

# CIVIL ENGINEERING, PHD

*for the degree of Doctor of Philosophy in Civil Engineering*

The Department of Civil and Environmental Engineering, consistently ranked as having one of the best graduate programs in the country, offers graduate work leading to master's and doctoral degrees. These are in a variety of specialized areas through departmental programs which are described on this page.

Opportunity exists for specializing in computational science and engineering via the Computational Science & Engineering (<http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/>) optional graduate concentration.

## Department Research

Areas of study and research pursued by our world-renowned faculty are focused in the following ten specializations:

- construction management
- environmental engineering and science
- environmental hydrology and hydraulic engineering
- geotechnical engineering
- materials
- structural engineering
- transportation engineering
- sustainable and resilient infrastructure systems
- energy-water-environment sustainability
- societal risk and hazard mitigation
- engineering materials and additive manufacturing technologies

More information about these specialized areas may be found at the department's research website (<https://cee.illinois.edu/areas/>).

Through the research centers based in the department, CEE students participate in a wide range of groundbreaking research projects with immediate relevance to real-world engineering applications. For more information, see the department's research centers website (<https://cee.illinois.edu/research/research-centers/>).

CEE at Illinois is one of the nation's best-equipped programs, with a broad range of facilities for civil and environmental engineering education and research. For more information, see the department's research facilities website (<https://cee.illinois.edu/research/research-facilities/>).

*for the degree of Doctor of Philosophy in Civil Engineering*

The degree of Doctor of Philosophy, primarily a research degree, requires from three to four years of graduate study beyond the master's degree.

The major area of specialization encompasses courses and research that are closely related, but the courses need not be offered by a single major department. Candidates must demonstrate a capacity for independent research by preparing an original thesis on a topic within the major field of study, must meet the qualifying requirements or

examination in the area of specialization, and must pass both preliminary and final examinations.

For additional details and requirements refer to the department's Graduate Handbook (<https://ws.engr.illinois.edu/sitemanager/getfile.asp?id=3334>) and the Graduate College Handbook (<http://grad.illinois.edu/gradhandbook/>). Qualifying Exam information can be found here. (<http://cee.illinois.edu/academics/graduate-programs/phd-degree-and-curriculum/>)

## Entering with an approved Master's Degree:

Code	Title	Hours
CEE 599	Thesis Research (min-max applied toward degree)	32
Elective courses (subject to Other Requirements and Conditions below)		32
<b>Total Hours</b>		<b>64</b>

## Other Requirements

Requirement	Description
Other Requirements and Conditions may overlap	
A maximum of 8 hours of CEE 597 (or other independent study) may be applied toward the elective course work requirement; approval required.	
There is no department-wide foreign language requirement. However, the faculties of some areas of specialization may require foreign language proficiency if essential to the conduct of research in that area.	
64 graduate hours must be completed in residence.	
A Masters degree is required for admission to the Ph.D. program.	
Ph.D. exam and dissertation requirements:	
Qualifying exam	
Preliminary exam	
Final exam or dissertation defense	
Dissertation deposit	
The minimum program GPA is 2.75.	

## Entering with an approved Baccalaureate Degree:

Code	Title	Hours
CEE 599	Thesis Research	32-40
Elective Courses (subject to Other Requirements and Conditions below)		56-64
<b>Total Hours</b>		<b>96</b>

## Other Requirements

Requirement	Description
Other Requirements and Conditions may overlap	

A maximum of 8 hours of CEE 597 (or other independent study) may be applied toward the elective course work requirement; approval required.

There is no department-wide foreign language requirement. However, the faculties of some areas of specialization may require foreign language proficiency if essential to the conduct of research in that area.

24 credit hours must be in major field. 24 credit hours of elective coursework must be at the 500-level, with at least 12 hours in major field.

64 graduate hours must be completed in residence.

Ph.D. exam and dissertation requirements:

Qualifying exam

Preliminary exam

Final exam or dissertation defense

Dissertation deposit

The minimum program GPA is 2.75.

*for the degree of Doctor of Philosophy in Civil Engineering*

1. Ability to identify and utilize advanced mathematical, computational, design and/or experimental skills to solve complex problems in civil and environmental engineering.
2. Demonstrate technical knowledge and depth in at least one or more CEE subject areas and breadth of knowledge in at least one additional area.
3. Demonstrate the ability to communicate effectively (written, oral presentation, and other media) technical ideas, design concepts, or research results.
4. Understanding of the student's professional and scientific ethical responsibilities;
5. Propose, plan, and execute original research idea that target current or future societal challenges related to civil and environmental engineering.
6. Demonstrate skills to teach technical subjects in CEE at the university level.

*for the degree of Doctor of Philosophy in Civil Engineering*

## Admission Requirements

The Department of Civil & Environmental Engineering accepts applications for admission to the graduate program for both fall and spring semesters.

Admission to the Graduate College with full status in civil engineering is granted to graduates of accredited institutions whose requirements for the master's degree are substantially equivalent to those of the University of Illinois, provided the applicant's preparation is

appropriate for advanced study in his or her chosen major field and his or her cumulative grade point average is at least 3.00 (A = 4.00). The Graduate Record Examination (GRE) (<http://www.ets.org/portal/site/ets/menuitem.fab2360b1645a1de9b3a0779f1751509/?vgnnextoid=b195e3b5f64f4010VgnVCM10000022f95190RCRD>) is currently optional. However, it is strongly recommended that the GRE test be submitted to help faculty with admission and funding decisions for all PhD applicants. If GRE scores are submitted, CEE does not have minimum scores for admission. GRE scores are only valid for five years prior to the proposed term of entry. For additional information, see the departmental website (<https://cee.illinois.edu/admissions/graduate/>).

All applicants whose native language is not English are required to submit TOEFL (<http://www.toefl.org/>) or International English Language Testing System (IELTS) (<http://www.ielts.org/>) scores as evidence of English proficiency. Minimum admission requirements (<https://grad.illinois.edu/admissions/instructions/04c/>) are set by the Graduate College.

## Financial Aid

Financial aid is available in the form of fellowships and research and teaching assistantships. Starting in Fall 2020, Grainger Engineering PhD students in their first five years of enrollment who meet the minimum eligibility requirements (<https://grainger.illinois.edu/academics/graduate/phd-funding-guarantee/>) are guaranteed a funded appointment for fall and spring that includes a full tuition waiver, a partial fee waiver, and a stipend.

All applicants, regardless of US citizenship, whose native language is not English and who wish to be considered for teaching assistantships must demonstrate spoken English language proficiency (<http://www.grad.illinois.edu/admissions/taengprof.htm>) by achieving a minimum score of 50 or 24 on the speaking subsection of the TOEFL iBT or 8 on the speaking subsection of the IELTS. For students who are unable to take the iBT or IELTS, a minimum score of 4CP is required on the EPI test ([http://cte.illinois.edu/testing/oral\\_eng/epi\\_overview.html](http://cte.illinois.edu/testing/oral_eng/epi_overview.html)), offered on campus. All new teaching assistants are required to participate in the Graduate Academy for College Teaching (<https://citl.illinois.edu/citl-101/teaching-learning/grad-academy-for-college-teaching/>) conducted prior to the start of the semester.

*for the degree of Doctor of Philosophy in Civil Engineering*

## Department of Civil & Environmental Engineering

Department Head: Ana Barros (<https://cee.illinois.edu/directory/staff/office-department-head/>)

Director of Graduate Studies: Scott Olson ([olsonso@illinois.edu](mailto:olsonso@illinois.edu))

Department website (<https://cee.illinois.edu/>)

Program website (<https://cee.illinois.edu/academics/graduate-programs/phd-degree-and-curriculum/>)

Department Faculty (<https://cee.illinois.edu/directory/faculty/>)

1108 Newmark Civil Engineering Lab, 205 N Mathews Ave, Urbana, IL 61801

(217) 265-4496

[civil@illinois.edu](mailto:civil@illinois.edu)

## **Grainger College of Engineering**

Grainger College of Engineering website (<https://grainger.illinois.edu/>)

### **Admissions**

Graduate Contact: K (civil@illinois.edu) atya Trubitsyna (civil@illinois.edu)

Departmental Admissions & Requirements (<https://cee.illinois.edu/admissions/graduate/>)

Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)