

DATA SCIENCE, BACHELOR OF SCIENCE

College: College of Science and Health

Department: Mathematical and Computational Sciences

Student Type: Traditional Undergraduate

Degree: Bachelor of Science

Campus: Lisle Campus

Progression in the Data Science Program

For progression in the Data Science program students must complete the introductory sequence of CMSC 2200 Computer Programming, CMSC 2205 Data Structures and Algorithms I, and MATH 2210 Calculus I, MATH 2211 Calculus II, MATH 2212 Calculus III with a GPA of 2.500 or above and a grade of "C" or better in each of these courses. A transfer student must meet these requirements through equivalent transfer courses. Additionally, a transfer student must earn a GPA of 2.500 or above in all major classes during the first semester at Benedictine in order to progress in the Data Science program.

If it is determined at any time that a student cannot progress in the Data Science program or cannot graduate with a Data Science degree, the student will be required to change his or her major and seek academic advising outside of that program.

Requirements - Major

The Data Science major must complete a minimum of 53 semester credit hours of mathematics and computer science courses. Required courses are:

Code	Title	Hours
NTSC 1101	College of Science and Health Experience	1
CMSC 2200	Computer Programming	3
CMSC 2205	Data Structures and Algorithms I	3
CMSC 3270	Data Structures and Algorithms II	3
CMSC 3274	Object-Oriented Design and Programming	3
CMSC 3330	Database Management Systems	3
MATH 2210	Calculus I	4
MATH 2211	Calculus II	4
MATH 2212	Calculus III	4
MATH 2240	Discrete Mathematics	4
MATH 3300	Linear Algebra	3
MATH 3371	Probability and Statistics I	3
MATH 4373	Probability and Statistics II	3
MATH 4400	Data Science Capstone	3
Select three of the following:		9
CMSC 4373	Big Data	
CMSC 4380	Artificial Intelligence	
CMSC 4363	Data Mining	
CMSC 4383	Machine Learning	
Total Hours		53

Grades of "C" or better are required to apply computer science and mathematics courses toward the degree.

A student cannot major or minor in both Data Science and Computer Science or Mathematics.

Objectives

Students who earn a Data Science major will achieve the following student learning outcomes (SLO):

Student Learning Outcome 1: Demonstrate knowledge and understanding of the core content in mathematics.

• University SLO: 1. Disciplinary Competence and Skills

Student Learning Outcome 2: Apply mathematics to other disciplines using mathematical modeling and problem solving.

• University SLO: 5. Analytical Skills

Student Learning Outcome 3: Use technology to solve mathematical problems.

• University SLO: 4. Information Fluency

Student Learning Outcome 4: Demonstrate a Comprehensive understanding of the Java programming language

• University SLO: 1. Disciplinary Competence and Skills; 5. Analytical Skills

Student Learning Outcome 5: Demonstrate a strong understanding of algorithms

• University SLO: 1. Disciplinary Competence and Skills; 2. Critical and Creative Thinking Skills; 5. Analytical Skills

Student Learning Outcome 6: Understand how to formulate and execute a data driven decision

• University SLO: 1. Disciplinary Competence and Skills; 3. Communication Skills