

School of Engineering

Department of Computer Science

[Home](#) / [Current Students](#) / [Undergraduate](#) / Bachelor Of Science In Data Science

Bachelor of Science in Data Science

Co-Directors: Associate Professor [Alva Couch](#) (Computer Science) and Professor [Mai Vu](#) (Electrical and Computer Engineering)

Data Science refers to the principles and practices in data analysis that support data-centric real-world problem solving. The Bachelor of Science in Data Science (BSDS), jointly administered by the departments of Computer Science and Electrical and Computer Engineering, is offered to students in the School of Engineering who desire to concentrate on applying computing to scientific and engineering analysis and problem solving. The BSDS is designed both as a stand-alone major and a double major option for those students in the School of Engineering who wish to add data science to an existing engineering major. The BSDS degree is only available to students in the School of Engineering. Double majoring in the BSDS and Bachelor of Science in Computer Science (BSCS) programs is not practical and will not be permitted due to overlap between the major concentrations.

Bachelor of Science in Data Science

The mission of the BSDS is to prepare students for Data Science careers in engineering, science, medicine, and other disciplines. The objectives of the BSDS program include that graduates should have, after five years:

1. Succeeded and advanced in professional careers in or related to data science, analysis, and interpretation, and/or
2. Been admitted to and advanced in graduate study in data science and related fields.

The outcomes of the Bachelor of Science in Data Science include the following:

1. Graduates will demonstrate facility in a variety of data analysis techniques, including machine learning, optimization, statistical decision-making, information theory, and data visualization.
2. Graduates will be qualified to engage in interdisciplinary projects with data analytics components, including facility in communicating with

engineers, scientists, and computing professionals.

3. Graduates will have been exposed to the ethical and scientific obligations of the data analyst.

Requirements

The following requirements apply to the Class of 2027. Visit the Student Life website to [review the degree sheet](#) for your anticipated graduation year.

The Bachelor of Science in Data Science is a rigorous program open to students in the School of Engineering. The program requires 38 courses, including introductory, foundation, HASS, breadth, and concentration courses. The BSDS is designed both as a standalone major and a double major option for those students in Engineering who wish to add data science to an existing engineering major. Students adding Data Science as a second major must fulfill all of the requirements on the degree sheet, subject to School of Engineering double-counting rules.

Please see the [Class of 2027 degree sheet](#) and [sample program](#) for more details.

- **The Math and Science requirement (11 courses)** includes Math 32, 36, 42 or 44, 61 or 65, and 70 or 72; Math 165 or EE 104, Math 166, two of Physics 11; Chemistry 1 or 16, or Biology 13; one of Physics 12, Chemistry 2, or Biology 14; and a natural science elective.
- **The Humanities, Social Sciences, and Arts (HASS) requirement (8 courses)** includes English 1 or 3, one course in ethics and social context (Philosophy 24 or Engineering Management 54), and six courses in Humanities, Arts, or Social Sciences. Of these six courses, one must be Humanities, and one must be Social Science. The chosen courses must add up to 24 credits.
- **The disciplinary breadth requirement** includes three courses in a related application discipline including physics, biology, chemistry, and

many others. Each student must plan a set of three courses comprised of at least 9 credits and petition the Data Science program directors for approval.

- **The Engineering requirement (2 courses)** includes one course in introductory engineering (EN), and either Engineering Science 2 or Computer Science 11.
- **The major requirement (14 courses)** includes Computer Science 11, 15, 30 or 40, 135, and one of Computer Science 136, 160 or Math 123, 125, or 126; and seven Data Science electives, three of which must be numbered above 100. Those seven courses must include:
 - **A)** One course in data infrastructure (including Computer Science 51, 112, 114, 115, 116, 117, 118, 119, 120, 122, 123, and 151).
 - **B)** One course in data analytics and/or interfaces (including Computer Science 52, 136, 137, 138, 141, 142, 143, 152, 166, 167, 169, 171, 175, 177, and 178).
 - **C)** One course in computational and theoretical aspects of data science (including Computer Science 131, 153, 160, and 168; Mathematics 123, 125, and 126; and Electrical Engineering 127, 130, 133, 140 and 159).
 - **D)** Two additional courses chosen from (A)-(C) or from additional courses Math 51, 63, 87, 153, 155, 156; ME 150; or CEE 187; and may include at most one credit of Independent Study or Research (DS 93, CS 93, 94, 191, or 193; EE 93, 94, 95, 96, 191, 192) and at most one credit of thesis (CS 197 or EE 197).

Requirements also include a senior capstone experience including Data Science 97 and 98 (Senior Capstone Project in Data Science I and II).

For a research experience, students should consider partly fulfilling concentration elective requirements via a senior thesis, coordinated with the capstone experience and breadth elective choices.

Forms

[All forms for CS undergraduate students.](#)

© Tufts University 2025

[Non-Discrimination Statement](#) [Privacy](#)

[Tufts Mobile](#)