

COMPUTER SCIENCE + PHILOSOPHY, B.A.

Algorithms now decide who gets a loan, who gets flagged by a security system, and what treatments are recommended. The people building these systems rarely ask whether they should be built the way they are. SLU's Bachelor of Arts in Computer Science + Philosophy program prepares students who do — technically excellent, ethically serious and ready for a world where those two things are inseparable.

Curriculum Overview

- Software engineering, algorithms and artificial intelligence
- Ethics, formal logic, epistemology and philosophy of mind
- Integrative courses: ethics of AI, philosophy of technology
- Writing and argumentation alongside technical coursework

Experiential and Applied Learning

- Internships with tech companies, policy organizations and civil society groups
- Research opportunities with SLU faculty in computer science

Careers

- AI ethics researcher, tech policy analyst, trust and safety engineer
- UX researcher, regulatory affairs specialist, technology journalist
- Typical entry salary: \$60,000 – \$105,000

Tuition

Tuition/Fee	Cost Per Year
Undergraduate Tuition	\$58,960

Additional charges may apply. Other resources are listed below:

Net Price Calculator (<https://www.slu.edu/financial-aid/tuition-and-costs/calculator.php>)

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/tuition-summer-current.pdf>)

Scholarships and Financial Aid

For more information about Saint Louis University scholarships and financial aid, please visit the Office of Student Financial Services (<https://www.slu.edu/financial-aid/types-of-aid/>).

Learning Outcomes

1. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, evaluate and test a software system that meets a given set of computing requirements.

3. Apply computer science theory, knowledge of computer systems and software development fundamentals to produce computing-based solutions.
4. Communicate effectively to both professional and general audiences in both oral and written forms.
5. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
6. Function effectively as a member of a team in developing computing technology and solving technical problems.
7. Synthesize computational and philosophical frameworks to construct reasoned arguments about the design, implications or ethical dimensions of technological systems.

Requirements

Code	Title	Credits
University Undergraduate Core (https://catalog.slu.edu/academic-policies/academic-policies-procedures/university-core/)		32-35
Major Requirements		71
Select a CSCI 10xx: Introduction to Computer Science (p. 2)		3
CSCI 1300	Introduction to Object-Oriented Programming	4
CSCI 2100	Data Structures	4
CSCI 2300	Object-Oriented Software Design	3
CSCI 2500	Computer Organization and Systems	3
CSCI 2510	Principles of Computing Systems	3
CSCI 3100	Algorithms	3
CSCI 4961	Capstone Project I	2
CSCI 4962	Capstone Project II	2
Select one Systems Elective course (p. 2)		3
Two additional 3000 or 4000 level CSCI elective courses		6
<i>Required Mathematics Courses</i>		
MATH 1510	Calculus I	4
MATH 1520	Calculus II	4
MATH 1660	Discrete Mathematics	3
STAT 3850	Foundation of Statistics	3
<i>Required Computer Ethics</i>		
PHIL 3050X	Computer Ethics	3
<i>Philosophy Requirements</i>		
PHIL 1700	The Examined Life: Ultimate Questions	3
PHIL 2050	Ethics	3
or PHIL 2055	Ethics, Justice, & the Person	
or PHIL 2150	Writing Intensive Ethics	
PHIL 4040	Symbolic Logic	3
PHIL 4280	Biology and Mind	3
or PHIL 4150	Philosophy of Science	
PHIL 3360	Medical Ethics	3
or HCE 1700	Death, Disability, Disease, and the Meaning of Life	
or HCE 1600	Embodiment, Life, and Death in Context	
or PHIL 3420	Environmental and Ecological Ethics	
or PHIL 3700	Sustainable Happiness	

Additional philosophy elective at the 3000-4000 level	3
University Electives	14-17
Total Credits	120

Introduction to Computer Science

Code	Title	Credits
CSCI 1010	Introduction to Computer Science: Principles	
CSCI 1020	Introduction to Computer Science: Bioinformatics	
CSCI 1025	Introduction to Computer Science: Cybersecurity	
CSCI 1030	Introduction to Computer Science: Game Design	
CSCI 1040	Introduction to Computer Science: Mobile Computing	
CSCI 1050	Introduction to Computer Science: Multimedia	
CSCI 1060	Introduction to Computer Science: Scientific Programming	
CSCI 1070	Introduction to Computer Science: Taming Big Data	
CSCI 1080	Introduction to Computer Science: World Wide Web	
CSCI 1090	Introduction to Computer Science: Special Topics	

With permission, a computing-intensive course from another discipline may be substituted as long as it is not already fulfilling another requirement. Examples of such courses include:

BME 2000	Biomedical Engineering Computing
CVNG 1500	Civil Engineering Computing
STAT 3850	Foundation of Statistics

Systems Electives Courses

Code	Title	Credits
CSCI 4500	Operating Systems	
CSCI 4530	Computer Security	
CSCI 4550	Computer Networks	
CSCI 4610	Concurrent and Parallel Programming	
CSCI 4620	Distributed Computing	

Non-Course Requirements

All School of Science and Engineering B.A. and B.S. students must complete an exit interview/survey near the end of their bachelor's program.

Continuation Standards

After declaring a computer science major, students must achieve a minimum GPA of 2.00 in computer science courses by the conclusion of their second year as a major and maintain such a GPA at the conclusion of each semester thereafter. Furthermore, students should require at most two attempts to successfully complete any computer science courses required for the major (where an unsuccessful attempt is considered a "D" or "F" for courses numbered 2100 and lower, and an "F" in higher-level courses).

Students are also expected to make adequate progress in the major, typically by enrolling in at least one computer science course per semester until completing their coursework (with exceptions made for premed scholars during their first year, and all students if studying abroad or facing other such extenuating circumstances).

Program Notes

At most, three credit hours of internship with industry courses can be applied to the degree.

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		
CSCI 10XX	Introduction to Computer Science	3
MATH 1660	Discrete Mathematics	3
PHIL 1700	The Examined Life: Ultimate Questions	3
CORE 1000	Ignite First Year Seminar	3
CORE 1500	Cura Personalis 1: Self in Community	1
CORE 1900	Eloquentia Perfecta 1: Written and Visual Communication	3
		Credits
		16
Spring		
CSCI 1300	Introduction to Object-Oriented Programming	4
MATH 1510	Calculus I	4
CORE 1600	Ultimate Questions: Theology	3
PHIL 2050	Ethics	3
or PHIL 2055	or Ethics, Justice, & the Person	
or PHIL 2150	or Writing Intensive Ethics	
CORE	Equity and Global Identities: Identities in Context	3
		Credits
		17
Year Two		
Fall		
MATH 1520	Calculus II	4
CORE 2500	Cura Personalis 2: Self in Contemplation	0
CSCI 2100	Data Structures	4
PHIL 4040	Symbolic Logic	3
CORE 3400	Ways of Thinking: Aesthetics, History, and Culture	3
		Credits
		14

Spring		
CSCI 2500	Computer Organization and Systems	3
CSCI 2300	Object-Oriented Software Design	3
PHIL 4280 or PHIL 4150	Biology and Mind or Philosophy of Science	3
STAT 3850	Foundation of Statistics	3
CORE 3500	Cura Personalis 3: Self in the World	1
Credits		13

Year Three

Fall		
CSCI 2510	Principles of Computing Systems	3
CSCI 3000-level or 4000-level elective		3
PHIL 3360 or HCE 1700 or HCE 1600 or PHIL 3420 or PHIL 3700	Medical Ethics or Death, Disability, Disease, and the Meaning of Life or Embodiment, Life, and Death in Context or Environmental and Ecological Ethics or Sustainable Happiness	3
CORE 1200	Eloquentia Perfecta 2: Oral and Visual Communication	3
CORE	Equity and Global Identities: Global Interdependence	3
Credits		15

Spring		
CSCI 3000-level or 4000-level elective		3
PHIL 3050X	Computer Ethics	3
CORE 2800	Eloquentia Perfecta 3: Creative Expression	3
Systems Elective		3
PHIL 3000-level or 4000-level elective		3
Credits		15

Year Four

Fall		
CSCI 4961	Capstone Project I	2
CSCI 3100	Algorithms	3
CORE	Eloquentia Perfecta: Writing Intensive	3
CORE 3800	Ways of Thinking: Natural and Applied Sciences	3
CORE 4000	Collaborative Inquiry	3
University Elective		2
Credits		16

Spring		
CSCI 4962	Capstone Project II	2
CORE 3600	Ways of Thinking: Social and Behavioral Sciences	3
CORE 4500	Reflection-in-Action	0
University Electives		9
Credits		14
Total Credits		120

Madrid

SLU-Madrid students can earn the Bachelor of Arts in Computer Science + Philosophy learning how to build systems and asking whether they should be built the way they are.

Curriculum Overview

Students should consult their advisor to ensure their plan of study meets the timely offerings of the SLU-Madrid campus.

Faculty

The faculty at Saint Louis University-Madrid are experts in their respective fields. They are internationally recognized teachers, researchers and mentors. Learn about our faculty members (<https://www.slu.edu/madrid/academics/faculty/faculty-profiles.php>), including their education, credentials, experience and contact information.

Faculty Research

The SLU-Madrid faculty maintains robust programs of research in a variety of fields. See below for more data.

Find Faculty Research Information (<https://www.slu.edu/madrid/academics/faculty/faculty-research.php>)

Find Research Resources (<https://www.slu.edu/madrid/academics/faculty/research-resources.php>)

Admission

SLU-Madrid Application (<https://www.slu.edu/madrid/apply.php>)

Application Deadlines

- April 1 - Fall admission (July 1 for EU students)
- Aug. 1 - Spring admission (Nov. 1 for EU students)
- March 1 - Summer sessions (for applicants who require a student visa)
- April 15 - Summer sessions (for applicants who do not require a student visa)

Contact Us

Office of Admissions
Avenida del Valle, 34
28003 Madrid, Spain
P. (+34) 91 554 58 58
admissions-madrid@slu.edu

Office Hours: Mondays through Fridays: 9 a.m. to 6 p.m. (3 p.m. on Fridays from May 15 - Sept. 1)

Tuition and Fees

SLU-Madrid is committed to providing a quality Jesuit education at an affordable price. Tuition rates at SLU-Madrid are approximately 40% lower than at comparable private universities in the U.S.

If you have questions or would like to speak with a financial aid officer, email us at financialaid-madrid@slu.edu.

- Tuition and Fees (<https://www.slu.edu/madrid/admissions/tuition-fees.php>)
- Scholarships and Financial Aid (<https://www.slu.edu/madrid/admissions/scholarships-financial-aid.php>)

Contact Us

For more information about computer science programs, please call 314-977-6667 or email cs@slu.edu.