

STATISTICS, B.S.

Contact

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Mission

Graduates of the Bachelor of Science with a major in Statistics program will develop a wide range of discipline-related skills that will prepare them well for employment. These include: the ability to understand and interpret data; apply methods for collecting, processing, modeling, and analyzing data; analyze data to inform decision-making, understand patterns, draw inferences and make predictions about populations based on representative samples, often in the face of uncertainty; and recognize and adhere to social, moral and ethical standards.

Program Description

The Statistics program focuses on the application of statistics to problems in the sciences and other fields. This program recognizes evolving field-specific needs and the increasing role and importance of simulation, computation, data sets, reproducible work flows, flexible approaches, ethical issues, and the emergence of data science. This program combines a strong foundation in the mathematical basis for statistical techniques with computational approaches.

Program Goals

The Statistics program will:

- Equip students with professional skills in the development and use of analytical and computational tools for understanding and making evidence-based decisions informed by data.
- Prepare students for careers as statisticians in a wide range of fields.

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 130	Exploring Data	3
DSC 260	Data Visualization	3

DSC 344	Machine Learning	3
MAT 150	Statistics for Life Sciences	3
MAT 190	Calculus I	4
MAT 195	Calculus II	4
MAT 200	Calculus III	4
MAT 220	Linear Algebra	3
STS 210	Principle of Study Design	3
STS 220	Probability	3
STS 250 or MAT 323	Statistical Methods I: Linear Models Applied Regression Analysis	3
STS 280	Statistical Computing	3
STS 320	Statistical Inference	3
STS 350	Statistical Methods II	3
STS 470	Technical Skills for Statisticians	3
STS 480	Statistical Consulting and Research	3
Select Three of the Following Courses (at least one needs to have an STS subject code):		9
DSC 301	Intro to Database Design/SQL	
DSC 360	Deep Learning	
DSC 410	Data Mining	
STS 360	Time Series Analysis	
STS 400	Bayesian Methods	
STS 430	Stochastic Process	

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.)

Total Hours **120**

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 completing the Bachelor of Science with a major in Statistics program will be able to:

- Build, deploy, and evaluate a variety of effective statistical models and inference procedures.
- Use statistical theory and simulation-based techniques for analysis and model interrogation.
- Use statistical programming, computation, and data engineering for effective processing, analysis, and reproducible workflows.
- Develop effective tools for data exploration, cleaning, validation, and Statistics Minor visualization.
- Use professional statistical practice for the creation of compelling written, oral, and visual reports, and to incorporate ethical considerations as an integral component.