

COMPUTER SCIENCE (BA)



This program was approved for students entering the university in the Fall 2021 semester.

Bachelor of Arts in Computer Science

Unit: Speed School of Engineering (SS) (<https://engineering.louisville.edu/>)

Department: Computer Science and Engineering (<http://engineering.louisville.edu/computer/>)

Academic Plan Code(s): CS BA

Program Information

The Bachelor of Arts in Computer Science provides students with a solid foundation and skills in computer science while allowing students to choose other areas of studies that are not necessarily tied to sciences or engineering applications of computer science.

Degree Summary

Code	Title	Hours
	General Education Requirements (http://catalog.louisville.edu/undergraduate/general-education-requirements/) ¹	31
	(12 hours of General Education requirements may be satisfied through coursework required by the degree program)	
	College/School Requirements ¹	12
	Program/Major Requirements	60
	Supporting Courses	30
	Minimum Total Hours	121

¹ Some courses required in this degree program satisfy multiple requirements. To complete the degree **in the minimum number of hours listed**, some hours from the General Education Requirements must be satisfied by courses defined by the unit and/or program. Using other courses to satisfy General Education Requirements will require additional hours to complete the degree program.

General Education Requirements

Code	Title	Hours
	General Education Requirements (http://catalog.louisville.edu/undergraduate/general-education-requirements/) ¹	31

The following courses are required by the program to satisfy the respective General Education Requirement(s):

COMM 111	Introduction to Public Speaking - OC
	or COMM 112 Business and Professional Speaking - OC
ENGL 101	Introduction to College Writing - WC ³
ENGL 102	Intermediate College Writing - WC ³
MATH 180	Elements of Calculus - QR

All degrees require the completion of the University-wide General Education Program (link provided above). To complete the degree in the **minimum number of hours** listed on the Overview tab, some hours from the General Education Requirements must be satisfied by courses defined by the unit and/or program.

College/School Requirements

Code	Title	Hours
Speed School Core		
COMM 111	Introduction to Public Speaking - OC ²	3
	or COMM 112 Business and Professional Speaking - OC	
ENGL 101	Introduction to College Writing - WC ^{2,3}	3
ENGL 102	Intermediate College Writing - WC ^{2,3}	3
MATH 180	Elements of Calculus - QR ²	3
	Minimum Total Hours	12

Program/Major Requirements

Code	Title	Hours
Computer Science Requirements		
CSE 101	Bachelor of Arts in Computer Science Campus Culture Experience	1
CSE 120	Introduction to Programming with Python	3
CSE 110	Mathematical Foundations for Computer Science	3
CSE 130	Introduction to Programming Languages	3
CSE 220	Object Oriented Program Design with Java	3
CSE 235	Computer Systems and Organization	3
CSE 302	Data Structures	3
CSE 310	Discrete Structures	3
CSE 335	Introduction to Database	3
CSE 298	Internship Education Seminar (BACS)	0
CSE 299	Internship I	1
CSE 350	Introduction to Software Engineering	3
CSE 419	Introduction to Algorithms	3
CSE 420	Design of Operating Systems	3
CSE 399	Internship II	1
CSE 470	Mobile Device Programming	3
CSE 496	BACS Capstone Design - CUE	3
CSE Electives (see below) ⁴		12
CSE Electives ⁴ or Other Area of Study Electives		6
	Minimum Total Hours	60

Code	Title	Hours
Supporting Courses		
	Other Area of Study (Minor Preferred)	30
	Minimum Total Hours	30

Candidates for the Bachelor of Arts degree must be in good standing (university GPA \geq 2.25) and must attain a grade point average of at least 2.25 for all courses used to satisfy degree requirements.

At least 52 of the total minimum hours required must be at the 300 level or above.

Code	Title	Hours
Culminating Undergraduate Experience (Graduation requirement)		
Requirement fulfilled by completing:		
CSE 496	BACS Capstone Design - CUE	3
Computer Science Electives		
CSE 504	Automata Theory	3
CSE 516	Fundamentals of Computer Communications and Networks	3
CSE 522	Performance Evaluation of Computer Systems	3
CSE 528	Game Design and Programming	3
CSE 530	Design of Compilers	3
CSE 535	Database Systems	3
CSE 545	Artificial Intelligence	3
CSE 550	Software Engineering	3
CSE 564	Introduction to Cryptography	3
CSE 566	Information Security	3
CSE 568	Computer Forensics	3
CSE 590	Special Topics in Computer Science and Engineering	1-6
CSE 593	Independent Study in Computer Science and Engineering	1-6

- ¹ To complete the degree in the minimum number of hours listed, some hours from the General Education Requirement must satisfied by courses defined by the unit and/or program. Using other courses to satisfy General Education Requirements will require additional hours to complete the degree requirements.
- ² This course is a General Education requirement for the program; see louisville.edu/provost/ger/ (<http://www.louisville.edu/provost/ger/>) for the listing, by academic year, of AH/D1/D2/SB/SBH Electives which satisfy the University-wide General Education requirements.
- ³ Students completing ENGL 105 in lieu of ENGL 101 or ENGL 102 satisfy the General Education and Engineering Fundamentals requirements for Written Communication. However, an additional 3-hr Writing (WR) course or honors Written Communication (WC) course may be needed to satisfy program credit hour requirements.
- ⁴ The CSE Electives must be chosen from the approved list (above) or with departmental consent for additional CSE 5XX or 6XX courses.

Course	Title	Hours
Year 1		
Fall		
General Education Requirement		3
ENGL 101	Introduction to College Writing - WC	3
CSE 120	Introduction to Programming with Python	3
MATH 180	Elements of Calculus - QR	3
CSE 101	Bachelor of Arts in Computer Science Campus Culture Experience	1

Other Areas of Studies		3
Hours		16
Spring		
ENGL 102	Intermediate College Writing - WC	3
CSE 110	Mathematical Foundations for Computer Science	3
CSE 130	Introduction to Programming Languages	3
General Education Requirement		4
Other Areas of Studies		3
Hours		16
Year 2		
Fall		
CSE 220	Object Oriented Program Design with Java	3
CSE 235	Computer Systems and Organization	3
Other Areas of Studies		3
Other Areas of Studies		3
General Education Requirement		3
Hours		15
Spring		
CSE 302	Data Structures	3
CSE 310	Discrete Structures	3
CSE 335	Introduction to Database	3
CSE 298	Internship Education Seminar (BACS)	0
COMM 111 or COMM 112	Introduction to Public Speaking - OC or Business and Professional Speaking - OC	3
Hours		12
Summer		
CSE 299	Internship I	1
Hours		1
Year 3		
Fall		
CSE 350	Introduction to Software Engineering	3
CSE 419	Introduction to Algorithms	3
Other Areas of Studies		3
Other Areas of Studies		3
General Education Requirement		3
Hours		15
Spring		
CSE 420	Design of Operating Systems	3
CSE Elective		3
CSE 470: Mobile Device Programming		3
Other Areas of Studies		3
Other Areas of Studies		3
Hours		15
Summer		
CSE 399	Internship II	1
Hours		1
Year 4		
Fall		
CSE Elective		3
CSE Elective or Other Area of Studies		3
Other Area of Studies		3
General Education Requirement		3
CSE Elective		3
Hours		15
Spring		
CSE Elective		3
CSE Elective or Other Area of Studies		3
CSE 496	BACS Capstone Design - CUE	3
General Education Requirement		3

Other Area of Studies	3
Hours	15
Minimum Total Hours	121