DATA SCIENCE (MINOR)

Program Description

Data Science at NYU Shanghai is designed to create data-driven leaders with a global perspective, a broad education, and the capacity to think creatively. Data science involves using computerized methods to analyze massive amounts of data and to extract knowledge from them. Data science addresses a wide range of data types, including scientific and economic numerical data, textual data, and image and video data. This new discipline draws from methodologies and tools in several well-established fields, including computer science, statistics, applied mathematics, and economics. Data science has applications in just about every academic discipline, including sociology, political science, digital humanities, linguistics, finance, marketing, urban informatics, medical informatics, genomics, image content analysis, and all branches of engineering and the physical sciences. The importance of data science is expected to accelerate in the coming years, as data from the web, mobile sensors, smartphones, and Internet-connected instruments continues to grow.

Students who complete the major will not only have expertise in computer programming, statistics, and data mining, but also know how to combine these tools to solve contemporary problems in a discipline of their choice, including the social science, physical science, and engineering disciplines. Upon graduation, data science majors have numerous career paths. Data Science majors can go on to graduate school in data science, computer science, social science, business, finance, medicine, law, linguistics, education, and so on. Outside of academia, there are also myriad career paths. Not only can graduates pursue careers with traditional data-driven computer-science companies and startups such as Google, Facebook, Amazon, and Microsoft, but also they can also be valuable to companies in the transportation, energy, medical, and financial sectors. Graduates can also pursue careers in the public sector, including urban planning, law enforcement, and education.

Program Requirements

Course	Title	Credits
Required Courses		
CSCI-SHU 101	Introduction to Computer and Data Science	4
CSCI-SHU 210	Data Structures	4
CSCI-SHU 360	Machine Learning	4
ECON-SHU 301	Econometrics	4
or MATH-SHU 234	Mathematical Statistics	
Select one of the following:		4
BUSF-SHU 101	Statistics for Business and Economics	
MATH-SHU 235	Probability and Statistics	
MATH-SHU 238	Honors Theory of Probability	
SOCS-SHU 141	Methods of Social Research	
Total Credits		**20**

Minor Policies

1. Students may minor in subjects outside of their major. A minor in a secondary subject enables a student to acquire a useful understanding of concepts and analysis without the same degree of coverage as would be obtained in a major. A grade of C or better is required for a course to be counted toward a minor. If a student fails a course required for the minor, the course must be retaken at NYU; a course taken outside the University will not normally be allowed to substitute for a minor requirement. No course for the minor may be taken as pass/fail. Students may use Core Curriculum classes to fill minor requirements but at least 12 credits of the minor must be unique to the minor, meaning that it is not double-counted with any other major, minor, or core requirement.

   Additionally, no single course may be used to meet more than two requirements.

2. Computer Science majors should additionally take DATS-SHU 235 Information Visualization Information Visualization or CSCI-SHU 213 Databases to earn at least 12 unique credits for the minor.

NYU Policies

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

NYU Shanghai Policies

Additional academic policies can be found on the NYU Shanghai Academic Policies page (https://bulletins.nyu.edu/undergraduate/shanghai/academic-policies/).