

# Social Science Analytics Certificate 18 s.h.

## Department of Political Science

### Introduction to Data and the Social Sciences

POLI:1050 Big Ideas: Introduction to Information and Society, 3 s.h.

### Science Research Design and Data Analysis

*One of these:*

POLI:2000 Designing Political Research, 3 s.h.

SOC:2170 Research Methods, 3 s.h.

### Core Statistics

*Two of these: May not use both POLI:3000 and SOC:2160 to complete requirement*

POLI:3000 Analyzing Political Data, 3 s.h.

SOC:2160 Applied Statistics for Social Scientists, 3 s.h.

STAT:1020 Elementary Statistics and Inference, 3 s.h.

STAT:3120 Probability and Statistics, 4 s.h.

STAT:3200 Applied Linear Regression, 3 s.h.

STAT:4143 Introduction to Statistical Methods, 3 s.h.

STAT:6513 Intermediate Statistical Methods, 4 s.h.

### Building Skills and Data Science

*One of these:*

CS:1210 Computer Science I: Fundamentals, 4 s.h.

CS:2110 Programming for Informatics, 4 s.h.

CS:2520 Human-Computer Interaction, 3 s.h.

CS:3980 Topics in Computer Science I, 3 s.h.

ECON:4800 Introduction to Econometrics, 3 s.h.

GEOG:1050 Foundations of GIS, 3 s.h.

GEOG:1065 Introduction to Spatial Analysis: Patterns and Processes, 3 s.h.

GEOG:3540 Introduction to Geographic Visualization, 3 s.h.

GEOG:4150 Health and Environment: GIS Applications, 3 s.h.

GEOG:4580 Introduction to Geographic Databases, 3 s.h.

GEOG:4870 Applied Geostatistics, 3 s.h.

MSCI:3200 Database Management (CS:2110 or MSCI:3005), 3 s.h.

MSCI:3250 Analyzing Data for Business Intelligence (MSCI:3200), 3 s.h.

MSCI:3500 Data Mining (STAT:2020 with a minimum grade of B or ECON:2800 or STAT:4101 or ECON:4800), 3 s.h.

POLI:3050 Problems in Methods, arr.

SOC:3880 The Sociology of Networks, 3 s.h.

STAT:4520 Bayesian Statistics, 3 s.h.

STAT:4540 Statistical Learning, 3 s.h.

STAT:6510 Applied Generalized Regression, 3 s.h.

STAT:6560 Applied Time Series Analysis, 3 s.h.

### Applied Research Experience

*At least 3 s.h. from these:*

GEOG:4030 Senior Project Seminar, 3 s.h.

GHS:3010 Identifying and Developing a Global Health Project ,2-3 s.h.

POLI:3001 Hawkeye Poll, 3 s.h.

POLI:3127 Legislative Policy Seminar, 3 s.h.

POLI:4600 Honors Research Project, 3 s.h.

POLI:4702 Senior Research Project/Paper, 3 s.h.

SOC:4998 Honors Research, arr.

STAT:6220 Statistical Consulting, 3 s.h.

**\*\*Students may count no more than 6 s.h. toward both a major and this certificate**