



CONTENT KNOWLEDGE (Declarative Knowledge): Students graduating with a B.S. degree in Data science and Analytics will demonstrate knowledge of the major concepts (1) of using statistics to analyze data, (2) of leveraging computer tools for analyzing and cleaning data, and (3) of using data science to solve application problems.

All undergraduate students majoring in data science and analytics are required to complete an Introductory Statistics course (STA 2023), a course on Tools for Data Science (CAP 2751), and a Data Science Capstone (ISC 4941). In the former two courses, students submit solutions to homework problems, operate on data sets with software, and take examinations designed to assess their understanding of major concepts in areas (1) and (2). In the capstone experience, students must leverage data analysis in an application context (3).

COMMUNICATION (Written Communication): Students graduating with a B.S. in Data Science and Analytics degree will produce writing that is well organized and grammatically correct, and they will be able to concisely describe societal implications of large-scale data analysis applications.

All undergraduate students majoring in data science and analytics are required to complete Artificial Intelligence for Social Good (CCJ 3071). In this course, students must complete writing assignments that address societal implications of data analysis. In addition, students must complete the Data Science Capstone (ISC 4941), which requires students to write a report detailing their approach and findings.

CRITICAL THINKING (Analytical Skills): Students graduating with a B.S. in Data Science and Analytics degree will correctly analyze and determine the validity of mathematical and statistical arguments. They will apply best practices when using data science to solve concrete problems.

Students in Mathematics of Data Science (MAP 2190) are exposed to mathematical arguments and produce their own mathematical propositions, both in submitted homework and in in-class examinations. Students in Experimental Design and Data Analysis (CAP 2753) and in Data Management and Analysis with Excel (QMB 3302) combine acquired theoretical knowledge with domain-specific requirements to solve applied problems, both in submitted homework and in in-class examinations.