Data Science and Analysis BS, Mathematics 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
or MATH 1100

Statistics Course
The Introduction to Statistics course should align with the student's Discipline Emphasis Area.
Choose one of the following:
SOC/ANTHRO 3220
BIOL 4122
ECON 3100
CRIMIN 2220
MATH 1320
PSYCH 2201
POL SCI 3000
SCMA 3300
MATH 4005
CMP SCI 1250
CMP SCI 4200
CMP SCI 4342

Total Hours 3

Emphasis Area Requirements
MATH 1900
MATH 2000
MATH 2450
MATH 4200
MATH 4210
Choose two of the following:
MATH 4090
MATH 4220

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
- Reformulate problems or question in relevant mathematical terms
- Solve multivariable problems which involve algebra or calculus
- Apply statistical concepts and data science methods to analyze real-world problems using appropriate mathematical processes and techniques

1 Students interested in the Computer Science emphasis area, the Mathematics Emphasis Area, or in taking additional mathematics courses should take MATH 1800.