DATA ANALYTICS MINOR COURSE LISTS

For the most current lists of approved courses in these categories, please consult the Data Scholarship Program.

Introductory Statistics

Code	Title	Credit Hours
ANTH 4683		3
ANTH 4713	Statistical Concepts in Anthropology	3
BIOL 2913	Intro to Quantitative Biology	3
BIOL 4913	Quantitative Biology	3
COMM 2513	Introduction to Statistics	3
ECON 2843	Elements of Statistics	3
GEOG 3924	Quantitative Methods	4
MATH 4743	Introduction to Mathematical Statistics	3
METR 4313	Statistical Meteorology	3
P SC 2013	Introduction to Political Analysis	3
PSY 2003	Understanding Statistics	3
PSY 3114	Research Methods: Applications and Experimental Design	4
SOC/P SC 3123	Social Statistics	3
S WK 2223	Statistics for Social Work	3

Programming for Data Analytics

Code	Title	Credit Hours
ASTR 3190	Topics in Astronomy (topic: Introduction to Research)	3
C S 1213	Programming for Non-Majors with Python	3
C S 1313	Programming for Non-Majors with C	3
C S 1321	Java for Programmers	1
C S 1323	Introduction to Computer Programming for Programmers	3
C S 1324	Introduction to Computer Programming for Non-Programmers	4
GIS 4453	Advanced GIS and Spatial Analysis	3
HSTM/LIS 2033	Introduction to Digital Humanities	3
LIS 4613	Dynamic Web Development	3
LIS 4643	Introduction to Data Analytics	3
LIS 4970	Special Topics/Seminar (topic: Introduction to Mobile App Development)	1-3
LIS 4633	Web Design and Implementation	3
MBIO/PBIO 4783	Introduction to Python Programming for Data Analytics	3
PSY 2503	Computing for Behavioral Sciences	3

Data-Oriented Electives

Code	Title	Credit Hours
Qualitative Data-related Skills		
ENGL 3163	Rhetoric and the Digital Humanities	3
GEOG 3513	Political Geography *	3
LIS 3063	Essentials of IT & Informatics	3
LIS 4453	Digital Collections	3
LIS 4613	Dynamic Web Development	3
LIS 4673	Introduction to Information Visualization	3
LIS 4683	Database Design for Information Organizations	3
LIS 4693	Information Retrieval and Text Mining	3
LIS 4970	Special Topics/Seminar (topic: Data Stewardship)	3
LIS/WGS/LTRS/ HIST/HSTM 4970	Special Topics/Seminar (topic: Cultural Heritage Data and Social Engagement)	3
LIS 4970	Special Topics/Seminar (topic: Introduction to Mobile App Development)	1-3
MBIO/PBIO 3673	Practical Bioinformatics *	3
NAS 4153	Indigenous Mapping: Issues in Data Sovereignty and Security	3
Applied Computing		
ASTR 3190	Topics in Astronomy (topic: Introduction to Research)	3
C S 4033	Machine Learning Fundamentals	3
GIS 4233	Digital Image Processing	3
GIS 4453	Advanced GIS and Spatial Analysis	3
ENGL 3163	Rhetoric and the Digital Humanities	3
LIS 4623	Advanced Data Analytics	3
LIS 4643	Introduction to Data Analytics	3
LIS/WGS/LTRS/ HIST/HSTM 4970	Special Topics/Seminar (topic: Cultural Heritage Data and Social Engagement)	3
MBIO/PBIO 4783	Introduction to Python Programming for Data Analytics	3
METR 1313	Introduction to Programming for Meteorology *	3
METR 4330	Information Technology Skills for Meteorology	3
PSY 2503	Computing for Behavioral Sciences	3
Mathematics and Computing Skills		
C S 1213	Programming for Non-Majors with Python	3
C S 1313	Programming for Non-Majors with C	3
C S 1321	Java for Programmers	1
C S 1323	Introduction to Computer Programming for Programmers	3
C S 1324	Introduction to Computer Programming for Non-Programmers	4
MATH 3333	Linear Algebra I	3
Intermediate Statistics & Experimental Design		
BIOL 4913	Quantitative Biology	3
ECON 4223	Econometric Analysis	3
ECON 4773	Economic Game Theory	3
GIS 4923	Spatial Statistics	3
MATH 4743	Introduction to Mathematical Statistics	3
MATH 4753	Applied Statistical Methods	3
MATH 4773	Applied Regression Analysis	3
PSY 3114	Research Methods: Applications and Experimental Design	4

SOC 3133	Methods of Social Research	3
S WK 4083	Undergraduate Social Work Research Methods I *	3
S WK 4093	Undergraduate Social Work Research Methods II	3

*Designates introduction/gateway courses that would be good to take prior to others in the minor.

Project/Applied Data Analytics Experience

Most of the advanced electives require instructor permission and many disciplinary-specific prerequisites that should be met or specifically discussed with the instructor prior to enrollment. Upon or before enrollment, students will need to identify a faculty member affiliated with the Data Scholarship Program who can supervise their internship, independent study, or research experience.

To fulfill this requirement, the course must include a data-related project with a written report. Students will submit a DSP Project Experience Course Approval Form for approval before the end of the free add/drop period. Alternatively, an additional course can be taken from among listed courses in the previous categories AND that includes a substantial project that includes data analysis, visualization, and interpretation and a discussion of any ethical considerations with respect to the topic and data. In this case, students will submit a DSP Project Experience Course Approval Form to describe the project in the course.

Code	Title	Credit Hours
CAS 4630	CAS Internship	3
DSP 4983	Data Analytics and Applied Statistics Research Experience	3
CAS 4990	Independent Study (with a DSP faculty affiliate or with an approved, applied data analytics component)	3
An additional course can be taken from among listed courses in the previous categories AND that includes a substantial project that includes data analysis, visualization, and interpretation and a discussion of any ethical considerations with respect to the topic and data. In this case, the project report must be submitted to the Data Scholarship Program for final approval.		