

Structural Engineering PhD Program Requirements at OSU

Number of Credits: In accord with OSU Graduate School requirements, there is no rigid credit requirement; however, the equivalent of at least three years of full-time graduate work beyond the bachelor's degree (at least 108 graduate credits) is required. Effective fall 2005, all graduate student programs of study submitted to the Graduate School must consist of, at a minimum, 50% graduate stand-alone courses. The remaining credits may be the 500 component of 400/500 slash courses. After admission into the doctoral program, a minimum of one full-time academic year (at least 36 graduate credits) should be devoted to the preparation of the thesis. The equivalent of one full-time academic year of regular non-blanket course work (at least 36 graduate credits) must be included on a doctoral program. It is not recommended that a student obtain all of his or her academic training through the doctoral degree at a single institution.

The student's doctoral study program is formulated and approved subject to departmental policies at a formal meeting of his or her doctoral committee, which consists of a minimum of five members of the graduate faculty, including two from the major department and a representative of the Graduate Council. If a minor is declared, it must consist of at least 18 credits (15 credits for an integrated minor) and the committee must include a member from the minor department. All committee members must be on the graduate faculty with appropriate authorization to serve on the student's committee.

No more than 15 credits of blanket-numbered courses, other than thesis, may be included in the minimum 108-credit program.

Qualifying Exam: To be taken within the first year of residence at OSU. Students who are from a non-Civil Engineering background may postpone the exam for up to one year in order to complete needed coursework in structural engineering fundamentals. The qualifying exam is offered once per year in the first week of summer term.

Purpose: To evaluate PhD students' aptitude and preparation for successful research and understanding of structural engineering fundamentals. A consensus decision on the outcome will be made by the structural engineering faculty following the exam: passing the student, failing the student, or a conditional pass requiring the student to complete specific additional coursework or self-study to improve understanding of particular areas. A student failing the exam will be given one opportunity for a re-examination no later than at the end of the fall term following the exam. Students failing the exam the second time will be discontinued from the PhD program.

Format: A one-day comprehensive written exam (portions may be open book and portions may be closed book), followed later that week by a 2-hour comprehensive oral exam involving all of the structural engineering faculty members. Both exams will cover fundamentals of structural design (steel, reinforced concrete, wood, masonry), analysis (determinate/indeterminate structures, matrix analysis, finite element analysis, reliability) and dynamics (structural dynamics, seismic design, nonlinear dynamics, random vibrations). Students taking the exam need to select two (2) of the above courses in each of the three (3) areas for a total of six (6) course areas to be tested. Each student taking the exam must inform the head of the structural engineering group (Dr Solomon Yim, Solomon.Yim@orst.edu) in writing of the six (6) course areas no later than one month prior to the exam date. A student must receive a "pass" on both the written and oral portions of the exam (passing at least 4 of the 6 areas on both portions, and at least one each in the design, analysis and dynamics disciplines) to earn at least a conditional pass on the overall examination.

PhD Program Meeting: As required by the OSU Graduate School within the first year of residence as a PhD student at OSU. To determine if all necessary coursework is included in the student's PhD program plan.

Preliminary Exam: As required by the OSU Graduate School. Usually to be taken during the second year of residence at OSU, on completion of the student's proposal for the PhD research topic, and most of the PhD coursework. This preliminary examination involves a formal presentation of the research proposal, followed by questions from the student's committee.

PhD Dissertation Defense: As required by the OSU Graduate School at completion of all PhD coursework and the dissertation. This is the time for the student's committee to examine the student's PhD dissertation based on a formal presentation of the work and a review of the written dissertation. It is strongly recommended that students prepare the dissertation in manuscript format as a collection of papers ready for submission to technical journals.