DATA ANALYTICS CERTIFICATE

Data analytics uses a variety of techniques to examine large amounts of data to discover patterns that can lead to business insights. Data analytics has broad applicability in customer behavior analysis, fraud detection, scientific inquiry, process improvement, financial analysis, trend analysis, forecasting, and decision-making. Techniques may include statistical methods, data mining, modeling and simulation, and data visualization. The certificate is designed to equip students to apply the theory and practice of data analytics to solving problems in a variety of economic, social, and scientific domains.

Program Related Information

Program Contact

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Prospective Student Admission: advising-cist@unomaha.edu

Program Website (https://www.unomaha.edu/college-of-information-science-and-technology/information-systems-and-quantitative-analysis/graduate/graduate-certificates.php)

Admissions

General Application Requirements and Admission Criteria (http://catalog.unomaha.edu/graduate/admission/)

Application Deadlines

- Spring 2026: December 1
- Summer 2026: April 1
- Fall 2026: July 1

Other Requirements

- The minimum undergraduate grade point average requirement for the data analytics certificate program is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a four-year undergraduate degree.
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (https://www.unomaha.edu/office-of-graduate-studies/admissions/entrance-exams.php), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 110
- **Resume:** Submit a detailed resume indicating your work experience and background.
- OPTIONAL Statement of Purpose: Applicants may submit a statement of purpose with a maximum of 750 words that address:
  - why you want to study at UNO
  - career goals
  - relevant qualifications or work experience that demonstrate potential for success in the graduate program
  - motivations for pursuing graduate education

Degree Requirements

Foundation Requirements

Foundation courses ensure that all students program have a strong foundation on which to build the rest of the program. These courses not only provide essential prerequisite knowledge and skills for other courses in the program, but they also contain a distinct body of knowledge that is an important part of the MIS professional's education. All foundation courses are required for all students. Students who have obtained an undergraduate MIS degree will typically have this foundation. Other students, including computer science or engineering majors, will usually have to take one or more foundation courses. Occasionally, a student's work experience may be sufficient to waive one or more foundation courses.

Waivers for foundation courses are granted by the chair of the graduate program committee upon the recommendation of the faculty member who is responsible for an individual foundation course. Students requesting a waiver for a particular course should be prepared to meet with a faculty member and answer questions in the area of the course. They should bring to the meeting any relevant transcripts, course syllabi, course material, or evidence of practical experience. Some foundation courses may have an option for testing out.

Code	Title	Credits
CIST 2500	INTRODUCTION TO APPLIED STATISTICS FOR IS&T	3
or equivalent		
ISQA 8030	FOUNDATIONS OF INFORMATION SYSTEMS	3
or equivalent		
ISQA 8040	AN OVERVIEW OF SYSTEMS DEVELOPMENT	3
or ISQA 3310	MANAGING THE DATABASE ENVIRONMENT	
or equivalent		

Requirements

No more than two courses (6 credit hours maximum) can be used on two MIS-related certificates (data analytics, information assurance, project management, and systems analysis and design).

Code	Title	Credits
Core Courses		
Pick one ISQA course from each of the three categories below		
Data Engineering		3
ISQA 8016	BUSINESS INTELLIGENCE	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8450	NOSQL AND BIG DATA TECHNOLOGIES	
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	
ISQA 8600	FROM DATA TO DECISIONS	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
CSCI 8350	DATA WAREHOUSING AND DATA MINING	
Data Analytics		3
ISQA 8156	ADVANCED STATISTICAL METHODS FOR IS&T	
ISQA 8340	APPLIED REGRESSION ANALYSIS	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
ISQA 8720	APPLIED STATISTICAL MACHINE LEARNING	
ISQA 8736	DECISION SUPPORT SYSTEMS	
ISQA 8160	APPLIED DISTRIBUTION FREE STATISTICS	

ISQA 9120	APPLIED EXPERIMENTAL DESIGN AND ANALYSIS	
ISQA 9130	APPLIED MULTIVARIATE ANALYSIS	
CSCI/MATH 8156	GRAPH THEORY & APPLICATIONS	
CSCI/MATH 8306	DETERMINISTIC OPERATIONS RESEARCH MODELS	
CSCI 8360	MACHINE LEARNING FOR TEXT	
ECON 8310	BUSINESS FORECASTING	
Data Visualization		**3**
ISQA 8525	GRAPHICAL USER INTERFACE DESIGN	
ISQA 8750	STORYTELLING WITH DATA	
GEOG 8535	CARTOGRAPHY AND DATA VISUALIZATION	
Electives		**6**
	Pick two of the remaining courses from any of the three categories above [1]	
Total Credits		**15**

[1] ISQA 8080, ISQA 8086, and ISQA 8900 may be used but must be related to data analytics. Prior approval from the GPC is required to use these courses.

Completion of the Certificate

During what is expected to be the semester the certificate is completed and prior to the posted deadline, students should apply for the certificate through MavLINK on or before the deadline. If you complete the application form and do not complete all of the requirements for the certificate, contact the Office of Graduate Studies as soon as possible. You must reapply during the next semester in which you expect to complete the certificate; no additional fee is charged to reactivate your application.

The following requirements are due 12 working days prior to commencement:

- "Incomplete" and "NR" grades from previous terms must be removed so that the grade will be in the Office of Graduate Studies.
- All fees, fines, and other obligations due the university must be settled.

For students currently enrolled in courses that are a part of their plan of study, enrollment must be maintained in order to complete the certificate. A grade for any current enrollment must be received by the Registrar's Office no later than the close of business on the fifteenth working day following the end of a semester.

Awarding of Graduate Certificates

The Office of Graduate Studies will mail the certificate to students when all requirements are completed and all obligations to the university are satisfied. The Graduate College will not approve any changes in the student's permanent record once the certificate is awarded.