BACHELOR OF SCIENCE (BS) DATA ANALYTICS: SOCIAL SCIENCE ANALYTICS SPECIALIZATION

Major Prerequisites (13 hours)

These courses may overlap with the General Education curriculum where appropriate. Courses in **BOLD** should be completed before submitting an application to the Data Analytics major.

Department	Course	Hours	Term Offered
Math	**Math 1151** (1161 or 1181H) – Calculus I	5	AU/SP/SU
	Math 1152 (1172, 2162 or 2182H) – Calculus II	5	AU/SP/SU
Computer Science & Engineering	***CSE 1223** – Computer Programming in Java	3	AU/SP/SU

*CSE 1222 or CSE placement level A can also fulfill this prerequisite; however, 1223 is *strongly* preferred.

Core Requirements (51 hours)

The Data Analytics Core courses follow a strict pre-requisite structure. Some courses are only offered once per year. Failure to successfully enroll in and complete these courses will delay graduation.

Department	Course	Hours	Terms Offered
Math	Math 2568 – Linear Algebra	3	AU/SP/SU
Industrial & Systems Engineering	ISE 3230 – Systems Modeling and Optimization	3	AU
Computer Science & Engineering	**CSE 2221** – Software I: Software Components	4	AU/SP/SU
	CSE 2231 – Software II: Development & Design	4	AU/SP/SU
	CSE 2321 – Foundations I: Discrete Structures	3	AU/SP/SU
	CSE 2421 or 3430 – Systems I: Computer Systems	4	AU/SP/SU
	CSE 3241 – Databases I: Computer Architecture	3	AU/SP/SU
	CSE 3244 or 5242 – Adv. DB & Cloud Computing	3	AU/SP
	CSE 5243 – Data Mining	3	AU/SP
	CSE 5544 or ISE 5760 – Data Visualization	3	AU/SP
Statistics	STAT 3201 – Probability for Data Analytics	3	AU/SP
	STAT 3202 – Statistical Inference for Data Analytics	4	AU/SP
	STAT 3301 – Statistical Modeling for Discovery I	3	AU
	STAT 3302 – Statistical Modeling for Discovery II	3	SP
	STAT 4620 – Statistical Learning	2	AU
	STAT 3303 – Statistical Decision Making	3	SP

Social Science Analytics Specialization (19 hours)

Overview of Research Methods – Choose one research methods course from back of sheet	3
Social Science electives – Choose 9 hours of electives from back of sheet	9
CSE 59xx/STAT 5xxx – Capstone in CSE or Data Analytics (Senior year)	4
*Independent research in the Social Sciences – DEPT 4998/4999	3

*Meet with a Data Analytics advisor early in your third year to discuss options for fulfilling this research requirement.

GENERAL EDUCATION

Please visit http://artsandsciences.osu.edu/academics/current-students/advising/ge for a list of your General Education curriculum requirements.

Revised 04/2018

BACHELOR OF SCIENCE (BS) DATA ANALYTICS: SOCIAL SCIENCE ANALYTICS SPECIALIZATION

In addition to coursework within the specialization, students completing the Social Science Analytics specialization will be required to complete an independent research project of their choosing under the guidance of a faculty member. In order to prepare for this independent research project, students are encouraged to complete GE courses by strategically selecting relevant coursework that meets their research interests. There are several GE courses that might be of interest to students depending on the area of research they wish to pursue. Students can strategically coordinate a number of GE courses in a way that could be helpful in preparing for their required research project. Recommended GE courses are listed at https://data-analytics.osu.edu/social-science-specialization-gen-eds.

OVERVIEW OF RESEARCH METHODS			
COURSE	**TITLE**	**HOURS**	**PREREQUISITES**
Choose **one** of the following:			
COMM 3160	Communications Research Methods	4	STAT 1450 or higher
POLISCI 4781	Data Analysis in Political Science I	3	MATH 1151 & one POLISCI course at 3000-level or higher
PSYCH 2300	Research Methods in Psychology	3	PSYCH 1100 or 1100H
SOCIOL 3487	Research Methods in Sociology	3	None

ELECTIVES: FOCUSED RESEARCH METHODS AND VISUALIZATION AND SPATIAL ANALYSES			
COURSE	**TITLE**	**HOURS**	**PREREQUISITES**
Choose **three** of the following:			
ANTHRO 5650	Research Design and Ethnographic Methods	3	ANTHROP 2202
ANTHRO 5651	Spatial Analysis for Anthropologists	3	GEOG 5210
COMM 3163	Communication Industry Research Methods	4	STAT 1450 or higher
ECON 4050	Experimental Economics	3	ECON 2001.xx or equiv.
ECON 5420	Econometrics II	3	ECON 5410 & 4002.xx
GEOG 5200	Cartography and Map Design	3	None
GEOG 5201	GeoVisualization	3	GEOG 5200
GEOG 5210	Fundamentals of Geographic Information Systems	3	None
GEOG 5222	GIS Algorithms & Programming	3	GEOG 5210 & 5212 & CSE 1114
GEOG 5223	Design & Implementation of GIS	3	GEOG 5222
GEOG 5225	Geographic Applications of Remote Sensing	3	None
GEOG 5226	Spatial Simulation and Modeling	3	None
POLISCI 3780	Data Literacy and Data Visualization	3	None
PSYCH 4511	Psychological Testing	3	PSYCH 2220 & 2300
SOCIOL 4650	Seminar in Social Networks	3	GE Data Analysis or GE Mathematical and Logical Analysis course
STAT 5510	Statistical Foundations of Survey Research	3	STAT 1450 or higher & MATH 1075 or higher