CIVIL ENGINEERING, M.S.

The Master of Science in Civil Engineering program at Saint Louis University focuses on the pursuit of academic excellence, strong industry partnerships, innovative teaching methodologies, and a culture of belonging. These elements collectively prepare students for successful careers and address the evolving needs of the region, nation and world.

As part of their degrees, students take graduate-level courses to deepen their knowledge, understanding, and skills in civil engineering subdisciplines, as well as perform independent discovery or design-focused original research under the guidance of SLU's graduate faculty members.

Curriculum Overview

This is a 30-credit-hour degree program. This includes six credit hours of required courses and six credit hours taken from a set of foundational courses. Students completing the nonthesis option will take an additional 18 credit hours of coursework. Students pursuing the thesis option will be enrolled in six credit hours of thesis research and an additional 12 credit hours of coursework.

Experiential and Applied Learning

Department of Civil Engineering graduate students gain valuable experience working with both faculty and peers. Additional opportunities to publish in scientific journals and attend professional conferences prepare our graduates for careers in industry or academia.

Saint Louis University's location in a vibrant and industry-rich city means that faculty members have access to and relationships with industry professionals. The School of Science and Engineering provides many opportunities for these professionals to interact with students, share their real-world experiences, network and even collaborate on research projects. Therefore, students have access not only to top-notch faculty but to the most recent developments in industry. The expert faculty of the Department of Civil Engineering collaborate with graduate students in groundbreaking research in the following areas:

- Autonomous vehicles and electric vehicles
- Environmental engineering
- Geotechnical engineering and geoenergy systems
- Structural engineering
- Transportation engineering
- Water resources and hydraulic engineering

Careers

Graduates of the master's program seek employment in industry or government. Some students continue their studies and pursue a doctoral degree.

Admission Requirements

Begin your application for this program at https://gradapply.slu.edu/apply/.

Most admitted students meet the following criteria:

- Undergraduate cumulative GPA of at least 2.75; cumulative GPA of 3.00 preferred.
- A four-year B.S. degree in Civil Engineering, or closely related engineering and science disciplines

Application Requirements

- Application form
- Transcript(s) from all colleges and universities attended
- Two letters of recommendation (preferably from recent instructors) FOR THESIS APPLICANTS ONLY
- Résumé or curriculum vitae
- Professional goal statement. The statement should clearly indicate students' interest in Civil Engineering and identify professional/research goals.

Requirements for International Students

Along with the general admission requirements above, the following must be provided by prospective international students:

- Demonstration of English Language Proficiency (https://catalog.slu.edu/academic-policies/office-admission/graduate/english-language-proficiency/).
- Proof of financial support that must include:
  - A letter of financial support from the person(s) or sponsoring agency funding the time at Saint Louis University.
  - A letter from the sponsor's bank verifying that the funds are available and will be so for the duration of study at the University.
- Academic records, in English translation, for postsecondary studies outside the United States. These must include the courses taken and/or lectures attended, practical laboratory work, the maximum and minimum grades attainable, the grades earned or the results of all end-of-term examinations, and any honors or degrees received. WES and ECE transcripts are accepted.

Review Process

Applications for the non-thesis track will be quickly evaluated, and admission decisions will be communicated to the applicant, usually within two weeks.

Applications for the thesis track will be sent to the Civil Engineering Department for evaluation and an admission decision. Outstanding applicants may be recommended for immediate acceptance, while others may be rejected or placed on a waiting list. Thesis track acceptance decisions will also be based on Civil Engineering faculty expertise and lab openings. The goal is to ensure a successful match with a faculty member to conduct a research project that is in alignment with the student's preparation, interest, and career goals.

In cases where students come from a non-civil engineering background, the applications will be sent to the civil engineering program to review and determine fit and/or pre-requisite/concurrent classes that the applicant would need to take to qualify for the M.S. program in civil engineering. Such applicants may receive conditional admission.

Tuition

Tuition	Total Program Cost
MS Civil Engineering	$42,000

Additional charges may apply. Other resources are listed below:

Information on Tuition and Fees (https://catalog.slu.edu/academic-policies/student-financial-services/tuition/)

Miscellaneous Fees (https://catalog.slu.edu/academic-policies/student-financial-services/fees/)

Information on Summer Tuition (https://catalog.slu.edu/academic-policies/student-financial-services/tuition-summer-current/)

Financial Support

The School of Science and Engineering offers graduate fellowship awards and assistantships each year. Assistantships provide tuition, stipend and health insurance. There are also many opportunities for students to receive funding through external research grants that are managed by individual faculty.

For more information, visit the Office of Student Financial Services (https://slu.edu/financial-aid/).

Learning Outcomes

1. Apply advanced mathematical and science principles, and computational and modeling tools to solve civil engineering problems. Students will be able to develop and implement innovative solutions to address current and emerging challenges in the design, analysis, and management of civil engineering infrastructure and resources.
2. Communicate complex technical information effectively. Students will be able to prepare clear and concise written reports, create compelling visual aids, and deliver effective oral presentations on technical topics.
3. Identify, evaluate and synthesize advanced knowledge from scholarly and technical resources. Students will be able to perform literature reviews, identify credible data sources, and synthesize current civil engineering practice to inform project development.

Requirements

All coursework must have a minimum grade of B-.

Code	Title	Credits
Required Courses		
CVNG 5010	Scholarly Practices in Engineering	3
MENG 5840	Numerical Methods	3
Foundational Courses		**6**
Students should select 6 credits from the following:		
CVNG 5030	Foundation Engineering	
CVNG 5035	GeoSolutions for Climate Change	
CVNG 5050	Advanced Structural Analysis	
CVNG 5070	Structural Dynamics	
CVNG 5270	Green Infrastructure	
CVNG 5350	Hydraulic Modeling	
CVNG 5370	River Engineering	
CVNG 5460	Multimodal Roadway Safety	
CVNG 5480	Traffic Simulation and Modelling	
Civil Engineering Graduate Electives		**18**
Students should choose an additional 18 credits of CVNG graduate courses. Any courses outside of CVNG must be approved by the Thesis Advisor or Graduate Program Coordinator.		
Thesis Option		
Thesis students must take 6 credits of CVNG 5990 Master's Thesis Research.		
Project Option		
Students conducting a project must take 3 credits of CVNG 5960 Master's Project.		
Total Credits		**30**

Non-course Requirements

Program of Study

By the end of their first semester, each student should complete a Program of Study form listing the courses they plan to take to complete the requirements for their program. The form needs to be filed with the SSE Graduate Office and can be updated annually as needed.

Project Option

Masters Project is for students in the MS-Non Thesis degree program who will conduct a small project under the supervision of their Faculty Advisor.

Thesis Option

Candidates for the Civil Engineering Master of Science Thesis Option are required to complete a written thesis proposal and an oral thesis proposal presentation. Upon completion of the thesis research and written thesis, the student must pass a final oral thesis defense.

Roadmap

This roadmap is just one example of a semester-by-semester plan of study for this program. There are other plans students can and do take. The plan of study for each particular student is established in consultation with each student's academic advisor; *this roadmap does not replace academic advising appointments.*

Roadmap notes:

- This Roadmap assumes full-time enrollment unless otherwise noted.
- Courses/Milestones marked with an "!" are critical and must be completed in the semester listed in the Roadmap to ensure a timely graduation.
- Course availability and sequencing are subject to change.

Course	Title	Credits
Year One		
Fall		
CVNG 5010	Scholarly Practices in Engineering	3
Foundational Course		3
CVNG Elective		3
	Credits	**9**
Spring		
MENG 5840	Numerical Methods	3
Foundational Course		3
CVNG Elective		3
	Credits	**9**
Year Two		
Fall		
CVNG Elective		3
CVNG 5990	Thesis Research (or Elective)	3
	Credits	**6**

Spring		
CVNG Elective		3
CVNG 5990 or CVNG 5960	Thesis Research (or Elective) or Masters Project	3
	Credits	**6**
	Total Credits	**30**

Contact Us

For more information about any School of Science and Engineering graduate program, email ssegrad-admissions@slu.edu.