Be an engineer
You can design and build the future. Engineers create and improve the infrastructure, systems and processes we rely on every day, and you can become one at NDSU.

The NDSU College of Engineering educates tomorrow’s engineers to be more creative, innovative and globally minded. An education here is affordable, and our program has a strong regional and national reputation; employers continually seek our hardworking graduates.

AT NDSU, YOU CAN:
» Gain leadership experience as part of a large variety of student organizations.
» Conduct research and get hands-on learning in top-notch laboratories and classrooms.
» Learn how to address problems in systematic yet creative ways.
» Become an entrepreneur.
» Discover how you can make a difference in the world.
» Get extensive academic support along the way.

Join 2,300 undergraduate and more than 225 graduate students who are on the path to becoming world-class engineers. The NDSU College of Engineering – your career begins here.
Engineering
Will Take
You There
What exactly do engineers do?

WITH AN ENGINEERING DEGREE FROM NDSU, YOU COULD:

» Develop hardware and software applications for the next generation of gaming systems.
» Manage and oversee the operations of a multimillion-dollar construction site.
» Design aircraft engines for an aerospace company.
» Work with healthcare professionals to improve the efficiency of patient flow through clinics and hospitals.
» Design highway systems and interchanges for major metropolitan areas.
» Create new materials with renewable, bio-based products.
» Provide clean drinking water to remote areas around the globe.
» Design, improve and test heart pacemaker devices for cardiac patients.

ATTRIBUTES OF ENGINEERS

» Ability to solve math and science problems
» Ability to apply logic and analytical skills
» Creative and innovative
» Ability to work in team settings
» Strong communication skills
» Curiosity and a desire to learn
MAJORS
» Agricultural and Biosystems Engineering
» Civil Engineering
» Computer Engineering
» Construction Engineering
» Construction Management
» Electrical Engineering
» Industrial Engineering and Management
» Manufacturing Engineering
» Mechanical Engineering

ACCREDITATION
All eight engineering disciplines are accredited by the Engineering Accreditation Commission of ABET. The Construction Management program is accredited by the American Council for Construction Education (ACCE).

AFFORDABILITY
The college offers degree programs at one of the most reasonable costs available. Visit ndsu.edu/admission/cost_tuition/cost for estimated costs.

FINANCIAL ASSISTANCE
The college awards student scholarships totaling more than $170,000 per year on average. You also can receive financial assistance by completing internships or cooperative education programs.

Doosan and Bobcat Company and the state of North Dakota established a $4.5 million scholarship endowment to support students in Science, Technology, Engineering and Mathematics (STEM).

SELECTIVE ADMISSION
Two of our departments have selective admission requirements to ensure students are prepared to be successful.

» Electrical and computer engineering students must have a math ACT score of 23 or higher, or graduate in the top 30 percent of their high school class and have a math ACT of at least 20.
» Mechanical engineering students must have a math ACT score of 26 or higher or graduate in the top third of their high school class.

STUDENT ORGANIZATIONS
You’ll be able to develop your leadership skills and the ability to work in teams, gain real-world experience and network with professionals in our student organizations. Choose one that’s specific to your major or one that bridges the entire college, such as Engineering Ambassadors, Tau Beta Pi engineering honor society and the Society of Women Engineers.
Putting It All Together
An NDSU team of seniors designs, builds and races a moon rover for their final project each year. In the process, they apply everything they learned over the course of the program. The team is one of several that builds vehicles from scratch to compete against other universities.

INCLUSION
NDSU’s campus community welcomes all students and is committed to inclusion. For example, we have student chapters of the American Indian Science and Engineering Society, Engineers Without Borders and the National Society of Black Engineers. Students in the NDSU chapter of the Society of Women Engineers are better prepared to take advantage of expanding career opportunities for female engineers.
The NDSU Career Center hosts two major career fairs each year, the Engineering and Tech Expo each September and the Spring Career Fair in February. The events draw hundreds of engineering companies from around the country to recruit students for internships and full-time positions. You’ll be able to engage with potential employers and learn more about possibilities for your career.

- **430+ companies participate each year**
- **820 interviews scheduled with students**
- **85+ percent job placement rate among recent graduates**
CONNECT WITH EMPLOYERS
The Career Center’s CAREERlink program connects students with employers who recruit at NDSU. Get automatic updates on jobs and internships. Apply for and schedule on-campus interviews with employers visiting NDSU. Research employers who have posted jobs, and receive special announcements about Career Center events and activities. CAREERlink is available to all students and alumni.

SUPPORTING ENTREPRENEURISM
Many of our graduates who have gone on to start businesses began developing their ideas in the annual, campuswide Innovation Challenge. If you decide to compete, your innovation could win up to $5,000 and propel you toward a career as an entrepreneur.
Prepared for the Real World

Every major in the College of Engineering concludes with a capstone experience. The course draws upon your entire education and immerses you in projects, typically for actual business and industry clients. While each major’s capstone experience differs slightly, they’ll all prepare you for the real engineering and management practices you’ll use each day in your career.
HANDS-ON LEARNING
NDSU enhances your classroom learning with extensive interactive opportunities. Students are engaged in labs, team-based class projects and extracurricular clubs and organizations. Why is this important? Employers say they recruit here because of how well prepared our graduates are to make an immediate impact, and how much they value the work ethic of NDSU graduates.

INTERNSHIPS
You can get paid while exploring several career options through our Internship Program. You’ll be learning on the job and boosting your resume by alternating between classroom study and professional work experience.

Undecided?
We Can Help
You don’t need to know which engineering discipline you want to study prior to arriving on campus. If you’re undecided, you can start with our general engineering program and learn about different disciplines. Expert academic advisers will answer questions and help you discover your passion.

STUDENT LEADERSHIP
Creating Tomorrow’s Leaders

Eric McDaniel, a senior in civil engineering from Bismarck, North Dakota, is the NDSU student body president for 2015-16. “It’s a terrific feeling knowing students have confidence in me,” he said. McDaniel also is active in Sigma Alpha Epsilon, Bison Ambassadors, Big Brothers Big Sisters and Blue Key Honor Society.
STATE-OF-THE-ART FACILITIES

Your education will go beyond the classroom. Our engineering complex has numerous laboratories where you’ll learn, conduct research and perform experiments with industry-standard, technologically advanced equipment.
NDSU’s newest facility will be part of your educational career. The three-story STEM Classroom and Lab Building focuses on science, technology, engineering and mathematics learning and discovery.

>119K
SQUARE FEET

6 TYPES OF LABS

2 ACTIVE LEARNING CLASSROOMS
AGRICULTURAL AND BIOSYSTEMS ENGINEERING

Agricultural and biosystems engineers design and improve the tools, machines and systems that provide the necessities of life. As an agricultural or biosystems engineer, you’ll solve problems related to the production, handling and processing of food, feed, fiber and fuel. You might also work in natural resource conservation or environmental protection.

CONCENTRATIONS
Agricultural Engineering
Biosystems Engineering

STUDENT ORGANIZATIONS
American Society of Agricultural and Biological Engineers
Alpha Epsilon honor society
Bison Pullers 1/4-Scale Tractor Club

Get noticed each fall at the Agricultural Technology Expo. You can select, research and present a project to industry professionals while competing for scholarships.
World-renowned Faculty
Associate Professor Scott Pryor went to South Africa to create a model that illustrates the environmental impacts of biofuel production. His work there will complement his NDSU research that focuses on the uses of agricultural resources for energy production in the U.S.
CIVIL AND ENVIRONMENTAL ENGINEERING

You can play a critical role in determining how the world around us looks and functions. As a civil engineer, you’ll plan, design, construct and maintain the physical infrastructure that supports our society, from roadways to bridges, buildings to airports, water and wastewater treatment facilities to dams and levees.

CONCENTRATIONS
Environmental
Geotechnical
Structural
Transportation
Water Resources

STUDENT ORGANIZATIONS
American Society of Civil Engineers
American Waterworks Association/Water Environment Federation
Engineers Without Borders
Institute of Transportation Engineers
Materials Research Society

ndsu.edu/ndsu/ce
You can be like Cody Ritt of Hamel, Minnesota, who is conducting research side by side with a faculty member. The civil engineering major is developing a product that can absorb phosphorous from lakes. “Using my time to solve problems in the environment has captured my attention and my imagination,” said the civil engineering major. “I often find myself thinking of different ways to approach my research outside of the lab.”
CONSTRUCTION MANAGEMENT AND ENGINEERING

Construction professionals apply math, science, engineering, business and management concepts to building what society needs. You’ll design processes and manage people, equipment and materials. A degree in construction engineering or construction management prepares you for successful careers in the commercial, residential, industrial and infrastructure sectors.

CONCENTRATIONS
Built Environment Systems
General Construction Engineering

STUDENT ORGANIZATIONS
Associated General Contractors of America
National Association of Home Builders
Sigma Lambda Chi honor society

ndsu.edu/cme

Our Bachelor of Science in construction engineering is the third oldest program of its kind in the United States.
Building a Career

Joanna Slominski, a 2004 construction engineering graduate, is overseeing construction on a $494 million medical center. It’s one of many multimillion-dollar projects the construction executive has managed since graduating from NDSU. “So much of our business is people,” she said. “It’s not just about building. A lot of people have the talent to build. It’s about getting them to work together to come up with a final product.”
ELECTRICAL AND
COMPUTER ENGINEERING

Electrical engineers apply the laws of physics governing electricity, magnetism and light to develop products and services. As an electrical engineer, you’ll design, develop and test a wide range of electronic devices. Our graduates work on everything from cell phones, tablets and computers to biomedical devices, and they’re applying their expertise in areas as varied as robotics, optics and power generation, transmission and distribution.

As a computer engineer, you’ll apply engineering principles and methods to designing, constructing and maintaining hardware and software for computers and computer-based devices and systems, such as smartphones that are part of everyday life.

CONCENTRATIONS
Biomedical Engineering
Communications and Signal Processing
Computer Architecture and Very-Large-Scale Integration
Cyber Physical and Embedded Systems
Electromagnetics and Optics
Power/Energy and Power Electronics

STUDENT ORGANIZATIONS
Amateur Radio Society
Engineering in Medicine and Biology Society
Institute of Electrical and Electronic Engineers

ndsu.edu/ndsu/ece
All in the Family

Sisters Taylor Ronnei and Mackayla Headlee are their family’s third generation of NDSU electrical engineering graduates. Expert faculty, internships and involvement in student groups such as the Society of Women Engineers have prepared them to follow in the footsteps of their father and grandfather to fulfilling careers.
INDUSTRIAL AND MANUFACTURING ENGINEERING

Industrial engineers design efficient and effective work processes, facility layouts, assembly procedures and distribution methods. As an industrial engineer, you’ll find ways to eliminate waste in production processes. You’ll also devise more efficient ways to use workers, machines, materials, information and energy in making products or providing services.

Manufacturing engineers make products available when and where customers want them and at the best possible price. As a manufacturing engineer, you’ll design, direct and coordinate the tools, processes and systems for producing almost anything from start to finish. You’ll also navigate and manage the manufacturing enterprise, including the supply chain, distribution channels, financial structure and resource management.

CONCENTRATIONS
Production Operations and Management
Healthcare Management Engineering
Reliability and Quality Management
Advanced Manufacturing
Systems Engineering and Management

STUDENT ORGANIZATIONS
Alpha Pi Mu honor society
Institute of Industrial Engineers
Society of Manufacturing Engineers
Surface Mount Technology Association

nds.u.edu/ime
MECHANICAL ENGINEERING

Mechanical engineers design parts and equipment that function safely, reliably and efficiently for vehicles, manufacturing systems, machinery, HVAC systems, and robotic and biomedical devices. As a mechanical engineer, you’ll use motion, energy and force to solve problems in industries such as aerospace, biomedical, petroleum and transportation. Your career could include everything from designing large industrial machinery and power plants to developing nanotechnology and new materials.

CONCENTRATIONS

Biomedical Engineering
Controls and Instrumentation
Conventional and Alternative Energy Systems
Fluid Mechanics
Materials and Nanotechnology
Mechanical Systems

STUDENT ORGANIZATIONS

American Institute of Aeronautics and Astronautics
American Society of Mechanical Engineers
Pi Tau Sigma honor society
Society of Automotive Engineers

CROSS-DISCIPLINE SPECIALIZATION

The Department of Mechanical Engineering and the Department of Coatings and Polymeric Materials offer a minor in coatings and polymeric materials. In this specialized minor, you’ll learn how to design coatings to protect vehicles, structures, machines and other products.

ndsueu/me
NDSU was established in 1890 as North Dakota’s land-grant university.
SCHEDULE A VISIT
ndsu.edu/visit
800-488-NDSU
FOR MORE INFORMATION
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NDSU Dept. 2832, PO Box 6050
Fargo, ND 58108-6050
800-488-NDSU
nds.edu/admission

College of Engineering
NDSU Dept. 2450, PO Box 6050
Fargo, ND 58108-6050
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