SOFTWARE ENGINEERING, M.S.

Saint Louis University's master's in software engineering is designed to prepare students interested in developing high quality, large-scale software systems.

Students enrolled in SLU's graduate program in software engineering develop and create design strategies using hands-on projects and modern software tools to gain knowledge, skills and experience. Students discover critical design strategies that allow for continual innovation throughout their careers. Guided by outstanding professors, much of the learning is team based and in small classes.

Curriculum Overview

Graduate-level software engineering courses are taught in labs or small lectures, providing extensive one-on-one interaction with faculty, including opportunities for collaborative research.

Fieldwork and Research Opportunities

The St. Louis region has a strong computer science ecosystem, including technical operations for many Fortune 500 companies, as well as a vibrant start-up community, including incubators such as CORTEX and T-REX, near to SLU's campus.

Careers

Careers in software engineering can be highly rewarding, and provide great compensation and excellent work environments.

Positions in this field are regularly found on "best jobs" lists and include software developer, computer systems analyst, computer network architect, web developer, database administrator and information security analyst.

Admission Requirements

Application Requirements

- Application completion and fee
- Transcript(s)
- GRE scores
- Three letters of recommendation
- Résumé or curriculum vitae

Admission Criteria

- A bachelor's degree in computer science, mathematics, statistics or closely related field
- Undergraduate GPA above 3.00 (students with less than a 3.00 may be provisionally admitted).

Requirements for International Students

TOEFL or PTE Academic score, Minimum scores required:

- TOEFL PBT 550
- TOEFL IBT 80
- IELTS 6.5

All admission policies and requirements for domestic students apply to international students along with the following:

- Demonstrate English Language Proficiency (http://catalog.slu.edu/academic-policies/office-admission/undergraduate/english-language-proficiency)
- Proof of financial support 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, of students who have undertaken postsecondary studies outside the United States 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 are reviewed by a committee of faculty members from the Department of Computer Science.

Scholarships, Assistantships and Financial Aid

For priority consideration for graduate assistantship, applicants should complete their applications by the program admission deadlines listed. Fellowships and assistantships provide a stipend and may include health insurance and a tuition scholarship for the duration of the award.

For more information, visit the student financial services office online at http://www.slu.edu/financial-aid.

The Department of Computer Science offers merit-based graduate assistantships for full or partial tuition in addition to a stipend for living expenses. The department also offers a limited number of tuition-only scholarships to help lessen students' financial burden.

There are also many opportunities for our computer science students to receive funding through external research grants that are managed directly by individual faculty.

Learning Outcomes

1. Graduates will be able to design, implement, evaluate and test a complex software system that meets a given set of computing requirements.
2. Graduates will be able to utilize project management processes and tools through the complete software life cycle.
3. Graduates will be able to assess relevant literature and technical documents in the field of computing
4. Graduates will be able to communicate effectively to both professional and general audiences in both oral and written forms.
5. Graduates will be able to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
6. Graduates will be able to function effectively as a member of a team in developing computing technology and solving technical problems.

Requirements

Code	Title	Credits
CSCI 5030	Principles of Software Development	3
CSCI 5050	Computing and Society	3
CSCI 5300	Software Engineering	3
CSCI 5960	Capstone Project	3
CSCI 5301-5399	Software Engineering Electives	9
General Electives		9
Select an additional three courses (some options below)		
CSCI 5301-5399	Additional courses from the Software Engineering	
Internship with Industry	Students may apply at most 3 credits of CSCI 5910	
Total Credits		30

Continuation Standards

Students must maintain a cumulative grade point average (GPA) of 3.00 in all graduate/professional courses.

Roadmap

Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.

Courses and milestones designated as critical (marked with !) must be completed in the semester listed to ensure a timely graduation. Transfer credit may change the roadmap.

This roadmap should not be used in the place of regular academic advising appointments. All students are encouraged to meet with their advisor/mentor each semester. Requirements, course availability and sequencing are subject to change.

Course	Title	Credits
Year One		
Fall		
CSCI 5030	Principles of Software Development	3
CSCI 5050	Computing and Society	3
Software Engineering Elective	Software Engineering courses numbered CSCI 5301-5399	3
	Credits	9
Spring		
CSCI 5300	Software Engineering	3
Software Engineering Elective	Software Engineering courses numbered CSCI 5301-5399	3
General Elective	See Program Notes	3
	Credits	9
Year Two		
Fall		
CSCI 5960	Capstone Project	3
General Elective	See Program Notes	3
General Elective	See Program Notes	3
Software Engineering Elective	Software Engineering courses numbered CSCI5301-5399	3
	Credits	12
	Total Credits	30

Program Notes

General Electives

The general electives may include additional selections from the Software Engineering category, courses numbered CSCI 5301-5399.

Internship with Industry

Students may apply at most 3 credits of Internship with Industry (CSCI 5910) toward the degree requirements.