve as a supervisory committee chair, co-chair, external member, or minor representative.**

The student's supervisory committee chair requests the special appointment, briefly explaining what the special appointment contributes to the supervisory committee. A special appointment is made for a specific supervisory committee. If a student changes to a new degree or major and the committee chair wishes to include the special member on the new supervisory committee, another request must be submitted to the Graduate School for the new committee.

Transfer of Credit

No more than 30 credits of a master's degree from another institution will be transferred to a doctoral program. If a student holds a master's degree in a discipline different from the doctoral program, the master's work will not be counted in the program unless the academic unit petitions the Dean of the Graduate School. All courses beyond the master's degree taken at another university to be applied to the Ph.D. degree must be taken at an institution offering the doctoral degree and must be approved for graduate credit by the Graduate School of the University of Florida. All courses to be transferred must be graduate-level, letter-graded with a grade of B or better and must be demonstrated to relate directly to the degree being sought. (NOTE: Research hours are not included because they are not letter-graded.) All such transfer requests must be made by petition of the supervisory committee no later than the third term of Ph.D. study. The total number of credits (including 30 for a prior master's degree) that may be transferred cannot exceed 45, and in all cases the student must complete the qualifying

examination at the University of Florida. In addition, any prior graduate credits earned at UF (e.g., a master's degree in the same or a different discipline) may be transferred into the doctoral program at the discretion of the supervisory committee and by petition to the Graduate School. The petition must show how the prior course work is relevant to the current degree. All master's degrees counted in the minimum 90 credit hours must be earned in the last 7 years.

Minors

Minor work must be in an academic unit other than the major. If an academic unit contributes more than one course (as specified in the curriculum inventory and/or the Graduate Catalog) to the major, the student is not eligible to earn a minor from the contributing academic unit. A 3.00 (truncated) GPA is required for minor credit. To obtain a minor in another department area, the student will need approval from that department and to check on what the requirements are for that program. If a minor is chosen, the supervisory committee includes at least one Graduate Faculty member representing the student's minor. If the student elects more than one minor, each minor area must be represented on the supervisory committee. Therefore, committees for students with two minors must have a minimum of five members.

Certificates

A list of available certificates is located on the [Graduate School](#) website. If a student is interested in a certificate, an application for admission for the certificate must be completed and submitted. It is best to do this prior to enrolling in the first course that should be counted toward the certificate. To obtain the certificate, an application must also be submitted to graduate with the certificate. This should be done during the semester when the last course is completed or thereafter.

Coursework Requirements

A total of 14 courses in transportation engineering are offered by the faculty members in transportation engineering. These classes are organized into three streams. The PhD pre-qualifying exam (discussed further in the section on QUALIFYING EXAM) generally includes one or more questions from each of the six faculty members on the courses they teach. The PhD students should seek to take at least one class from each of the three streams and classes from at least four of the transportation faculty members within the first year of their graduate studies so that they are prepared for the pre-qualifying exams. The courses must be chosen in consultation with the faculty advisor and considering past classes taken (if any) at a previous graduate-degree program (see also section on Transfer of Credits). Upon completion of the pre-qualifying exam, the faculty may recommend students to take additional transportation classes to enhance their breadth of knowledge. Once the requirements of the pre-qualifying exam are satisfied, the students can complete the remaining coursework (credit requirements) by choosing courses from any department in UF to best suit their dissertation work. This overall program of work will be developed by the student in consultation with the faculty advisor.

Operations and Simulation

Instructor	Course No.	Title
Elefteriadou	TTE 6267	Traffic Flow Theory
Elefteriadou	TTE 6259	Urban Streets Simulation and Control
Washburn	TTE 5256	Traffic Engineering
Washburn	TTE 6205	Freeway Operations and Simulation
Washburn	CGN 6905	Advanced Traffic Simulation*

Planning and Analytics

Instructor	Course No.	Title
Srinivasan	TTE 5106	Advanced Urban Transportation Planning
Srinivasan	TTE 6505	Discrete Choice Analysis
Zhao	EGN 5215	Machine Learning Applications in Civil Engineering
Zhao	CGN 6905	Transportation Data Analytics
Yan	CGN 6905	Applied Data Science in Civil and Environmental Engineering
Yan	CGN 6905	Sustainable Transportation and Public Transit

Networks, Safety, and Design

Instructor	Course No.	Title
Du	TTE 5305	Advanced Transportation Systems Analysis
Du	TTE 6606	Urban Transportation Models
Guo	TTE 6315	Highway Safety Analysis
Guo	TTE 5805	Geometric Design of Transportation Facilities

If a student holds an assistantship, the student should be registered for 9 credit hours during the Fall and Spring and 6 credit hours during the summer to maintain the appointment. If the student registers for more than that, the student will have to pay out of pocket based on the student's residency. Anything less than 9 credit hours is considered part-time in the Fall and Spring and anything less than 6 is considered part-time in the summer. Advanced Research (7979) is open to doctoral students not yet admitted to candidacy (classified as 7 and 8). Students enrolled in 7979 during the term they qualify for candidacy will stay in this registration unless the academic unit elects to change their enrollment to Research for Doctoral Dissertation (7980), which is reserved for doctoral students admitted to candidacy (classified as 9). During the student's final term, the student must be registered for research hours (a minimum of 3 in the Fall and Spring and 2 in the summer). If the graduating student is on an appointment, the student must be registered full-time based on the appointment requirements.

QUALIFYING EXAMINATION: All Ph.D. students must take the qualifying examination. It may be taken during the third term of graduate study beyond the bachelor's degree. The student must

be registered in the term the qualifying examination is given. The examination, prepared and evaluated by the full supervisory committee or the major and minor academic units, is both written (sometimes referred to as a preliminary exam) and oral (sometimes referred to as the oral defense) and covers the major and minor subjects. In the Transportation Engineering program, the students are expected to take their written preliminary exam (also called the prequalifying exam) after completing two full semesters in the graduate program and the oral exam (also called proposal defense) much later (after making significant progress towards the dissertation).

Preliminary Exam (Pre-qualifying Exam): Pre-qualifying exams are administered every summer (typically in May, a couple of weeks after the end of the spring semester). The students are provided with one or more questions from each of the six faculty members covering the courses they teach. The students are expected to answer a total of four questions (one each from two of the streams and two from a third stream). This exam is typically open book / open notes and will be held over a period of 1 day. In addition, the student will also be required to submit a research paper on a topic provided by their advisor. The student must coordinate with the advisor to agree upon this research topic by early spring semester so that they have enough time to work on it. If a student's performance in the written exam / paper was not satisfactory, the faculty members may choose to have an oral follow up exam. If the oral exam was not satisfactory either, the student is considered to have failed (under exceptional circumstances the faculty members may recommend a written re-examination to be taken later in summer or in early Fall). The faculty members (and advisor in particular) will discuss with the student why a PhD at UF is not the right fit for them and develop a plan of action for the student's graduation with a master's degree. If the student passes the exam overall, they can then proceed to start working on their dissertation. Passing the preliminary exam does not advance the student to candidacy.

Oral Exam (Proposal Defense) and Advancement to Candidacy: Once the student has made adequate progress towards their dissertation, the student in consultation with the advisor will schedule the oral exam (1.5 – 2 hours in duration) or the proposal defense. This exam is evaluated by the full supervisory committee or the major and minor academic units. The student should provide the entire supervisory committee a written proposal **at least two weeks in advance of this exam**. This document should be complete, formatted per university guidelines, and edited for spelling, grammar etc. The student will present their work to the committee and answer questions from the members. Except for allowed substitutions, all members of the supervisory committee must attend the oral part. The student and chair or co-chair must be in the same physical location. With approval of the entire committee, other committee members may attend remotely using modern technology. At this time the supervisory committee is responsible for deciding whether the student is qualified to continue work toward a Ph.D. degree. If the student passes, they advanced to candidacy. If a student fails the qualifying examination, the Graduate School should be notified. A re-examination may be requested, but it must be recommended by the supervisory committee. At least one term of additional preparation is needed before re-examination.

***Time lapse:** Between the oral part of the qualifying examination (proposal defense) and the date of the degree there must be at least 2 semester terms. The term the qualifying examination is passed is counted, if the examination occurs before the midpoint of the term.

ADMISSION TO CANDIDACY: A student is admitted to candidacy upon completion of the qualifying exam when all committee members have approved the candidacy form and approved the dissertation topic.

FINAL TERM REQUIREMENTS: A student about to graduate should check the Graduate School website for deadlines and final term requirements. This would include the Editorial Office's guidelines as well.

- Apply for the degree/certificate (found on the Office of the University Registrar website or in ONE.UF)
- Transmittal Letter (Request from the ESSIE Graduate Records staff.) This is submitted by the student's chair to gradforms@essie.ufl.edu for processing.
- First Submission
- Final Exam (Packet found on the ESSIE website under the forms area.) This is submitted by the student's chair to gradforms@essie.ufl.edu for processing.
- Final Submission
- Degree Certification and Final Clearance

The students are strongly encouraged to schedule a defense date early in the graduating semester. The student should provide the committee with a draft of the dissertation at least **two weeks prior** to the scheduled defense date. This document should be complete, formatted per university guidelines, and edited for spelling, grammar etc.