

# DATA SCIENCE MAJOR

## Acceptance to Major Requirements

Course Requirements:

Code	Title	Hours
CSCI 150	Introduction to Computing in the Liberal Arts and Sciences	4
CSCI 160	Problem Solving, Programming, and Computers	4
MATH 119	Calculus I	4
MATH 120	Calculus II	4

Minimum Grade and/or GPA for required courses: No more than one of the above courses has a grade below C, and the GPA in the above courses is 2.5 or better

Other Requirements: Students will be conditionally accepted into the 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 criteria for acceptance on the courses completed thus far.

Code	Title	Hours
CSCI 150	Introduction to Computing in the Liberal Arts and Sciences	4
CSCI 160	Problem Solving, Programming, and Computers	4
CSCI 200	Abstraction, Data Structures, and Large Software Systems	4
CSCI 332	Machine Learning	4
MATH 119	Calculus I	4
MATH 120	Calculus II	4
MATH 318 or MATH 345	Applied Statistical Models Mathematical Statistics I	4
CSCI 239 or MATH 239	Discrete Computational Structures Linear Algebra	4
DATA 162	Introductory Data Analysis and Visualization	2
DATA 272	Intermediate Data Analysis and Visualization	2
DSCI 372 or CSCI 373	(Capstone) Senior Research in Computer Science	4
3 Courses from the following <sup>1</sup>		12
CSCI 317D	Bioinformatics	
CSCI 317H	Artificial Intelligence	
CSCI 331	Database Systems	
CSCI 338	Algorithms and Concurrency	
CSCI 351	Principles of Parallel Computing	
CSCI 377A	Ethical Issues in Computing	
MATH 315	Operations Research	
MATH 318	Applied Statistical Models	
MATH 322	Graph Theory	
MATH 338	Numerical Methods	
MATH 339	Mathematical Modeling	
MATH 345 or MATH 346	Mathematical Statistics I Mathematical Statistics II	
<b>Total Hours</b>		<b>52</b>

<sup>1</sup> Students may not take all CSCI courses or all Math courses; may not overlap with required courses. One domain course outside CSCI/MATH could replace an elective if taken in a sequence; requires chair approval.

**Other:** Student may not minor in data analytics. Students may not double major in Data Science and either Mathematics or Computer Science.

## 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 and 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.

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
CSCI 150	Introduction to Computing in the Liberal Arts and Sciences	4
MATH 119	Calculus I	4
INTG 100	Foundations	4
INTG 105	College Success	1
Language 111		4
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
CSCI 160	Problem Solving, Programming, and Computers	4
MATH 120	Calculus II	4
Language 112		4
CSD:I		4
<b>Hours</b>		<b>16</b>
<b>Second Year</b>		
<b>Fall</b>		
CSCI 200	Abstraction, Data Structures, and Large Software Systems	4
CSCI 239 or MATH 239	Discrete Computational Structures or Linear Algebra	4
THEO 100	Theological Explorations	4

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Language 211		4
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
DATA 162	Introductory Data Analysis and Visualization	2
DSCI Elective (CSCI or MATH)		4
Elective (INTG Requirement)		4
Elective (INTG Requirement)		4
Elective (INTG Requirement)		4
<b>Hours</b>		<b>18</b>
<b>Third Year</b>		
<b>Fall</b>		
DSCI Elective (CSCI or MATH)		4
Elective (INTG Requirement)		4
Elective (INTG Requirement)		4
Elective (INTG Requirement)		4
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
CSCI 332	Machine Learning	4
DATA 272	Intermediate Data Analysis and Visualization	2
MATH 118	Essential Calculus	4
or	or	
DSCI ELECTIVE (CSCI O		
CSD:S		4
Elective (INTG Requirement)		4
<b>Hours</b>		<b>18</b>
<b>Fourth Year</b>		
<b>Fall</b>		
MATH 345	Mathematical Statistics I	4
or	or	
DSCI ELECTIVE (CSCI O		
DSCI Elective (CSCI or MATH)		4
DSCI Elective (CSCI or MATH)		4
THEO 3@@@		4
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
INTG 300	Learning Integrations	4
DSCI 372 (Capstone)		4
DSCI Elective (CSCI or MATH)		4
DSCI Elective (CSCI or MATH)		4
<b>Hours</b>		<b>16</b>
<b>Total Hours</b>		<b>133</b>