SOCIAL DATA SCIENCE MAJOR (INFO)

Program Directors: Brian Kim, PhD and Katie Shilton, PhD

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 Studies (iSchool) 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 the iSchool 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, 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:		
INST126	Introduction to Programming for Information Science	3
or GEOG276	Principles of Python Programming and Geocomputing	
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:		
BSOS233	Data Science for the Social Sciences	3
Choose One:		3
INST326	Object-Oriented Programming for Information Science	
BSOS326	Python Programming for the Social Sciences	
GEOG376	Programming for Geospatial Analysis	
INST327	Database Design and Modeling	3
INST366	Privacy, Security and Ethics for Big Data	3
INST414	Data Science Techniques	3
INST447	Data Sources and Manipulation	3
INST462	Introduction to Data Visualization	3
SURV400	Fundamentals of Survey and Data Science	3
SURV430	Fundamentals of Questionnaire Design	3
Capstone		
INST492	(Integrated Capstone for Social Data Science)	3
Track Area Courses (see below for specific requirements)		**12-21**
Total Credits		**51-60**

African American Studies Track

Course	Title	Credits
Benchmark II Track Courses:		
AASP101	Public Policy and the Black Community	3
AASP210	Intro to Research Design and Analysis in African American Studies	3
Track I Requirement:		
AASP395	Fundamentals of Quantitative Research in Socio-Cultural Perspective	3
Track II Requirement:		
Nine credits from the following list:		9
AASP301	Applied Policy Analysis and the Black Community	
AASP310	African Slave Trade	
AASP313	Black Women in United States History	
AASP314	The Civil Rights Movement	
AASP400	Directed Readings in African American Studies	
AASP402	Classic Readings in African American Studies	
AASP411	Black Resistance Movements	
AASP441	Science, Technology, and the Black Community	

AASP443	Blacks and the Law	
AASP499	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
INST314	Statistics for Information Science	3
Anthropology-Health Track I Requirement:		
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 Disparities in the United States	
ANTH415	Advanced Studies in 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	Theory and Practice of Environmental Anthropology	
ANTH454	Political Ecology	
ANTH456	Conservation and Indigenous People in South America	
ANTH462	Amazon Through Film	
ANTH467	Researching Environment and Culture	

Economics Track

Course	Title	Credits
Benchmark II Track Courses:		
ECON200	Principles of Microeconomics	3
ECON201	Principles of Macroeconomics	3
ECON230	Applied Economic Statistics	3
Track I Requirement:		
ECON305	Intermediate Macroeconomic Theory and Policy	3
or ECON306	Intermediate Microeconomic Theory & Policy	
Track II Requirement: [1]		
Six credits from the following list:		6
ECON305	Intermediate Macroeconomic Theory and Policy	
or ECON306	Intermediate Microeconomic Theory & Policy	
ECON311	American Economic History Before the Civil War	
ECON312	American Economic History After the Civil War	
ECON315	Economic Development of Underdeveloped Areas	
ECON317	Global Economic Policies	
ECON330	Money and Banking	
ECON340	International Economics	
Total Credits		**18**

[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.

Geographical Sciences Track

Course	Title	Credits
Benchmark II Track Courses:		
GEOG202	Introduction to Human Geography	3
GEOG306	Introduction to Quantitative Methods for the Geographical Environmental Sciences	3
Track I Requirement:		
GEOG373	Geographic Information Systems	3
Track II Requirement:		
9 credits from the following list (six must be at the 400-level):		9
GEOG330	As the World Turns: Society and Sustainability in a Time of Great Change	
GEOG331	Introduction to Human Dimensions of Global Change	
GEOG332	Economic Geography	
GEOG333	The Social Geography of Metropolitan Areas in Global Perspective	
GEOG335	Population Geography	
GEOG415	Land Use, Climate Change, and Sustainability	
GEOG416	Conceptualizing and Modeling Human-Environmental Interactions	
GEOG421	Changing Geographies of China	
GEOG422	Changing Geographies of Sub-Saharan Africa	
GEOG432	Spatial Econometrics	

GEOG470	Algorithms for Geospatial Computing	
GEOG473	Geographic Information Systems and Spatial Analysis	
GEOG475	Geographic Visualization and Digital Mapping	
GEOG477	Mobile GIS Development	
Total Credits		**18**

Government and Politics Track

Course	Title	Credits
Benchmark II Track Courses:		
GVPT170	American Government	3
GVPT200	International Political Relations	3
GVPT201	Scope and Methods for Political Science Research	3
Track I Requirement:		
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
PSYC200	Statistical Methods in Psychology	3
Track I Requirement:		
PSYC300	Research Methods in Psychology Laboratory	4
Track II Requirement:		
Nine credits from the following list:		9
PSYC330	Child Psychopathology	
PSYC332	Psychology of Human Sexuality	
PSYC334	Psychology of Interpersonal Relationships	
PSYC336	Psychology of Women	
PSYC341	Introduction to Memory and Cognition	
PSYC344	Health Psychology	
PSYC353	Adult Psychopathology	
PSYC354	Multicultural Psychology in the U.S.	
PSYC355	Developmental Psychology	
PSYC356		
PSYC361	Survey of Industrial and Organizational Psychology	
PSYC362	Introduction to Negotiation	
PSYC416	Development of Attachment in Infancy and Childhood: Theory, Research, Methods, and Clinical Implications	
PSYC417	Data Science for Psychology and Neuroscience Majors	
PSYC420	Experimental Psychology: Social Psychology Laboratory	
PSYC424	Communication and Persuasion	
PSYC425	Psychology and Law	
PSYC432	Counseling Psychology: Theories, Research, and Practice	
PSYC435	Temperament, Personality, and Psychopathology	

Course	Title	Credits
PSYC436	Introduction to Clinical Psychology: From Science to Practice	
PSYC437	The Assessment and Treatment of Addictive Behaviors	
PSYC440	Experimental Psychology: Cognitive Processes and Legal Applications	
PSYC450	Applying Psychology to the Workplace: Industrial Organizational Psychology Laboratory	
PSYC456	Research Methods in Developmental Psychology Laboratory	
PSYC460	Psychological Foundations of Personnel Selection and Training	
Total Credits		**19**

Public Health Track

Course	Title	Credits
Benchmark II Track Courses:		
SPHL100	Foundations of Public Health	3
EPIB301	Epidemiology for Public Health Practice	3
EPIB315	Biostatistics for Public Health Practice	3
Track I Requirement:		
HLTH200	Introduction to Research in Community Health	3
Track II Requirement:		
Nine credits from the following list:		9
EPIB330	Introduction to Infectious Disease Epidemiology	
EPIB400	Obesity: An Epidemiologic Perspective	
EPIB463	Introduction to Biostatistical Programming	
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	
HLTH434	Introduction to Public Health Informatics	
KNES400	The Foundations of Public Health in Kinesiology	
KNES401	Zip Code: Prediction of Physical Activity & Health	
MIEH240	Global Health Projects: Addressing Health Needs with a focus on Reciprocity and Relationships	
MIEH400	Introduction to Global Health	
PHSC401	History of Public Health	
PHSC412	Food, Policy, and Public Health	
Total Credits		**21**

Sociology Track

Course	Title	Credits
Benchmark II Track Courses:		
SOCY100	Introduction to Sociology	3
SOCY201	Introductory Statistics for Sociology	4
Track I Requirement:		
SOCY202	Introduction to Research Methods in Sociology	4

Track II Requirement:		
Nine credits from the following list:		9
SOCY325	The Sociology of Gender	
SOCY335	Sociology of Health and Illness	
SOCY401	Intermediate Statistics for Sociologists	
SOCY405	Scarcity and Modern Society	
SOCY406		
SOCY407	Explaining Social Change: Historical and Comparative Methods	
SOCY410	Social Demography	
SOCY411	Demographic Techniques	
SOCY412	Family Demography	
SOCY413	Sociology of Aging	
SOCY415	Environmental Sociology	
SOCY420	Qualitative Research Methods in Sociology	
SOCY430		
SOCY431	Principles of Organizations	
SOCY432	Social Movements	
SOCY441	Social Stratification and Inequality	
SOCY442	The Black Middle Class	
SOCY444		
SOCY445	Sex and Love in Modern Society	
SOCY457	Sociology of Law	
SOCY464	Military Sociology	
SOCY465	War and Society, from the American Revolution to the Present	
SOCY467	Sociology of Education	
SOCY480	Researching the Middle East	
SOCY490	Experimental Research Practicum	
SOCY491	Experimental Research Design	
Total Credits		**20**

FOUR-YEAR PLAN

Click here (https://ischool.umd.edu/academics/student-services/ undergraduate-college-park/four-year-plans/) for roadmaps for four-year plans in the College of Information Studies.

Additional information on developing a four-year academic 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