Introduction

The Ph.D. Program provides contemporary and significant research topics in structural and advanced material engineering, experimental, computational and theoretical mechanics, environmental engineering, and geotechnical and transportation engineering. Students are expected to formulate and analyze these problems using modern experimental methods of investigation, numerical simulations, mathematical analysis, and computer modeling. The Program also develops students’ interdisciplinary communication skills, thereby enhancing their ability to interact with other professionals.

The following provides broad guidelines regarding program requirements for the Ph.D. degree. For more detailed information the student should consult the document on Interdisciplinary Doctoral Procedures provided by the College of Engineering.

Academic Matters - Ph.D. Degree in Engineering

The first year of the Ph.D. Student

Upon arrival the student will meet with graduate committee members. This committee will conduct a placement review to determine an appropriate initial plan of study consisting of at most 18 credit hours. Before completion of the initial plan of study the student must identify an interdisciplinary field of study, a dissertation director and form an interdisciplinary doctoral curriculum (IDC) committee.

The chair of the IDC Committee must be in the Department of Civil Engineering.

The IDC Committee shall consist of at least five faculty members, of whom at least two members must be from the Civil Engineering Department and one from outside the College of Engineering.

The Plan of Study

The Plan of Study is established by the IDC Committee in accordance with the following guidelines:

The Plan of Study has a minimum of 96 total credit hours with a minimum of 45 credits of coursework. At least 36 credits of the coursework must be at the 600-700 level approved by the IDC Committee. At least 6 credits of the coursework must be from outside of the Civil Engineering Department.

The intent of the coursework in the Plan of Study is to provide background necessary to conduct the dissertation research. Coursework for other purposes may be included in the Plan of Study only if the IDC Committee deem appropriate.

The Plan of Study must include a language requirement as specified by the IDC Committee.
The Qualifying Examination

The Qualifying Examinations consist of two components: one component covers at least two topics in math/science and is composed by the respective departments; the second component includes as a minimum three topics in civil engineering and is composed by the faculty of Civil Engineering Department.

The Qualifying Examinations is normally offered once a year. It must be taken no later than the end of the student's first year of study. At most one retake of the examination is allowed.

The Candidacy Examination

The purpose of the Candidacy Examination is to test the student's ability to conduct independent research. The student must pass the Candidacy Examination composed and administered by the IDC Committee within one year after passing the Qualifying Examination. The student cannot enroll in doctoral dissertation credits before becoming a doctoral candidate upon passing the Candidacy Examination.

Upon submission of the Dissertation Proposal by the doctoral candidate, the IDC Committee determines the way in which the Candidacy Examination is to be conducted. At most one re-examination may be granted if the IDC Committee concurs and sets a time limit for the re-examination.

The Dissertation Proposal

The student must present an acceptable Proposal for Dissertation Research to the IDC Committee. This should be done within one year after passing the Qualifying Examinations. The proposal shall be in written form and given to the IDC Committee at least 10 days prior to the scheduled date of the Dissertation Proposal oral presentation.

The Dissertation and Oral Defense

The dissertation must be a scientifically acceptable and comprehensive study whose format meets all accepted standards of the College of Engineering and the IDC Committee. The written dissertation should be given to the IDC Committee at least 10 days prior to the scheduled date of the oral defense. The doctoral candidate must successfully pass this oral defense allowing no “fail” vote from the members of the IDC Committee.