DATA SCIENCE, B.S.

Contact

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Mission

The Bachelor of Science with a major in Data Science program inspires students to become innovators who make impactful contributions through data analysis, modeling, computation, and simulation. The program fosters flexible and creative approaches for problem solving and the ability to gain insights about complex relationships and interdependencies, and to describe and communicate these insights for prediction and decision making.

Major Description

In recent years the explosion of data in a wide range of fields has created a wealth of opportunities for data science professionals, and the demand for people with the right skills continues to grow. The B.S. with a major in Data Science program at UNE gives students the opportunity to apply their passion for mathematical modeling and computing to problems involving the analysis of data and the design of models for extracting information, making predictions, and decision-making.

Beginning with foundational mathematics, statistics, and computing, students will develop techniques in visualization, machine learning, and data mining.

Industry partnerships with local employers provide opportunities for students to apply these techniques and refine their expertise through project-based learning experiences throughout the curriculum as well as in a senior practicum.

Transfer Credit

See Undergraduate Admissions (https://catalog.une.edu/undergraduate/admissions/) for more information.

Admissions

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Financial Information

Tuition and fees for subsequent years may vary. Other expenses include books and housing. For more tuition and fee information, please consult this catalog's Financial Information (https://catalog.une.edu/undergraduate/financial-information-undergraduate-programs/) section.

Curricular Requirements

Code	Title	Hours
Nor'easter Core Requirements		
Nor'easter Core Requirements (https://catalog.une.edu/undergraduate/core-curriculum/)		40
Program Required Courses		
DSC 110	Survey of Software Tools	1
DSC 130	Exploring Data	3
DSC 225	Programming 1	3
DSC 260	Data Visualization	3
DSC 301	Intro to Database Design/SQL	3
DSC 344	Machine Learning	3
DSC 360	Deep Learning	3
DSC 480	Data Science Practicum	3
MAT 120	Statistics	3
or MAT 150	Statistics for Life Sciences	
MAT 190	Calculus I	4
MAT 220	Linear Algebra	3
One 400-level course with the DSC prefix		3
Select Four of the Following:		12
DSC 205	Introduction to Data Analysis and Modeling	
DSC 270	(Data Structures and Algorithms)	
DSC 325	Programming II	
DSC 360	Deep Learning	
MAT 195	Calculus II	
MAT 212	Discrete Mathematics	
MAT 340	Graph Theory w/Applications	
MAT 405	Intro to Numerical Analysis	
STS 220	Probability	
STS 250	Statistical Methods I: Linear Models	
Any 300-level course with the STS prefix		
Open Elective Courses (Students complete open elective credits as necessary to meet the University's 120-credit minimum for graduation. The total number of elective credits required will depend on the student's completed program, core, and other degree requirements.)		36
Total Hours		**123**

Please note: While some courses can fulfill both core and program requirements, the credits earned do not count twice towards the minimum total required credits for the degree.

Learning Outcomes

Students successfully completing the B.S. with a major in Data Science will:

- Develop, test, and deploy mathematical and statistical models for data analysis, prediction, and decision making
- Use current field-standard digital tools for data management, manipulation, organization, analysis, and visualization
- Effectively communicate quantitative information to technical and non-technical audiences orally, in writing, and through visual formats