

DATA MANAGEMENT CERTIFICATE

Data management focuses on the processes and techniques to manage data as a valuable organizational and societal asset throughout the data lifecycle. The certificate will give students theoretical and practical training in database design and development, database administration, data integration, data engineering, and data governance. Students will be exposed to a variety of data types and different kind of databases such as relational database, data warehouse, and NoSQL and big data databases.

Program Related Information

Program Contact

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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

- Individuals with an undergraduate degree and one to two years of work experience in information systems (IS) related roles are eligible to apply for this certificate programs.
- The minimum undergraduate grade point average requirement for the data management certificate is 3.0 or equivalent score on a 4.0 scale. Applicants should have the equivalent of a 4-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. Minimum scores required for this program are:
 - 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:
 - motivations for pursuing graduate education
 - relevant qualifications or work experience that demonstrate potential for success in the graduate program

- career goals
- why you want to study at UNO

The data management graduate certificate consists of three core courses (9 credits) and two electives (6 credits) for a total of 15 credit hours. Specific course requirements for the graduate certificate are described below. There are three prerequisite courses which may be waived by the chair of the graduate program committee, based on courses already taken, applicable work experience, test out exams offered by the department, or the recommendation of faculty teaching the prerequisite courses.

Degree Requirements

Foundation Requirements

Foundation courses ensure that all students 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.

- One programming class such as CIST 1400 or equivalent
- One semester of undergraduate database management or equivalent, e.g.,
 - ISQA 3310 Managing the database environment
 - CSCI 4850 Database Management Systems
 - ISQA 8040 An overview of systems development

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
Required Courses		
ISQA 8306	DATABASE ADMINISTRATION	3
ISQA 8410	DATA MANAGEMENT	3
ISQA 8450	NOSQL AND BIG DATA TECHNOLOGIES	3
Electives		6
ISQA 8016	BUSINESS INTELLIGENCE	
ISQA 8206	INFORMATION AND DATA QUALITY MANAGEMENT	
ISQA 8380	ENTERPRISE ARCHITECTURE AND SYSTEMS INTEGRATION	
ISQA 8460	INTERNET OF THINGS (IOT), BIG DATA AND THE CLOUD	
ISQA 8570	INFORMATION SECURITY POLICY AND ETHICS	
ISQA 8600	FROM DATA TO DECISIONS	
ISQA 8700	DATA MINING: THEORY AND PRACTICE	
GEOG 8056	GEOGRAPHIC INFORMATION SYSTEMS I	
GEOG 8535	CARTOGRAPHY AND DATA VISUALIZATION	

ISQA 8080	SEMINAR IN MANAGEMENT INFORMATION SYSTEMS ¹	
ISQA 8086	SPECIAL TOPICS: INFORMATION SYSTEMS & QUANTITATIVE ANALYSIS ¹	
Total Credits		15

¹ Topic must be related to data management. Prior approval from the GPC is required to use this course.

Topic of ISQA 8080 and ISQA 8086 must be related to data management. Prior approval from the GPC is required to use this course. Other courses related to data management that are not included in the list of electives may count towards the certificate after approval by the GPC.