

COMPUTER SCIENCE MAJOR

Acceptance to Major Requirements

Course Requirements:

Code	Title	Hours
CSCI 130 or CSCI 150	Concepts of Computing: Science and Applications Introduction to Computing in the Liberal Arts and Sciences	4
CSCI 160	Problem Solving, Programming, and Computers	4
CSCI 200 or CSCI 230	Abstraction, Data Structures, and Large Software Systems Software Development	4
One of the following:		4
MATH 118	Essential Calculus	
MATH 119	Calculus I	
MATH 120	Calculus II	

Minimum Grade for required courses: No more than one of the above courses has a grade below C

Minimum GPA for required courses: The GPA in the above courses is 2.5 or better

Other: Students will be conditionally accepted into the CSCI major if they have not yet completed all the courses needed for unconditional acceptance into the major but are currently enrolled in the courses which are lacking and they meet the other two criteria for acceptance on the courses completed thus far.

Major

The computer science department offers a major in computer science; it also offers a major in data science jointly with the mathematics department. Information about data science major is in a separate section for that major. In addition, students may develop individualized majors which meet their particular interests. (See the section on individualizing a traditional major under Academic Regulations.)

Computer Science Major

This major focuses on the study and implementation of algorithms and the theoretical foundations of computing. It is appropriate for students interested in the full range of computing including software design, systems analysis, and graduate study in computer science.

Code	Title	Hours
One of the following:		4
MATH 118	Essential Calculus	
MATH 119	Calculus I	
MATH 120	Calculus II ¹	
One of the following:		4
CSCI 150	Introduction to Computing in the Liberal Arts and Sciences	
CSCI 130 or CSCI 140	Concepts of Computing: Science and Applications Concepts of Computing: Science and Mathematics	
CSCI 160	Problem Solving, Programming, and Computers	4
CSCI 200	Abstraction, Data Structures, and Large Software Systems	4

CSCI 230	Software Development	4
CSCI 239	Discrete Computational Structures ¹	4
CSCI 310	Computer Organization	4
CSCI 338	Algorithms and Concurrency	4
CSCI 339	Theoretical Foundations of Computer Science	4
CSCI 377A	Ethical Issues in Computing (formerly CSCI 369)	4
One of the following:		4
CSCI 373	Senior Research in Computer Science	
COLG 398	Distinguished Thesis Essay, Research or Creative Project	
CSCI (300-Level) courses		8
One of the following:		4
CSCI (300-Level) course		
MATH 315	Operations Research	
MATH 322	Graph Theory	
MATH 338	Numerical Methods	
MATH 339	Mathematical Modeling	
Total Hours		56

¹ Students who complete MATH 120 Calculus II may substitute MATH 239 Linear Algebra for CSCI 239 Discrete Computational Structures.

² Internship credits (CSCI 397 Internship) cannot be counted toward the major but can be used for elective credits toward graduation.

Additional Requirements:

General Education Requirements:

All undergraduate students must complete the requirements of the Integrations Curriculum (IC) which is designed to ensure all of our students receive a liberal arts education. Please review details of the Integrations Curriculum (<https://catalog.csbsju.edu/catalog/academic-programs-policies-regulations/integrations-curriculum/>) requirements here (<https://catalog.csbsju.edu/catalog/academic-programs-policies-regulations/integrations-curriculum/>).

Graduation Requirements:

In addition to the Integrations Curriculum, all undergraduate students must meet the following minimum degree requirements to earn their degree from CSB and SJU.

Credits: 124 total credits, 40 of which must be from upper division coursework

GPA: 2.0 or higher*

Residency: At least 24 of your last 32 credits must be completed at CSB/SJU

Please visit Graduation (<https://catalog.csbsju.edu/catalog/academic-programs-policies-regulations/graduation/>) under the Academic Policies and Regulations (<https://catalog.csbsju.edu/catalog/academic-programs-policies-regulations/>) portion of the catalog for additional details regarding degree requirements.

* Cumulative GPA as well as major(s)/minor(s) GPA. Please note some majors/minors may require a higher GPA to earn their degree.

Four Year Plan

¹ To become CSCI 377 effective Fall 2022

Course	Title	Hours
First Year		
Fall		
CSCI 150	Introduction to Computing in the Liberal Arts and Sciences	4
MATH 119 or MATH 120	Calculus I or Calculus II	4
LANG 111		4
INTG 105	College Success	1
INTG 100	Foundations	4
Hours		17
Spring		
CSCI 160	Problem Solving, Programming, and Computers	4
LANG 112		4
Cultural/Social Difference-Identity		4
Theological Exploration		4
Hours		16
Second Year		
Fall		
CSCI 200	Abstraction, Data Structures, and Large Software Systems	4
CSCI 239	Discrete Computational Structures	4
LANG 211		4
Artistic Expression		4
Hours		16
Spring		
CSCI 230	Software Development	4
CSCI 310	Computer Organization	4
Natural World		4
Social World		4
Hours		16
Third Year		
Fall		
CSCI 339	Theoretical Foundations of Computer Science	4
CSCI 3XX (upper division elective)		4
Artistic Engagement		4
Theology Integrations		4
Hours		16
Spring		
Cultural/Social Difference-Systems		4
Global Engagement		4
Experiential Engagement		4
Other study abroad coursework		4
Hours		16
Fourth Year		
Fall		
CSCI 373	Senior Research in Computer Science	4
CSCI 3XX (upper division elective)		4
Benedictine Raven		4
Elective		4
Hours		16
Spring		
CSCI 338	Algorithms and Concurrency	4
CSCI 3XX (upper division elective)		4
CSCI 369	¹	4
INTG 300	Learning Integrations	4
Hours		16
Total Hours		129