Data Science and Analysis BS, Social Science Emphasis

General Education Requirements
Students must satisfy the university general education requirements. Many of the courses for the degree may be used to fulfill math proficiency, information literacy, social science, and math and life/natural sciences requirements. There is no foreign language requirement for the degree.

Satisfactory/Unsatisfactory Option
Courses required for the major may not be taken on a satisfactory/unsatisfactory basis.

Degree Requirements
The BS in Data Science and Analysis consists of a set of core courses along with an emphasis area.

Core Course
MATH 1800  Analytic Geometry and Calculus I 3-5
or MATH 1100  Basic Calculus

Statistics Course
The Introduction to Statistics course should align with the student’s Discipline Emphasis Area.

Choose one of the following:
- SOC/ANTHRO 3220  Quantitative Data Analysis in Social Science Research
- BIOL 4122  Biostatistics
- ECON 3100  Economic Data and Statistics
- CRIMIN 2220  Statistical Analysis in Criminology and Criminal Justice
- MATH 1320  Introduction to Probability and Statistics
- PSYCH 2201  Psychological Statistics
- POL SCI 3000  Political Analysis
- SCMA 3300  Business Analytics and Statistics
- MATH 4005  Exploratory Data Analysis with R 3
- CMP SCI 1250  Introduction to Computing 3
- CMP SCI 4200  Python for Scientific Computing and Data Science 3
- CMP SCI 4342  Introduction to Data Mining 3

Total Hours 18-20

Emphasis Area Requirements
Choose two of the following. Courses must be from at least two subject areas:
- ANTHRO 1005  Introduction to Human Evolution
- CRIMIN 1100  Introduction to Criminology and Criminal Justice
- ANTHRO 1011  Introduction To Cultural Anthropology (MOTR ANTH 201)
- CRIMIN 1019  Introduction to Archaeology
- CRIMIN 1110  Theories of Crime
- POL SCI 1100  Introduction to American Politics (MOTR POSC 101)
- POL SCI 1500  Introduction to Comparative Politics (MOTR POSC 202)
- POL SCI 1800  Introduction to International Politics (MOTR POSC 201)
- PSYCH 1003  General Psychology (MOTR PSYC 100)
- SOC 1010  Introduction to Sociology (MOTR SOCI 101)
- SOC 2280  Technology And Society
- CRIMIN 2210  Research Methods in Criminology and Criminal Justice
- PSYCH 2219  Research Methods in Psychological Science
- POL SCI 3000  Political Analysis
- SOC 3230  Social Research Methods

Choose three of the following. Courses must be from two subject areas:
- ANTHRO/SOC 4015  Data Analytics in the Social Sciences
- ANTHRO 4160  Geographical Information Systems in Anthropology and Sociology
- ANTHRO 4310  Laboratory Methods in Archaeology
- COMM 3150  Crisis, Disaster, and Risk Communication
- COMM 4100  Communication Campaigns
- POL SCI 3330  Public Opinion and Political Participation
- POL SCI 4040  Survey Research Practicum in Political Science
- PSYCH 3318  Industrial and Organizational Psychology
- PSYCH 4365  Psychological Testing and Assessment
- SOC 3344  Problems of Urban Community
- SOC 4040  Survey Research Practicum for Sociology

Total Hours 18

Learning Outcomes
Upon completion of the program, graduates will be able to:

- Apply knowledge of statistical data collection, analysis and quantitative modeling techniques
- Demonstrate proficiency in industry-standard programming languages that support data acquisition, retrieval and analysis
- Select, apply and build data-based models and visualizations to devise solutions to data science problems
• Effectively communicate technical results and recommendations in various formats to appropriate audiences
• Identify and apply appropriate social theories to understand social phenomena
• Critically evaluate explanations of human behavior and social phenomena
• Apply statistical concepts and data science methods to analyze real-world problems in communications, political science, sociology, or psychology