

# Civil Engineering

## Degrees Available at SIUE

- Master of Science in Civil Engineering
- A PhD in Engineering Science is offered in cooperation with SIUC.

## Specialized Learning Opportunities

- Environmental/Water Resources Engineering Specialization
- Geotechnical Engineering Specialization
- Structural Engineering Specialization
- Transportation Engineering Specialization
- Civil Engineering Professional Development Sequence
- Early Entry BS and MS in Civil Engineering

## Civil Engineering at SIUE

A comprehensive program through the School of Engineering allows students to pursue a graduate degree in civil engineering while gaining expertise in the field. Students may choose a concentration in environmental/water resources, geotechnical, structural or transportation engineering. Whether students are working professionals or full-time students, the graduate program introduces them to the skills and knowledge they need for professional advancement. Students will have the opportunities to conduct field and lab-based research and learn from highly-qualified faculty who are experts in their respective fields.

## Why Earn a Master's in Civil Engineering?

Future professional engineering (PE) licenses might require a Master of Science degree. Our program prepares students to meet engineering education requirements established by the American Society of Civil Engineers (ASCE).

Improve your ability to take and pass the Practices and Principles of Engineering exam.

- Our graduate program allows you to complete one year of experience towards your PE license, a benefit that does not apply to an MBA.
- Learn materials relevant to the PE exam.
- Take advantage of courses to refine your study skills for preparing to take the PE exam.
- Textbooks from your master's courses are useful references for the PE exam and to build your personal library.

Find the job and the projects you want.

- Many civil engineering employers prefer those with a master's degree.
- Some employers require new hires to have a master's in Civil Engineering.
- Civil engineers with graduate degrees earn more annually compared to undergraduate degrees.
- Larger and more challenging projects are more commonly managed by those with master's degrees.

Funding may be provided by your employer or by SIUE.

- Many employers offer tuition reimbursement for relevant coursework.
- Graduate assistantships can provide a stipend and waive your tuition costs.

## Why earn your master's at SIUE?

Join a student-focused educational environment. Never feel like a number in a large online class. Class times are scheduled to accommodate working professionals.

Learn from licensed professionals. The vast majority of our faculty are licensed professional engineers, bringing real-world experience into the classroom.

Experience our modern facilities. The SIUE Engineering Building was completed in 2001, with significant additions in 2015 and 2017. Our facilities provide a world-class environment for students to learn and participate in research.

Network with other St. Louis civil engineers while taking courses at our Metro East suburban campus.

Grow your resume with the resources available at our Career Development Center, Writing Center and other resources that are not available at the branch campuses of other universities.



## Faculty

### Rohan Benjankar, PhD

2009, University of Idaho  
*Environmental/Water Resources Engineering*

### Brad Cross, PhD, PE, SE

1992, Johns Hopkins University  
*Structural Engineering*

### Ryan Fries, PhD, PE

2007, Clemson University  
*Transportation Engineering*

### Jianwei Huang, PhD, PE

*Graduate Program Director*  
2010, Syracuse University  
*Structural Engineering*

### Susan Morgan, PhD, PE

1995, Clemson University  
*Environmental/Water Resource Engineering*

### Abdolreza Osouli, PhD, PE

2009, University of Illinois-Urbana Champaign  
*Geotechnical Engineering*

### Nader Panahshahi, PhD

1987, Cornell University  
*Structural Engineering*

### Yan Qi, PhD, PE

2010, Louisiana State University  
*Transportation Engineering*

### Jianpeng (Jim) Zhou, PhD, PE, BCEE

2003, University of British Columbia  
*Environmental/Water Resource Engineering*

## Career Opportunities

A graduate degree in civil engineering from SIUE opens doors for students in a variety of areas. Potential employers consist of consulting engineering companies, government agencies, industries, or academia. With the right experience and advanced education, students can become self-employed consultants. An education from SIUE prepares students for advancement opportunities and places them in a better position to get the job they want in a competitive employment market.

## Admission Requirements

- Graduate School application and \$40 fee
- Submission of all postsecondary academic transcripts
- Successful completion of a bachelor's degree prior to enrollment
- Cumulative grade point average (GPA) in all undergraduate engineering, mathematics, and science courses of at least 2.75 on a 4.0 scale, or 70 percent on other scales. For those not meeting this requirement but having at least four (4) years of work experience, supporting evidence (such as a letter of explanation from the applicant, high GRE scores, letters of recommendation from employers, and PE licensure) will also be considered. International students are encouraged to submit GRE scores along with other required graduate admission documentation.
- International Applicants: Proof of English Proficiency, minimum requirements are TOEFL (79), IELTS (6.5) or equivalent

Program application materials may be uploaded during the application process, but official transcripts must be sent directly from the school attended, and test scores must be verifiable with the appropriate testing service. Please contact the Graduate Admissions office with questions regarding the application submission process at [graduateadmissions@siue.edu](mailto:graduateadmissions@siue.edu).

If admitted, those who do not have a Bachelor of Science in civil engineering may be required to complete prerequisite courses that are not for graduate credit. Note that a Master of Science will not typically qualify a candidate to take the PE licensure examination.

Review the SIUE Admissions Policy for more information.

## Graduation Requirements

### Thesis Option

After all requirements for the Master of Science are met, per the approved Program of Study, an oral final examination directed on the course work and related material on the thesis will be given by the advisory committee.

### Non-Thesis Option

After all requirements for the Master of Science are met, per the approved Program of Study, a final examination comprised of written elements, as well as an oral examination directed on the research paper will be given.

### Doctoral Degree

After all requirements for the doctoral degree are met, per the approved Program of Study, an oral dissertation defense will be given by the dissertation committee.

Review the graduation policy for more information.

## Courses Available

### Program of Study

After admission and before enrolling in any courses, students are required to meet with the Graduate Program Director, who appoints, in consultation with the student, an advisory committee suited to the student's background and interests. The advisory committee assists the student in planning a program of study. This plan is to be completed by the end of the first semester.

Because of the importance of communication to the engineering profession and the need for excellent writing skills to complete degree requirements, all students are required to satisfactorily complete a technical writing course. Students with good writing skills may elect to submit an essay to be evaluated for conditional exemption from the English course requirement. If conditional exemption is granted, the student will substitute another approved course in the plan of study.

At least 20 semester hours must be in courses taught in civil engineering, and at least 15 semester hours must be at the 500-level.

### Thesis Option

Students selecting the thesis option must complete a minimum of 30 semester hours. Students will be guided in thesis work by a thesis advisor, with the assistance and concurrence of the advisory committee. The number of hours to be awarded for thesis credit (CE 599- up to six (6) credit hours) is to be specified by the advisory committee prior to approval of the thesis proposal. Thesis credit counts as part of the 30 credits required for the degree. Writing a thesis involves an intensive research effort and may require about six months to complete. The thesis must be formally accepted by the Graduate School.

### Non-Thesis Option

Students selecting the non-thesis option must complete a minimum of 31 semester hours. Students prepare a research paper, the topic of which is mutually agreed upon by the student and the advisory committee. One (1) credit hour is awarded for non-thesis credit (CE 593) and counts as part of the 31 credits required for the degree. Guidelines are available on the Department's website.

In developing a plan of study, students need to consider which courses will enable them to reach their goals as a civil engineer. Students may wish to choose from a variety of courses available to assist them in the completion of their thesis or final research paper. Note that not all courses may be offered at all times and that course offerings do not guarantee availability of a spot in that class. It is up to students to review published schedules and consult with their advisor to find out when the courses are offered and how they will fit into their course of study schedules. In addition, it is up to students to assure that they have met the prerequisites for courses prior to enrollment.

### Doctoral Degree

A doctoral degree requires a minimum of 26 semester hours of course work, a qualifying exam and 24 semester hours of dissertation research.

## Contact Information

Jianwei Huang, PhD, PE  
Graduate Program Director  
Department of Civil Engineering  
Southern Illinois University Edwardsville  
Phone: 618-650-2498 or 618-650-2553  
Email: [jjahuan@siue.edu](mailto:jjahuan@siue.edu)