COMPUTER SCIENCE, M.S.

Saint Louis University's master's program in computer science is designed to prepare students for rewarding and in-demand careers that leverage the power of computers, algorithms and data analyses to impact the world in a positive manner.

The graduate program in computer science provides students with the depth of knowledge necessary to pursue advanced academic or technological work in a modern, ever-changing world.

Students learn enhanced analytical skills through an in-depth understanding of theoretical and practical concepts, written and oral communication skills and the critical and creative thinking skills required to advance in the field.

Curriculum Overview

SLU's research-based curriculum and externally funded support foster a strong student-faculty learning environment and extensive research involvement.

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 computer science are regularly found on "best jobs" lists. They can be highly rewarding, and provide great compensation and excellent work environments.

Positions in this field 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 software system that meets a given set of computing requirements.
2. Graduates will be able to apply computer science theory, knowledge of computer systems and software development fundamentals to produce computing-based solutions.
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 5090	Computer Science Colloquium	1
CSCI 5300-5399	Software Engineering Elective	3
CSCI 5500-5599	Systems Elective	3
CSCI 5100-5199	Theory Elective	3
Breadth Elective Requirement		
Select once course from at least two of the following categories:		6
CSCI 5200-5299	Language/Compilers courses	
CSCI 5600-5699	Large Scale Systems courses	
CSCI 5700-5799	Knowledge Systems	
CSCI 5800-5899 or BCB 5200/5250	Advanced Applications	
General Elective		
Select an additional eleven credits (options listed below)		11
Breadth Electives	Additional courses from Breadth Electives may be chosen.	
Closely Related Disciplines	With approval, students may include up to 6 credits of elective graduate coursework in closely related disciplines (e.g., Mathematics & Statistics, Bioinformatics & Computational Biology, Electrical & Computer Engineering)	
Colloquium	Students may repeat CSCI 5090 up to 2 additional credits	
Internship with Industry	Students may apply at most 3 credits of CSCI 5910	
Thesis Option	A Master's Thesis is optional. Students completing a thesis take 6 credits of CSCI 5990	
Total Credits		33

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
CSCI 5090	Computer Science Colloquium	1
Theory Elective	Theory courses numbered CSCI 5100-5199	3
	Credits	10
Spring		
CSCI 5090	Computer Science Colloquium	1
Software Engineering Elective	Software Engineering courses numbered CSCI 5300-5399	3
Systems Elective	Systems courses numbered CSCI 5500-5599	3
Breadth or General Elective	See Program Notes	3
	Credits	10
Year Two		
Fall		
CSCI 5090	Computer Science Colloquium	1
Breadth or General Elective	See Program Notes	3
Breadth or General Elective	See Program Notes	3
Breadth or General Elective	See Program Notes	3
	Credits	10
Spring		
Breadth or General Elective	See Program Notes	3
	Credits	3
	Total Credits	33

Program Notes

Breadth Elective Requirement

The general requirements must include a course from at least two of the following categories:

- CSCI 5200-5299 (Language/Compilers courses)
- CSCI 5600-5699 (Large Scale Systems courses)
- CSCI 5700-5799 (Knowledge Systems)
- CSCI 5800-5899 or BCB 5200/5250 (Advanced Applications)

Thesis Option

A Master's Thesis is optional. Students completing a thesis should take 6 credits of Thesis Research (CSCI 5990) as part of the elective requirements.

Internship with Industry

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

Closely Related Disciplines

With approval, students may include up to 6 credits of elective graduate coursework in closely related disciplines (e.g., Mathematics & Statistics,

Bioinformatics & Computational Biology, Electrical & Computer Engineering)