

DATA SCIENCE (MINOR)

Department Website (<http://cds.nyu.edu/>)

Program Description

Data science is the new language of the 21st century and is a cornerstone of a liberal arts education. Data science skills are also increasingly a requirement for graduates entering the workforce, government, or research. As more academic disciplines, industries, and media outlets rely on data-driven decision making, research, and evidence, being a sophisticated consumer of data, as well as being empowered to analyze and generate discoveries, is naturally becoming a prerequisite for being a global citizen, scientist, and leader.

The College of Arts and Science and the NYU Center for Data Science offer a major and minor in data science, as well as (with the Courant Institute of Mathematical Sciences) both (1) a joint major in data science and computer science and (2) a joint major in data science and mathematics. The major in data science develops students' broad knowledge in emerging theories and methods of computational statistics in fields within the humanities, social sciences, and sciences. Students who complete the major are exposed to diverse ways of knowing, research and critical thinking skills, and communication and inference techniques, and are trained to become ethically responsible data scientists.

The minor in data science teaches foundational computational analysis concepts and how to use data science methods and tools to answer important questions. Students apply those concepts to a range of domain-specific issues that relate to their major course of study.

Students in both the major and the minor have opportunities for hands-on experience with real datasets.

While students do gain skills in programming due to the computational nature of the field, the major and minor are not centered on professional or vocational training. Instead, the development of skills in the data science curriculum unfolds within a broader context of scientific and theoretical frameworks for understanding and pursuing deeper objectives, novel knowledge generation, and robust discovery.

Students may contact cds-undergraduate@nyu.edu with questions about the major or minor.

Minor Declaration

To request declaration of a minor, CAS students should visit the host department. To request declaration of a cross-school minor, CAS students should complete the online Minor Application available in their Albert Student Center. Students may also use the Minor Application (<http://www.nyu.edu/students/student-information-and-resources/registration-records-and-graduation/registration.html>) in Albert to request cancellation of a CAS or cross-school minor.

Program Requirements

The prerequisite for declaring this minor is completion of either DS-UA 111 Data Science for Everyone or DS-UA 112 Principles of Data Science (depending on placement) with a C or better. The minor requires five 4-credit courses (20 credits). All students in the minor will take the two required courses offered by the Center for Data Science.

Course	Title	Credits
Required Courses		
DS-UA 111	Data Science for Everyone (offered every semester)	4
DS-UA 112	Principles of Data Science (offered every semester)	4
Electives		
Select one of the following:		3-4
DS-UA 201	Causal Inference (offered every fall)	
DS-UA 202	Responsible Data Science (offered every spring)	
DS-UA 301	Advanced Topics in Data Science (offered every spring)	
ECON-UB 251	Econometrics I	
Department of Computer Science (Courant) Courses: ¹		
Select one of the following pathways:		8
<i>Students Entering the Minor with No Prior Programming Experience</i>		
CSCI-UA 2	Introduction to Computer Programming (No Prior Experience)	
CSCI-UA 60 or CSCI-UA 381	Database Design and Implementation Programming Tools for the Data Scientist	
<i>Students Entering the Minor with Limited Prior Programming Experience</i>		
CSCI-UA 3	Introduction to Computer Programming (Limited Prior Experience)	
CSCI-UA 60 or CSCI-UA 381	Database Design and Implementation Programming Tools for the Data Scientist	
<i>Students Entering the Minor with Extensive Prior Programming Experience</i>		
CSCI-UA 60 or CSCI-UA 479	Database Design and Implementation Data Management and Analysis	
CSCI-UA 381	Programming Tools for the Data Scientist	
Total Credits		20

¹

Consult that departmental section in this bulletin for prerequisites and descriptions.

Policies

Policies Applying to the Minor

1. All students who wish to minor in data science must complete a minor registration form, and must consult a minor adviser prior to any registration. Non-CAS students should fill out the minor declaration form via Albert. Please consult the page detailing policies and procedures for cross-school minors: cas.nyu.edu/academic-programs/majors-and-minors/cross-school-minors (<http://cas.nyu.edu/academic-programs/majors-and-minors/cross-school-minors.html>).
2. A grade of C or better is required in all courses used to fulfill minor requirements; courses graded Pass/Fail do not count toward the minor. This policy applies to all NYU students, not just to those matriculated in CAS.
3. Students must check the prerequisites for each course before enrolling. See the section on course offerings for all prerequisites.

4. No more than one course may be double-counted between the data science minor and any other major or minor. Students should consult the guidelines of their major or minor for any additional restrictions and policies.
5. In accordance with the cross-school minor policy, CAS students may not minor in data science at NYU Shanghai. They may, however, take applicable Shanghai courses and count them toward the CAS data science major or minor. Shanghai courses do not count toward the 64-point UA residency requirement required of internal and external transfers to the College.

Policy on Declaration of Major or Minor in Data Science

Students must complete either DS-UA 111 Data Science for Everyone or DS-UA 112 Principles of Data Science (depending on placement) with a grade of C or better before they can declare the major or minor in data science or the joint major in data science and mathematics. To declare the joint major in computer and data science, students must first meet this prerequisite and also complete either CSCI-UA 101 or 102 (depending on placement) with a grade of C or better. These policies apply to all NYU students, not just to those matriculated in CAS. For the data science major, minor, and joint data science and mathematics major, students may declare during the declaration periods in the fall and spring semesters and the summer sessions. During the fall semester, the declaration period is the month of October; during the spring semester, the declaration period is mid-February to mid-March; and in the summer, the declaration period is mid-June to mid-July. For the joint computer science and data science major, students may declare anytime throughout the academic year. Please write to cds-undergraduate@nyu.edu to request the declaration form during the proper timeframes. For more information, please visit <https://cds.nyu.edu/academics/undergraduate-program/>.

It is an official policy in CAS that students cannot enter their junior year undeclared. In order to comply with this policy, students must begin their data science course sequence no later than the spring semester of their sophomore year, which will allow them to declare the major or minor during the summer before their junior year. The Center for Data Science and CAS both advise that students begin their data science courses earlier, and, consistent with the usual practice in CAS, declare the major or minor in the spring of their sophomore year. While students may begin their data science courses later than this point, there is no guarantee they will finish their major requirements in time to graduate within four years.

NYU Policies

University-wide policies can be found on the New York University Policy pages (<https://bulletins.nyu.edu/nyu/policies/>).

College of Arts and Science Policies

A full list of relevant academic policies can be found on the CAS Academic Policies page (<https://bulletins.nyu.edu/undergraduate/arts-science/academic-policies/>).