



# University of Colorado Denver

## DEPARTMENT OF CIVIL ENGINEERING

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## **DEPARTMENT OF CIVIL ENGINEERING UNIVERSITY OF COLORADO DENVER**

### **Rules and Policies for the Coordinated Ph.D. Graduate Program**

The Civil Engineering Ph.D. Program at CU Denver is offered through coordination with the Department of Civil, Environmental and Architectural Engineering (CEAE) at CU Boulder. The following rules and policies for the CE Department supplement those of the UCD Graduate School. It is the responsibility of the student to know and follow the rules and policies of the Department and the Graduate School. Unless otherwise specified, exceptions to the rules must be petitioned by the student in writing and must have the approval of the Thesis Advisor and the Chair of the Graduate Committee.

### **Program Tracks**

The Department has the five traditional graduate specialty areas: Geotechnical Engineering, Environmental Engineering, Structural Engineering, Transportation Engineering and Water Resources. The Department also offers a Civil Engineering Systems track for which the rules differ from the traditional tracks due to its interdisciplinary nature.

### **Admissions Policies**

The PhD admissions procedure proceeds in two phases. First, the student makes application to CU Denver and that application is processed through the UCDHSC Civil Engineering Graduate Committee. Application files for those applicants that are approved are then reviewed in coordination with the Boulder CEAE Graduate Committee and a final decision made. This procedure occurs approximately once each semester.

Recommendations for admission to the Ph.D. program shall be the decision of the Graduate Committee considering all evidence documenting the applicant's creative ability and promise for an outstanding engineering career at the highest level. Students are admitted to a particular specialty area. If a student wishes to change the specialty area then written permission of the Graduate Committee must be obtained.

Graduates from non-engineering curricula will, in general, have undergraduate deficiencies to be determined by their advisors according to the following principles:

- a. The student is expected to acquire a background sufficient to address engineering problems in a rational manner. The student should therefore have a foundation in mathematics and basic science equivalent to that required for a Bachelor of Science in Engineering.
- b. The student is expected to acquire an undergraduate background in an appropriate field of engineering specialization.

Each of the program areas has established undergraduate deficiency requirements (available from the UCD Department of Civil Engineering).

## **Advising**

All students are urged to determine a Thesis Advisor and a research theme at the earliest opportunity. Students who have not identified a Thesis Advisor may not be admitted to the PhD program. The Thesis Advisor will be a person with whom the student will work closely in preparing a degree program, finding a research topic for the dissertation, naming the advisory committee members, etc., and will be responsible for: (a) for determining course deficiencies, if any, (b) approving a degree plan for the student, and (c) monitoring the advisee's academic progress. When approved by the Thesis Advisor, this becomes the student's degree plan and is filed in the student's departmental record. Changes to the degree plan require the approval of the Thesis Advisor. Change of the specialty area of study and/or the Thesis Advisor will require approval of the Graduate Committee.

## **Graduate Coursework**

### **Courses for Credit**

In accordance with Graduate School Rules, a minimum of 30 semester hours of course work at the 5000 level or above is required for the Ph.D. The program of study would be defined by the student's advisor in collaboration with CU graduate faculty having interest in the student's research theme. For any of the five traditional tracks, at least 9 hours of graduate credit must be taken at the Boulder CEAE Department. For the CE Systems track, at least 3 hours of graduate credit must be taken at the Boulder CEAE Department.

Up to 15 semester hours of 5000 level or above course work or above may be transferred from another institution and applied toward the 30 hours minimum course work requirement. For a student who has obtained an M.S. degree at the University of Colorado (Denver or Boulder campus), up to 21 semester hours of 5000 level or above course work may be transferred.

In accord with the Rules of the Graduate School, 30 hours of dissertation research credit are required.

### **Quality of Graduate Level Work**

The minimum requirements for level of academic work are contained in the Rules of the Graduate School. Decisions regarding whether or not a student must repeat a course, or substitute another course as a result of receiving a grade less than B- are the responsibility of the academic advisor. (See Repeating a Course in the Graduate School Rules).

A student who fails to do satisfactory work will be subject to suspension from the Graduate School by the Graduate Dean.

### **Language Requirement**

The Department does not have a foreign language requirement.

### **Thesis Advisor and Committee**

The student shall select a Thesis Advisor who is willing to supervise his/her thesis; this should occur at the time of application to the program. The Thesis Advisor must be a member of the resident graduate faculty in Civil Engineering at UCD. If the student cannot find a Thesis Advisor, he/she will not be admitted to the PhD Program. An Advisory and Examination Committee shall be formed when the student is prepared for the Comprehensive Examination (see below). For any of the traditional tracks, the student's committee shall be comprised of at least 5 members of the graduate faculty, two of whom are from the Boulder CEAE Department and another member from outside the Denver CE or Boulder CEAE departments. For the CE

Systems track, the Committee could be formed by 5 members of the at large CU graduate faculty having interest in the research theme. If the Chair of the doctoral student's Advisory and Examination Committee is not a full-time member of the Department's resident faculty, then a Co-Chair must be appointed who is a full-time member of the Department's resident faculty. If at some point the student desires to change his/her Thesis Advisor, then the student must petition the Graduate Committee whose approval is required. If the student wishes to transfer from the Denver CE PhD program to the Boulder CEAE PhD program, then approval of the Boulder Graduate Committee is required.

## **Examinations and Dissertation**

### **Preliminary Examination**

The purposes of the Preliminary Examination are to evaluate the potential of prospective Ph.D. candidates and to identify subject matter areas in which a student may need additional study. Each doctoral student must take a Preliminary Examination as determined by the faculty of the specialty area in which the student is enrolled when the Thesis Advisor considers it appropriate. The content of this examination will include material at the terminal Master's level and will be formulated by graduate faculty members in the program track. The student must pass the Preliminary Examination in order to continue in the Doctoral Program. Failure to pass the Preliminary Examination may be remedied by repeating the examination after not less than one year from the first attempt. Failure to pass the exam a second time will result in the student's suspension from the Graduate program.

### **Comprehensive Examination**

When the student is ready to take the Comprehensive Examination, the student's Thesis Advisor shall recommend to the Program Director an examination committee selected in accordance with the Rules of the Graduate School. The Committee membership should be formulated as defined above in the section Thesis Advisor and Committee. The Application for Admission to Candidacy must be filed at least 14 days before the Comprehensive Examination.

The Comprehensive Examination shall consist of an oral and possibly a written examination depending on the program track. The exam may not be attempted until the student's last semester of formal course work. The student may be questioned in any pertinent field, whether or not the course work has been completed. At the Comprehensive Examination, the student shall present a proposal for the dissertation research to the Advisory Committee for approval.

Failure to pass the Comprehensive Examination may be remedied by repeating the examination after an interval of not less than four months. Failure to pass the second time will result in the student's suspension from the Graduate program.

### **Dissertation Requirement**

The dissertation will be based upon an original investigation carried out by the candidate, showing mature scholarship and critical judgment, as well as familiarity with tools and methods of research. The student's advisory committee must approve the research topic.

### **Final Examination**

The Final Examination (Dissertation Defense) will be given in accordance with the Rules of the Graduate School.