



# UNDERGRADUATE MAJOR IN SOCIAL DATA SCIENCE

## SOCIAL DATA SCIENCE - GEOGRAPHICAL SCIENCES & GIS

A MINIMUM GRADE OF C- MUST BE EARNED IN ALL BENCHMARKS, SDSC CORE COURSES, AND SDSC MAJOR ELECTIVES.

### MATH REQUIREMENT

\*Must be completed within the first 30 credits after declaring the major\*

#### **STAT100**

##### *Elementary Statistics and Probability*

Pre-requisite: MATH110, MATH112, MATH113, or MATH115; or permission of CMNS-Mathematics department; or must have math eligibility of STAT100 or higher and math eligibility is based on the Math Placement Exam or the successful completion of Math 003 with appropriate eligibility

#### **MATH120 (OR HIGHER)**

##### *Elementary Calculus I*

Pre-requisite: 1 course with a minimum grade of C- from (MATH112, MATH113, MATH115). Or must have math eligibility of MATH120 or higher; and math eligibility is based on the Math Placement Test

### BENCHMARK I

\*Choose only 1 between INST126 and GEOG276\*

#### **INST126**

##### *Intro to Programming*

Pre-requisite: Math placement of STAT100 or higher  
Equivalent courses approved by the iSchool may fulfill this requirement; please see an advisor

#### **GEOG276**

##### *Principles of Python Programming and Geocomputing*

### BENCHMARK II

\*Must be completed within the first 60 credits after declaring the major\*

#### **GEOG202**

##### *Introduction to Human Geography*

#### **GEOG306**

##### *Introduction to Quantitative Methods for the Geographical Environmental Sciences*

### CORE COURSES

#### **BSOS233**

##### *Data Science for the Social Sciences*

Pre-requisite: Minimum grade of C- in MATH115 or higher

#### **INST327**

##### *Database Design and Modeling*

Pre-requisite: Minimum grade of C- in INST126 or GEOG276

#### **INST366**

##### *Privacy, Security, and Ethics for Big Data*

Pre-requisite: Minimum grade of C- in INST126 or GEOG276; and minimum grade of C- in STAT100; and minimum grade of C- in one of the following (AASP101, ANTH210, ANTH260, ECON200, ECON201, GEOG202, GVPT170, PSYC100, or SOCY100)

\*Choose only 1 between INST326, BSOS326, or GEOG376\*

#### **INST326**

##### *Object-Oriented Programming for Information Science*

Pre-requisite: Minimum grade of C- in INST126 or GEOG276

#### **BSOS326**

##### *Python Programming for the Social Sciences*

Pre-requisite: Minimum grade of C- in MATH115 or higher

#### **GEOG376**

##### *Introduction to Computer Programming*

Pre-requisite: GEOG276 and GEOG373; Must have completed or be concurrently enrolled in MATH120, MATH130, or MATH140; or must have completed MATH220



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## CORE COURSES CONTINUED

### **INST414**

#### ***Advanced Data Science***

Pre-requisite: Minimum grade of C- in MATH115 (or higher) and STAT100; and a minimum grade of C- from INST126 or GEOG276; and a minimum grade of C- from one of the following (INST201, INST301, or BSOS233); and a minimum grade of C- from one of the following (AASP101, ANTH210, ANTH260, ECON200, ECON201, GEOG202, GVPT170, PSYC100, or SOCY100); and a minimum grade of C- from one of the following (ECON230, GEOG306, GVPT201, INST314, PSYC200, or SOCY201)

### **INST447**

#### ***Data Sources and Manipulation***

Pre-requisite: Minimum grade of C- in STAT100 and INST327; and a minimum grade of C- from one of the following (INST201, INST301, BSOS233); and a minimum grade of C- from one of the following (AASP101, ANTH210, ANTH260, ECON200, ECON201, GEOG202, GVPT170, PSYC100, or SOCY100); and a minimum grade of C- from one of the following (ECON230, GEOG306, GVPT201, INST314, PSYC200, or SOCY201); and a minimum grade of C- from one of the following (BSOS331, GEOG273, or INST326)

### **INST462**

#### ***Intro to Digital Visualization***

Pre-requisite: Minimum grade of C- in STAT100; minimum grade of a C- from one of the following (INST201, INST301, or BSOS233); minimum grade of C- in INST126 or GEOG276; a minimum grade of C- from one of the following (AASP101, ANTH210, ANTH260, ECON200, ECON201, GEOG202, GVPT170, PSYC100, or SOCY100); and a minimum grade of C- from one of the following (ECON230, GEOG306, GVPT201, INST314, PSYC100, or SOCY201)

### **SURV400**

#### ***Fundamentals of Survey and Data Science***

Pre-requisite: Minimum grade of C- in STAT100; or permission of BSOS-Joint Program in Survey Methodology department

### **SURV430**

#### ***Fundamentals of Questionnaire***

Requirement: Permission of BSOS-Joint Program in Survey Methodology department

### **INST492**

#### ***Capstone***

Pre-requisite: Minimum grades of C- or higher in all of the Core Courses

## TRACK I COURSES

### **GEOG373**

#### ***Geographic Information Systems***

## TRACK II COURSES

\*Choose 9 credits in Track II\*