

Data Science Degree Online or On Campus

The field of data science is evolving into one of the fastest-growing fields in the world.

The Data Science degree prepares you to impact industries, government, health care, and academia. You'll be in high demand with your expertise to find meaningful data and drive positive business decisions.

Program type: Major

Format: On Campus or Online

Est. time to complete: 4-5 years

Credit hours: 124

Why earn a Data Science bachelor's degree?

Application Deadlines

Fall: Aug. 15

Spring: Dec. 15

Summer: May 1

If you're an international student, refer to the international application process for deadlines.

There is significant and growing demand for data scientists in enterprises of all shapes and sizes. The supply of professionals who can work effectively with data at scale is limited. This demand is reflected in rapidly rising salaries for data engineers, data scientists, statisticians, and data analysts.

With UND's Bachelor of Science (B.S.) Data Science degree, you'll benefit from a program that:

- Marries computer science, data science and business analytics for well-rounded expertise.
- Offers a strong curriculum foundation of programming, as well as courses focused on databases, cloud computing, cybersecurity and high-performance computing.
- Provides opportunities to gain expertise with business analytics for the tools you need to interpret and transform data into actionable insights.

Learn at a Data Science Degree Hub

Agriculture, UAS, energy, utility, construction and transportation sectors all use big data. It's critical to enhance acquisition, storage, communication and security, as well as to convert the data to usable information. As a big data hub, UND has a laser-focused team working to solve industrial data challenges.

Hands on Data Science Degree

Your talent will be developed throughout your time at UND and culminate in your senior year, when you take part in a two semester senior design sequence. During this time you'll have the opportunity to design, present and test a data design or research plan. These projects are supported by industry partners and business leaders to help fill real-world needs, and give you the opportunity to develop practical experience before entering the workforce.

The skills you develop in our Data Science program will be applicable in any field. Regardless if you want to work within music, business, healthcare, or any other field your passionate for, you'll be able to use data science to help create success. All while having highly desirable skills, that translate into high paying careers, and a strong return on investment for your education.

Data Science Degree Online or On-Campus

- Be part of a highly-skilled workforce that can support the expansion of data science-related industries.
- Earn credit while working in the industry with cooperative education and seminars, participate in research projects and work on assignments for outside organizations and corporations while in school.
- Gain the technical skills to successfully work with large data sets. Also succeed in a variety of industries and professional settings with your the strong liberal arts foundation.
- Benefit from a program housed within the College of Engineering & Mines. We're one of the most well-respected engineering schools in the upper Midwest.
- Don't overlook accreditation. This assures that a school meets an acceptable level of quality. UND programs are fully accredited by the Higher Learning Commission (HLC).
- Let our team of academic advisors help you plan your major. You'll also have access to personalized Degree Map software to keep you on track to graduate in four years.

What can you do with a Data Science bachelor's degree?

137k Median salary for computer and information research scientists, 2022

- U.S. Bureau of Labor Statistics

23% Anticipated job growth through 2032

- U.S. Bureau of Labor Statistics

Graduates of our new data science major have an opportunity to get in on the ground floor of a rapidly growing field of computer science. Analyst estimate that the U.S. alone faces a shortage of 140,000 to 190,000 people with analytical expertise with data.

Jobs you can expect to qualify for with a data science degree include:

- **Business Intelligence (BI) Developer:** Develop and maintain BI interfaces and work in BI tools.
- **Data Analyst:** Gather, visualize, transform, and manipulate data.
- **Data Architect:** Lay out the framework for how the data will be collected, used, modeled, retrieved, and secured.
- **Data Engineer:** Design, build, and maintain data infrastructure.
- **Data Scientist:** Use mathematical, statistical, and programming skills to gain insights from data. Research and develop new approaches, as well as manage projects.
- **Database Administrator:** Monitor database systems to ensure they function properly, create backups and recoveries, and grant permissions to databases.
- **Machine Learning Engineer:** Design, build, and maintain artificial intelligence (AI) software and algorithms.
- **Machine Learning Scientist:** Research new data manipulating approaches and design new algorithms.

Data Science Degree Graduates

UND Data Science degree holders can expect a range of opportunities in careers with many kinds of institutions and in many different industries:

- Government
- Businesses
- Financial institutions
- Healthcare
- Scientific research facilities
- Colleges and universities

Data Science Degree Courses

Introduction to Data Visualization

CSCI 364. Concurrent and Distributed Programming. 3 Credits.

This course focuses on concurrent object oriented programming and modern distributed/parallel programming models (such as OpenMP, CUDA, OpenCL and Actors). Students will utilize various high performance distributed computing technology. Topics covered will include shared and distributed memory systems, sockets, threads, and message passing. Prerequisite: *CSCI 330* with a grade of C or better. S.

Artificial Intelligence

CSCI 384. Artificial Intelligence. 3 Credits.

A study of algorithms and application of AI. The topics include agent theory, problem-solving with the search, constraint satisfaction problem, game, knowledge-based system, reasoning and machine learning which are widely applicable to design of an intelligent system, data science and mining, information retrieval, pathfinding and classification, etc. Prerequisite: *CSCI 242*. S.

Computer and Network Security

CSCI 389. Computer and Network Security. 3 Credits.

This course introduces techniques for achieving security in multi-user standalone computer systems and distributed computer systems. Coverage includes host-based security topics (cryptography, intrusion detection, secure operating systems), network-based security topics (authentication and identification schemes, denial-of-service attacks, worms, firewalls), risk assessment and security policies. Prerequisite: *CSCI 161*. S.

Introduction to Machine Learning

CSCI 443. Introduction to Machine Learning. 3 Credits.

An introduction to the theory and implementation of fundamental machine learning algorithms. Topics include representation, generalization, model selection, linear/additive models, support vector machines, learning problems, over-fitting, clustering, classification, neural networks, and regression. Prerequisite: *CSCI 384* with a grade of C or above. F.

Database Management Systems

CSCI 455. Database Management Systems. 3 Credits.

Database concepts, database design (ER, UML), database programming languages (SQL), NoSQL Database, Database Concurrency and recovery techniques, and Database security. Prerequisite: *CSCI 242* with a grade of C or better. S, even years.

Data Mining

CSCI 456. Introduction to Data Mining. 3 Credits.

Data Mining is the collection of methods used to identify patterns in data. This course is comprised of a mix of theoretical underpinnings and practical applications based on the concepts of: data pre-processing, data attributes, classification, clustering, association, anomaly detection, dimensionality reduction, and mining of networks. Prerequisite: *CSCI 384* with a grade of C or above and *MATH 422*. F.

Best Online Degree Data Science

Our online Data Science degree program consistently ranks among the best for educational quality, affordability, and career outcomes.

Data Science Online Degree

9# best online university in the nation

- EDsmart

160+ online programs

UND's Data Science bachelor's degree is 100% online. You never are required to come to campus.

Compare UND's Data Science degree online cost and you'll find it's one of the most affordable Data Science program in the region. For this program, we offer the same online tuition rates regardless of your legal residency.

Flexible Data Science Degree Online Courses

With asynchronous classes, you do not attend class at a set time. If you need to balance work, family, and other commitments, this flexible format allows you to learn anywhere at any time.

Depending on your instructor, you'll learn online through:

- Lesson modules
- Streaming video content
- Virtual libraries
- Posted lectures
- Online simulations

There will be times when you interact with your instructor and classmates through online discussion boards, polls, and chat rooms.

Your learning revolves around materials that can be accessed on your own time within a set time frame. However, this is not a self-paced course. You'll have structure and deadlines.

What can I expect from UND's data science online degree?

Over a third of UND's student population is exclusively online; plus, more take a combination of online and on campus classes. You can feel reassured knowing you won't be alone in your online learning journey and you'll have resources and services tailored to your needs.

No matter how you customize your online experience, you'll get the same top-quality education as any other on campus student.

- **Same degree:** All online programs are fully accredited by the Higher Learning Commission (HLC). Your transcript and diploma are exactly the same as our on-campus students.
- **Same classes:** You'll take courses from UND professors, start and end the semesters at the same time and take the same classes as a student on campus.
- **Real interaction:** You can ask questions, get feedback and regularly connect with your professors, peers and professionals in the field.
- **Your own academic advisor:** As an invaluable go-to, they're focused on you, your personal success and your future career.
- **Free online tutoring:** We're here to help you one-on-one at no cost. Plus, get access to a variety of self-help online study resources.
- **Unlimited academic coaching:** Need support to achieve your academic goals or feeling stumped by a tough course? We'll help with everything from stress and time management to improving your memory to achieve higher test scores.
- **Full online access:** Dig into virtual research at UND's libraries. Improve your writing skills with online help from the UND Writing Center. Get online access to career services, veteran and military services, financial services and more.
- **24/7 technical support:** UND provides free computer, email and other technical support for all online students.
- **Networking opportunities:** Our significant online student population means you'll have a large pool of peers to connect with. UND has numerous online events and activities to keep you connected.

Best Online College

Our high alumni salaries and job placement rates, with affordable online tuition rates make UND a best-value university for online education. UND's breadth of online programs rivals all other nonprofit universities in the Upper Midwest making UND one of the best online schools in the region.

UND ranks among the best online colleges in the nation for:

- Affordability
- Student satisfaction (retention rate)
- Academic quality (4-year graduate rate)
- Student outcomes (20-year return on investment per Payscale.com)

FAQs

Is a degree in Data Science useful?

Certainly, a degree in Data Science is highly beneficial, providing essential skills for analyzing and interpreting complex data, which is increasingly important in today's data-centric business world.

An undergraduate Data Science degree opens doors to several career opportunities. Graduates can become data analysts, data scientists, business intelligence analysts, or machine learning engineers. These roles are in demand across diverse industries like finance, healthcare and technology.

Is a career in data science a good career?

Indeed, pursuing a career in data science is highly advantageous and financially rewarding. This field offers significant opportunities for innovation and analytical decision-making across various industries, backed by the potential for high salaries. Data scientists are expected to be amongst the most in-demand positions in the next ten years.

Is data science better than coding?

Data science and coding are interconnected, with data science encompassing coding as a fundamental skill. While coding is a crucial aspect of data science, the latter involves a broader range of skills, including statistical analysis and domain knowledge.

How hard is data science?

Due to its multidisciplinary nature, data science poses its own unique set of challenges. The level of difficulty varies from person to person, as students are required to be proficient in statistics, programming and domain-specific knowledge. Overall, with commitment and consistent effort, individuals can successfully navigate the complexities with dedication and continuous learning.

How long does a Data Science degree take?

Bachelor's level Data Science degrees are designed for a four-year completion, depending on credit load. However, the timeframe can extend to four and a half to five years if students choose to add minors, double majors or enroll in extra classes. A master's degree can typically take two years beyond the time for a bachelor's degree.

Explore More Options

Looking to connect with the college or find a similar degree?

- College of Engineering & Mines
- Find Similar Degrees

