SOCIAL DATA SCIENCE MAJOR (BSOS)

Faculty Program Co-Directors: Brian Kim, Ph.D., Scott Jackson, Ph.D.

Creating information products that capture aspects of human behavior requires an increasingly complex set of skills and knowledge. This program combines the expertise of faculty members from the College of Information (INFO) and the College of Behavioral and Social Sciences (BSOS) to prepare students to effectively, ethically and efficiently create high quality information products, such as datasets, visualizations, and models, about human activity and behavior. This critical suite of knowledge and skills is essential in many domains, including government, healthcare, sustainability, economics, entertainment, human rights, equity, and others. Students take a set of core courses housed primarily in INFO and BSOS's Joint Program in Survey Methodology (JPSM). They then select a track discipline, in which they train in relevant theory and methods, from among the following options: African-American Studies, Anthropology, Criminology, Economics, Government and Politics/International Relations, Geography/Geospatial Information Science, Psychology, Public Health, or Sociology.

Restriction: Students are not permitted to double-major or double-degree with Social Data Science and the BSOS major associated with their track area. Students are permitted to double-major or double-degree with another BSOS major outside their Social Data Science track. Students in the Public Health track may double-major or double-degree with any School of Public Health major.

Program Learning Outcomes

1. Design, execute, document, and disseminate research that applies tools and methods from data science to address a social science research question
2. Develop expertise in specific contemporary social science theories and data science approaches to tackling research questions related to these theories
3. Apply findings from social data science research to analyze the policy and design of socio-technical systems
4. Identify and analyze social, legal, and ethical and equity issues in social data science work and in the profession

REQUIREMENTS

Major course requirements consist of core courses and track area courses in one of the following tracks: African American Studies, Anthropology, Economics, Geographical Sciences, Government & Politics, Psychology, Public Health, or Sociology. Students are not permitted to double-major or double-degree with Social Data Science and the BSOS major associated with their track area. Students are permitted to double-major or double-degree with another BSOS major outside their Social Data Science track. Students in the Public Health track may double-major or double-degree with any School of Public Health major. Both core courses and track courses include benchmark courses. Failure of a student to complete both sets of benchmark courses within the timeline indicated may result in probation and/or dismissal from the major. Benchmark I courses must be completed with a C- or higher within the first two semesters of the program. Benchmark II courses must be completed within the first three semesters of the program.

Social Data Sciences Requirements

Course	Title	Credits
Benchmark I Core Courses:		
SDSB123	Social Data Science: Pathways and Applications	1
SDSB233	Data Science for Social Science (Data Science for Social Science)	3
STAT100	Elementary Statistics and Probability	3
Math Course (Based on Track Requirement):		3
For African-American Studies, Anthropology, Government & Politics, and Sociology Tracks:		
MATH115	Precalculus	
For Economics, Geographical Sciences, Psychology, and Public Health Tracks:		
MATH120	Elementary Calculus I	
Additional Core Courses:		
SDSB326	Python Programming for the Social Sciences (Python Programming for the Social Sciences)	3
INST327	Database Design and Modeling	3
INST366	Privacy, Security and Ethics for Big Data	3
INST414	Data Science Techniques	3
INST462	Introduction to Data Visualization	3
SDSB340	Introduction to Survey Methodology	3
Core Elective		
Select one from the approved list of electives		3
Capstone		
Choose one		3
SDSI492	Integrated Capstone for Social Data Science (Integrated Capstone for Social Data Science)	
SDSI496	(Research Capstone for Social Data Science)	
Track Area Courses (see below for specific requirements)		**18-21**
Total Credits		**52-55**

African American Studies Track

Course	Title	Credits
Benchmark II Track Courses:		
AAAS101	Public Policy and the Black Community	3
Track I Requirement:		
AAAS210	Intro to Research Design and Analysis in African American and Africana Studies	3
AAAS395	Fundamentals of Quantitative Research in Socio-Cultural Perspective	3
or INST314	Statistics for Information Science	
Track II Requirement:		
Nine credits from the following list:		9
AAAS301	Applied Policy Analysis and the Black Community	
AAAS310	African Slave Trade	
AAAS320	Poverty and African American Children	
AAAS398	Selected Topics in the African Diaspora	
AAAS400	Directed Readings in African American and Africana Studies	
AAAS402	Classic Readings in African American and Africana Studies	
AAAS411	Black Resistance Movements	

AAAS441	Science, Technology, and the Black Community	
AAAS443	Law and the Black Community	
AAAS498	Special Topics in Black Culture	
AAAS499	Advanced Topics in Public Policy and the Black Community	
Total Credits		**18**

Anthropology Track

Students in the Anthropology track choose one of three tracks: Health, Heritage, or Environment.

Course	Title	Credits
Anthropology-Health Track		
Benchmark II Anthropology-Health Track Courses:		
ANTH210	Introduction to Medical Anthropology and Global Health	3
Anthropology-Health Track I Requirement:		
INST314	Statistics for Information Science	3
ANTH310	Method & Theory in Medical Anthropology and Global Health	3
Anthropology-Health Track II Requirement:		
Nine credits from the following list:		9
ANTH411	Global Migration and Health	
ANTH412	Hypermarginality and Urban Health	
ANTH413	Health Inequities, Care, and Justice in the United States	
ANTH415	Critical Global Health	
ANTH416	Anthropology of Global Violence	
Anthropology-Heritage Track		
Benchmark II Anthropology-Heritage Track Courses:		
ANTH240	Introduction to Archaeology	3
INST314	Statistics for Information Science	3
Anthropology-Heritage Track I Requirement:		
ANTH340	Method and Theory in Archaeology	3
Anthropology-Heritage Track II Requirement:		
Nine credits from the following list:		9
ANTH341	Introduction to Zooarchaeology	
ANTH440	Theory and Practice of Historical Archaeology	
ANTH441	Archaeology of Diaspora	
ANTH447	Material Culture Studies in Archaeology	
ANTH448	Special Topics in Archaeology	
ANTH451	Environmental Archaeology	
ANTH464	Anthropology of Cultural Heritage	
ANTH496	Field Methods in Archaeology	
Anthropology-Environment Track		
Bookmark II Anthropology-Environment Track Courses:		
ANTH222	Introduction to Ecological and Evolutionary Anthropology	4
INST314	Statistics for Information Science	3
Anthropology-Environment Track I Requirement:		
ANTH322	Method and Theory in Ecological Anthropology	3
Anthropology-Environment Track II Requirement:		
Nine credits from the following list:		9
ANTH450		
ANTH454	Political Ecology	
ANTH467	Researching Environment and Culture	

Criminology Track

Course	Title	Credits
Benchmark II Courses		
CCJS100	Introduction to Criminal Justice	3
Track I Requirements		
CCJS105	Introduction to Criminology	3
CCJS200	Statistics for Criminology and Criminal Justice	3
CCJS300	Criminological and Criminal Justice Research Methods	3
Track II Requirements		
Choose 6 credits from the list below		6
CCJS320	Introduction to Criminalistics	
CCJS340	Policing	
CCJS342	Corrections	
CCJS345	Courts and Sentencing	
CCJS346	Domestic Violence	
CCJS352	Drugs and Crime	
CCJS360	Victimology	
CCJS405	Gangs	
CCJS418	Seminar in Criminology and Criminal Justice	
CCJS444	Advanced Law Enforcement Administration	
CCJS450	Advanced Juvenile Delinquency	
CCJS451	Crime and Delinquency Prevention	
CCJS454	Contemporary Criminological Theory	
Total Credits		**18**

Economics Track

Course	Title	Credits
Benchmark II Track Courses:		
ECON200	Principles of Microeconomics	3
Track I Requirement:		
ECON201	Principles of Macroeconomics	3
ECON230	Applied Economic Statistics	3
ECON305	Intermediate Macroeconomic Theory and Policy	4
or ECON306	Intermediate Microeconomic Theory & Policy	
Track II Requirement: [1]		
Six credits of ECON coursework at the 300-400 levels selected from the approved course list [2]		6
Total Credits		**19**

1. The course taken for the Track I requirement may not also be used for the Track II requirement. No double-count for these two categories.
2. See the program website (https://sdsc.umd.edu/major-requirements/) for a listing of courses that count for this elective category.

Geographical Sciences Track

Course	Title	Credits
Benchmark II Track Courses:		
GEOG202	Introduction to Human Geography	3
Track I Requirement:		
GEOG306	Introduction to Quantitative Methods for the Geographical Environmental Sciences	3
GEOG373	Geographic Information Systems	3
Track II Requirement:		
9 credits from the following list (six must be at the 400-level):		9
GEOG276	Principles of Python Programming and Geocomputing	
GEOG330	As the World Turns: Society and Sustainability in a Time of Great Change	
GEOG331	Introduction to Human Dimensions of Global Change	
GEOG333	The Social Geography of Metropolitan Areas in Global Perspective	
GEOG377	Artificial Intelligence for Spatial Data	
GEOG415	Land Use, Climate Change, and Sustainability	
GEOG416	Conceptualizing and Modeling Human-Environmental Interactions	
GEOG422	Changing Geographies of Sub-Saharan Africa	
GEOG431	Culture and Natural Resource Management	
GEOG432	Spatial Econometrics	
GEOG470	Algorithms for Geospatial Computing	
GEOG473	Geographic Information Systems and Spatial Analysis	
GEOG475	Geographic Visualization and Digital Mapping	
Total Credits		**18**

Government and Politics Track

Course	Title	Credits
Benchmark II Track Courses:		
GVPT170	American Government	3
Track I Requirement:		
GVPT200	International Political Relations	3
GVPT201	Scope and Methods for Political Science Research	3
GVPT320	Advanced Empirical Research	3
Track II Requirement:		
Any six credits of GVPT coursework at the 300- or 400- levels		6
Total Credits		**18**

Psychology Track

Course	Title	Credits
Benchmark II Track Courses:		
PSYC100	Introduction to Psychology	3
Track I Requirement:		
PSYC200	Statistical Methods in Psychology	3
PSYC300	Research Methods in Psychology Laboratory	4
Track II Requirement: [1]		
Nine credits of PSYC coursework at the 300 or 400-level.		9
Total Credits		**19**

[1] Courses taken for the Track I requirement may not also be used for the Track II requirement. No double-count for these two categories.

Public Health Track

Course	Title	Credits
Benchmark II Track Courses:		
SPHL100	Foundations of Public Health	3
Track I Requirement:		
EPIB301	Epidemiology for Public Health Practice	3
EPIB315	Biostatistics for Public Health Practice	3
HLTH200	Introduction to Research in Community Health	3
Track II Requirement:		
Nine credits from the following list:		9
EPIB330	Introduction to Infectious Disease Epidemiology	
EPIB463	Introduction to Programming in R	
FMSC310	Maternal, Child and Family Health	
FMSC332	Children in Families	
FMSC460	Violence in Families	
HLSA300	Introduction to Health Policy and Services	
HLSA465	Redesigning Mental Health Services	
HLSA484	Redesigning Health Care: Developing a Clinic to Meet Community Needs	
HLTH377	Human Sexuality	
HLTH424	Lesbian, Gay, Bisexual & Transgender Health	
HLTH431	Health Literacy in Action	
HLTH434	Introduction to Public Health Informatics	
HLTH460	Multicultural Population Health	
KNES401	Zip Code: Prediction of Physical Activity & Health	
PHSC412	Food, Policy, and Public Health	
Total Credits		**21**

Sociology Track

Course	Title	Credits
Benchmark II Track Courses:		
SOCY100	Introduction to Sociology	3
Track I Requirement:		
SOCY201	Introductory Statistics for Sociology	4
SOCY202	Introduction to Research Methods in Sociology	4
Track II Requirement:		
Nine credits of SOCY coursework at the 300 or 400-level		9
Total Credits		**20**

GRADUATION PLANS

Click here (https://fellercenter.umd.edu/academic-advising/forms-policies/graduation-plans/) for roadmaps for graduation plans in the College of Behavioral and Social Sciences.

Additional information on developing a graduation plan can be found on the following pages:

- http://4yearplans.umd.edu
- the Student Academic Success-Degree Completion Policy (https://academiccatalog.umd.edu/undergraduate/registration-academic-requirements-regulations/academic-advising/#success) section of this catalog