DATA SCIENCE - MINOR

Data science is a multidisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from structured and unstructured data.

This minor provides students with an introduction to the core concepts and skills of data science in computing, statistics and information science to complement existing majors in CMDI fields, in the social sciences and in the arts and humanities.

The program is specifically designed as an add-on to existing quantitative methods courses and sequences in the social sciences. Students in such degree programs who wish to add data science experience and credentials to their course of study can complete the minor without additional course prerequisites. For this reason, some aspects of the curriculum (particularly the quantitative methods area) are quite flexible, allowing students to acquire this background through subject-specific study in a variety of disciplines.

Required Courses and Credits

The minor is divided into three areas: computing, quantitative methods, and electives. Computing courses cover basic programming and data structures with an emphasis on the Python programming language. Because of the variation in credit hours associated with quantitative methods courses, the total hours for the minor vary between 19–22. Students may apply no more than six credit hours of transfer work, including three hours of upper-division credit.

Information Science majors may not receive an Information Science minor nor a Data Science minor. Students may not receive both the Information Science minor and the Data Science minor.

All coursework applied to the minor must be completed with a grade of C- or better (no pass/fail work may be applied). The GPA for all coursework attempted in the minor department must be equal to 2.00 (C) or higher.

Aside from course prerequisites for the courses listed below, there are no other prerequisites for the minor.

Code	Title	Credit Hours
Computing		
Computing 1:		*3-4*
Choose one from the following list:		
ATLS 1300	Computational Foundations 1	
CSCI 1200	Introduction to Computational Thinking	
CSCI 1300	Computer Science 1: Starting Computing	
GEOG 4303	Geographic Information Science: Spatial Programming	
INFO 1701	Programming for Information Science 1	
LING 1200	Introduction to Python Programming	
Computing 2:		*4*
INFO 2201	Programming for Information Science 2	
Quantitative Reasoning		**6-8**
Choose a two-course sequence from the following options:		
INFO 1301 & INFO 2301	Statistics for Information Science and Quantitative Reasoning for Information Science	
ANTH 4000 & INFO 2301	Quantitative Methods in Anthropology and Quantitative Reasoning for Information Science	
CSCI 3022 & INFO 2301	Introduction to Data Science with Probability and Statistics and Quantitative Reasoning for Information Science	
BCOR 1025 & INFO 2301	Statistical Analysis in Business and Quantitative Reasoning for Information Science	
GEOG 3023 & GEOG 4023	Statistics and Geographic Data and Advanced Quantitative Methods for Spatial Data	
PSCI 2075 & PSCI 3075	Quantitative Research Methods and Applied Political Science Research	
PSYC 2111 & PSYC 3111	Psychological Science I: Statistics and Psychological Science 2: Research Methods in Psychology	
SOCY 2061 & SOCY 3201	Introduction to Social Statistics and Sociological Research Methods	
AHUM 1825 & INFO 2301	Inclusive Interdisciplinary Data Science for All and Quantitative Reasoning for Information Science	
Electives		**6**
Elective coursework in areas related to data science; one of these courses must be in Information Science		
INFO 3401	Information Exploration	
INFO 3402	Information Exposition	
INFO 3507	Foundations and Futures in Digital Humanities	
INFO 3510	Music as Information	
INFO 4601	Information Ethics and Policy	
INFO 4602	Information Visualization	
INFO 4603	Survey Research Design	
INFO 4604	Applied Machine Learning	
INFO 4607	Software Engineering for Data-Centered Systems	
INFO 4614	Information and Data Retrieval Systems	
INFO 4747	Defamiliarizing Data: The Ethnography and Design of Making Data Strange	
AHUM 3106	Introduction to Literary Study with Data Sc	
ANTH 4745	Science, Technology and Society	
APRD 4300	Strategic Communication Analytics and Metrics	
ENGL 3106	Introduction to Literary Study with Data Science	
ENGL 4106	Literary Study with Data Science	
GEOG 4403	Geographic Information Science: Space Time Analytics	
LING 4632	Machine Learning and Linguistics	
CSCI 4022	Advanced Data Science	
WRTG 3070	Advocating with Data	
INFO 4615	Fair Machine Learning	
Total Credit Hours		**19-22**