DASC - Data Science

DATA SCIENCE Courses

DASC 300. Foundations of Data Science. 3 Credits.
This course provides an interdisciplinary overview of data sciences drawing on key elementary topics related to data analytics. A specific focus is given to the way that decisions made about data from those disciplinary pursuits inform policy, product development, and humanity. Topics addressed include elements of data, data collection, the connections between machine learning and data, survey research, programming with Python and R, statistical learning, model evaluations, digital engineering, and ethical uses of data. Prerequisites: junior standing.

DASC 368. Data Science Internship. 1-6 Credits.
This course allows students to work for an employer in a position related to data science. Students must work for 50 hours per course credit and complete course assignments. Prerequisites: approval by the program coordinator.

DASC 436. Data Science Capstone Project. 3 Credits.
Students work individually or in groups to plan, design, and carry out a research project demonstrating expertise with data science. Final papers that report the results for the study are presented in a formal research seminar. The projects reflect knowledge gained from undergraduate work and training received in discipline-specific research methods and statistics courses. Prerequisites: senior standing.

DASC 494. Entrepreneurship in Data Science. 3 Credits.
This course is designed to help students enhance their personal and professional development through innovation guided by faculty members and professionals. It offers students an opportunity to integrate disciplinary theory and knowledge through developing a nonprofit program, product, business, or other initiative. The real-world experiences that entrepreneurship provides will help students understand how academic knowledge leads to transformations, innovations, and solutions to different types of problems. The course can be delivered either as an independent project for individual students or as group projects similar to those sometimes offered in topics courses. Prerequisites: junior standing.

DASC 496/596. Topics in Data Science. 3 Credits.
The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule and will be more fully described in information distributed to academic advisors. Prerequisites: junior standing.

DASC 497/597. Independent Study. 1-3 Credits.
Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate. Prerequisites: senior standing and approval of the program coordinator.

DASC 596. Topics in Data Science. 3 Credits.
The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule and will be more fully described in information distributed to academic advisors.

DASC 597. Independent Study. 1-3 Credits.
Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate. Prerequisites: approval of the program coordinator.

DASC 620. Introduction to Data Science and Analytics. 3 Credits.
This course will explore data science as a burgeoning field. Students will learn fundamental principles and techniques that data scientists employ to mine data. They will investigate real life examples where data is used to guide assessments and draw conclusions. This course will introduce software and computing resources available to a data scientist to process, visualize, and model different types of data including big data. Cross-listed with CS 620.

DASC 690. Data Science Capstone Project. 3 Credits.
The culminating course in the proposed MS in Data Science and Analytics degree program will bring students together with faculty and external partners. In consultation with a faculty advisor and a business or industry or government representative, students will be required to develop a project that aims to solve a data science/analytics problem in a real-world business, industry, or government setting. Faculty and business/industry/government representatives will serve as external mentors for the students during this experience. Note that an external mentor is not mandatory but encouraged. Pre- or corequisite: DASC 620/CS 620, CS 624, CS 625, STAT 603, and STAT 604.