

DATA SCIENCE AND ANALYTICS

BACHELOR OF SCIENCE (B.S.)

Degree Requirements

The minimum number of credits required for the Bachelor of Science with major in Data Science and Analytics is 120 credits: 36 credits in the Intellectual Foundations Program, 48 credits of major requirements and up to 36 credits of general electives. Additional requirements:

1. A minimum of 45 upper-division credits;
2. Students must attain a minimum grade of "C" in all major courses to receive credit in the major; and
3. No major course with a pass/fail grade will be accepted.

The 48 required credits for the major are listed below.

Common Core

Tools for Data Science	CAP 2751	3
Experimental Design and Data Analysis	CAP 2753	3
Artificial Intelligence for Social Good	CCJ 3071	3
Data Science Capstone	ISC 4941	3
Mathematics for Data Science	MAP 2192	3
Data Management and Analysis with Excel	QMB 3302	3
Introductory Statistics	STA 2023	3
<i>Common Core Credits</i>		21

Electives

Choose two courses from the List of Elective Courses for all Concentrations

Elective Credits **6**

Data Science and Engineering Concentration

Concentration Core Requirements

Introduction to Data Science and Analytics	CAP 4773	3
<i>Take all courses from either Group 1 or Group 2</i>		
<i>Group 1</i>		
Introduction to Programming in C (if applicable)*	COP 2220	3
Foundations of Computer Science	COP 3014	3
Data Structures and Algorithm Analysis	COP 3530	3

Group 2

Introduction to Programming in Python	COP 3035	3
<u>Introduction to Software Design</u>	<u>CEN 3062</u>	<u>3</u>
Data Structures and Algorithm Analysis with Python	COP 3410	3
Concentration Core Credits		<u>12-9-12</u>

Concentration Core Electives. Choose three courses ~~or four courses~~ so that the total of concentration credits is 21.

Introduction to Deep Learning	CAP 4613	3
Introduction to Artificial Intelligence	CAP 4630	3
Introduction to Data Mining and Machine Learning	CAP 4770	3
Introduction to Computer Systems Performance Evaluation	CEN 4400	3
Introduction to Database Structures	COP 3540	3
Introduction to Internet Computing	COP 3813	3
<u>Introduction to Web Programming</u>	<u>COP 3826</u>	<u>3</u>
Python Programming	COP 4045	3
Applied Database Systems	COP 4703	3
Concentration Elective Credits		9-12
Concentration Credits		21

* Students who have taken a college-level introductory course in programming may substitute this course with one of the Concentration Elective Courses, with permission of the advisor.