DATA SCIENCE, B.S.

The University of South Carolina's Bachelor of Science in Data Science is an interdisciplinary program that unites computer science, mathematics, and statistics to tackle real-world problems involving large scale data sets. Based in the College of Arts and Sciences, its faculty are from the Departments of Mathematics and Statistics in that college and from the Department of Computer Science and Engineering in the College of Engineering and Computing. It provides a strong foundation in all the stages of data analysis, and combines it with the advanced tools and theory needed for developing new methods.

In addition to preparing students for a career in data science, the degree can be customized for students who plan to pursue graduate programs in data science, computer science, mathematics, or statistics. Its curriculum allows students to take a minor or second major in mathematics or statistics, a minor in computer science, or a second bachelor's degree in computer science. It can also be combined with a minor or additional major in an area of application.

Other data centered programs at USC include those in the Departments of Computer Science (https://academicbulletins.sc.edu/undergraduate/engineering-computing/computer-science-engineering/computer-science-bscs/), Mathematics (https://academicbulletins.sc.edu/undergraduate/arts-sciences/mathematics/), Statistics (https://academicbulletins.sc.edu/undergraduate/arts-sciences/statistics/), the interdisciplinary Data Analytics B.S. (https://academicbulletins.sc.edu/undergraduate/arts-sciences/data-analytics-bs/) and a Minor in Data Science (https://academicbulletins.sc.edu/undergraduate/engineering-computing/computer-science-engineering/data-science-minor/). Students who are unsure which program they wish to pursue should consult with their advisor or Exploratory Advising (https://sc.edu/about/offices_and_divisions/advising/changing_majors/) immediately to make sure they take the correct MATH and STAT courses to allow for maximum flexibility.

Learning Outcomes

1. Analyze complex data using data science knowledge and concepts; appropriate models and methods; quantitative tools; and problem-solving skills to address research questions
2. Manage complex data sets to be able to extract useful information
3. Synthesize knowledge in the core areas of data science, including statistical, mathematical, and programming fundamentals
4. Identify the ethical, policy, and security considerations and issues of working with data and how its use impacts society
5. Communicate data and reports effectively in either a data visualization, written or oral format appropriate to a non-technical audience