Data Science, B.S.

The B.S. in Data Science is recommended for students interested in developing competencies that will prepare them for careers in “big data” analytics. Graduates with bachelor’s degrees in Data Science will be equipped to operate the systems on which analyses are run, prepare data for analysis, and visualize information.

Students in the program progressively develop mathematical skills, computational and statistical thinking, and data modeling needed to manipulate and interrogate data, define and solve problems. A major focus of the degree is developing communications skills, teamwork, and ethical awareness so that students can apply data science techniques in the context of particular domain applications. These competencies prepare graduates for

careers in a broad range of fields where the ability to understand and use data, so called “data acumen,” is critical. Students in the B.S. in Data Science program are encouraged to complete a minor or certificate that enhances their data science skills and/or domain expertise.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

Admission Requirements

Freshmen

- Students who meet the University’s admissions requirements are admissible to the major.
- See University Admission Requirements

Transfers

- Students who meet the University’s admissions requirements are admissible to the major.
- See University Admission Requirements

Currently Enrolled Students

Students transferring from within UNC Charlotte must have a cumulative GPA of 2.0.

Degree Requirements

General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Out of 31-32 credit hours, 15 credit hours are double-counted for major courses. Successful completion of DTSC 1302 satisfies the General Education requirement for Inquiry in the Sciences - Social Sciences.

Major Courses (55 credit hours)

Data Science Core Courses (18 credit hours)

Each of the Data Science Studio courses is taught as a semester long 6-credit hour course; however, for registration purposes, each studio is broken into two separate classes that are taught in the A and B sessions of a semester.

- DTSC 1301 - Data and Society A (3)
- DTSC 1302 - Data and Society B (3)
- DTSC 2301 - Modeling and Society A (3)
- DTSC 2302 - Modeling and Society B (3)
- DTSC 3601 - Predictive Analytics and Their Implications A (3)
- DTSC 3602 - Predictive Analytics and Their Implications B (3)

Mathematics and Statistics Courses (15 credit hours)

- MATH 1120 - Calculus (3)
- or MATH 1241 - Calculus I (3)
- STAT 1220 - Elements of Statistics I (BUSN) (3)
- or STAT 1221 - Elements of Statistics I (3)
- or STAT 1222 - Introduction to Statistics (3)
- MATH 2164 - Matrices and Linear Algebra (3)

- STAT 2223 - Elements of Statistics II (3)
- STAT 3160 - Applied Multivariate Analysis (3)

Computing Core Courses (16 credit hours)

- ITSC 2175 - Logic and Algorithms (3)
- or MATH 2165 - Introduction to Discrete Structures (3)
- ITSC 1213 - Introduction to Computer Science II (4)
- ITSC 2214 - Data Structures and Algorithms (4)
- ITCS 3162 - Introduction to Data Mining (3)
- ITSC 3160 - Database Design and Implementation (3)

Capstone Courses (6 credit hours)

- DTSC 4301 - Data Science for Social Good A (3)
- DTSC 4302 - Data Science for Social Good B (3)

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Degree Total = 120 Credit Hours

Progression Requirements

The minimum GPA requirement for B.S. in Data Science is 2.0 in each of the following three categories: (1) all courses applied to the degree, (2) all courses in the major, and (3) all upper-division courses in the major.

Students have a limit of 2 attempts per course in the major (plus 1 more by petition). This applies to all core courses (Data Science, Computing and Informatics, and Mathematics and Statistics). The third attempt at a course

can only be approved by petition. In addition, a Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.

UNIVERSITY OF NORTH CAROLINA

ADDRESS
9201 University City Blvd
Charlotte, NC 28223

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704-687-8622

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