

BACHELOR OF SCIENCE IN DATA SCIENCE

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The BS in Data Science program teaches students to analyze data, interpret data and draw meaningful conclusions. Students learn the mathematical and statistical foundations of data science and how those principles may be applied to cutting-edge tools and technology. Our project-based courses provide the opportunity for students to use the analytic skills and technical knowledge of data science to investigate a question in their minor (or second major).

Glassdoor has ranked data scientist as the best job in America for four consecutive years. Opportunities requiring this skill set develop across nearly all industry sectors including finance and insurance, health care and social assistance, manufacturing, professional, scientific and technical services, and retail trade.

BS in Data Science Curriculum

Students majoring in Data Science must meet the following requirements for graduation. Note: a C- or better is required for all program prerequisites, unless otherwise stated. Students are required to maintain a GPA of 2.0 or better for all courses used to fulfill the Data Science major.

Code	Title	Credits
University Curriculum ¹		46
College of Arts and Sciences Curriculum ²		3
DS Core		
CSC 110 & 110L	Programming and Problem Solving and Programming and Problem Solving Lab or CSC 106 Introduction to Programming for Engineers	3 - 4
DS 110	Introduction to Data Science	3
DS 201	Introduction to Python	1
DS 210	Algorithms for Data Science	4
DS 380	Data Mining	3
DS 385	Machine Learning	3
DS 480	Data Science Capstone	3
EC 365	Econometrics	3
MA 151	Calculus I	4
MA 229	Linear Algebra	3
MA 285	Applied Statistics or EC 272 Advanced Applied Statistics	3
DS Electives (Take two courses from the following list)		6-8
DS 215	Communicating with Data	
DS 325	Database Systems	
DS 350	Big Data	
EC 366	Advanced Econometrics	
MA 153 & MA 154	Calculus II: Part A and Calculus II: Part B	
MA 251	Calculus III	
Minor Courses ³		18

Free Electives	11-14
Total Credits	120

- All students must complete the University Curriculum requirements.
- Students must complete the College of Arts and Sciences Curriculum specific to their major. Students earning a bachelor of science must complete one foreign language through the 102-level. All students are encouraged to pursue a balanced program of study.
- Students enrolled in the Bachelor of Science in Data Science program are required to complete a minor (typically 18 credits) to complement the knowledge and skills developed in the major. Students may select a minor from any program within or outside of the College of Arts and Sciences.

Student Learning Outcomes

Upon completion of the Data Science degree, students will

- **Have a deep understanding** of the mathematical, statistical and computer science concepts necessary for data science.
- **Understand** the technology stack necessary to bring quantitative analysis to production in any industry or academic setting.
- **Utilize** complicated data and advanced machine learning models to solve real-world problems—whether that is predicting customer retention or identifying the impact of rain on floodplain soil conditions.
- **Leverage** these skills and expertise in a chosen domain (e.g., biology, business, economics, history, psychology).