

NDSU NORTH DAKOTA
STATE UNIVERSITY

College of
**Agriculture,
Food Systems, and
Natural Resources**

**Hundreds of careers
Limitless opportunity**



Join the next generation of leaders in agriculture, food systems, natural resources, business, education and more.

After obtaining a degree from NDSU's College of Agriculture, Food Systems, and Natural Resources, you will be limited only by your imagination. Our graduates become doctors, foresters, geneticists, economists, educators ... They shape public policy and help people and communities prosper.

Today, graduates of our college are working to:

- Develop new food products
- Protect natural resources
- Design and test machines and buildings
- Grow and nurture plants
- Produce and distribute food and fiber
- Help people and communities prosper
- Help businesses develop, promote and market
- Discover new scientific knowledge
- Manage animals that serve humans
- Educate families about nutrition and wellness

Expert instruction, state-of-the-art facilities and hands-on teaching methods help prepare our graduates for the career and future they want.

We can do the same for you.

Read on to learn about our programs and discover what career options may appeal to you.





Academic Programs

Opportunities abound as you check out the undergraduate academic programs offered through the College of Agriculture, Food Systems, and Natural Resources (CAFSNR).

These programs are the first step toward getting the career you want.

After reading the information, feel free to discuss the program with an adviser in that field. They will be happy to answer your questions and get you started on the right track.

ACADEMIC ADVISERS

Academic advisers assist first- and second-year students, as well as transfer students, with course selection and planning to meet their academic and career goals. Contacts for specific academic programs are included in the list below.

Jennifer Carney (701) 231-7442

jennifer.carney@ndsu.edu

Advises students in Agribusiness, Agricultural Economics, Economics programs

Rob Glarum (701) 231-6117

r.glarum@ndsu.edu

Advises students in all other College of Agriculture, Food Systems, and Natural Resources programs

ACADEMIC PROGRAMS

AGRIBUSINESS prepares students to manage agricultural and agriculture-related businesses. The major offers training in finance, management, marketing and policy/trade in agriculture and food systems.

Jennifer Carney (701) 231-7442

jennifer.carney@ndsu.edu

AGRICULTURAL ECONOMICS focuses on the business aspects of agriculture — marketing, management and finance.

Jennifer Carney (701) 231-7442

jennifer.carney@ndsu.edu

AGRICULTURAL EDUCATION prepares students in the art and science of education in agriculture. Two degree pathways lead to teacher certification or training and development (non-certification). Students can pursue careers in teaching, Extension, communications, and youth and adult development.

Adam Marx (701) 231-7439

adam.marx@ndsu.edu

ANIMAL SCIENCE encompasses the biological principles, management practices and business concepts that pertain to all managed animals including livestock and animal products and the ecological relationships between livestock and the environment.

Marc Bauer (701) 231-7691

marc.bauer@ndsu.edu

Academic Programs



BIOTECHNOLOGY combines biology, biochemistry, genetics and new technologies to prepare students to produce plants, animals and microorganisms with improved characteristics; use DNA for gene cloning and transfer among organisms; and develop pharmaceuticals, disease tests, feed additives, enzymes and hormones.

Thomas Gustad (701) 231-8126
t.gustad@ndsu.edu

CROP AND WEED SCIENCES teaches students about scientific methods of improving and protecting grain and forage crops to increase food production through genetics, weed control, plant breeding and biotechnology.

Kirk Howatt (701) 231-7209
kirk.howatt@ndsu.edu

ECONOMICS focuses on the production, distribution and consumption of goods and services, theories and management of economic systems and issues such as globalization, employment, economic growth, natural resource management and market regulation.

Jennifer Carney (701) 231-7442
jennifer.carney@ndsu.edu

EQUINE SCIENCE teaches students to care for horses and horse equipment; ride and drive horses for leisure, sport, show and professional purposes; and train horses and riders. It includes courses on nutrition, health, safety, business concepts and management practices.

Carrie Hammer (701) 231-5682
carrie.hammer@ndsu.edu

FAMILY AND CONSUMER SCIENCES EDUCATION prepares students to guide a variety of teaching and learning experiences for students in grades 5-12, in occupational or non-occupational programs, adult programs, or to serve as an Extension educator.

Mari Borr (701) 231-7968
mari.borr@ndsu.edu

FOOD SCIENCE is the study of the biology, chemistry and technology to convert raw agricultural products into processed foods that are convenient to use, safe and nutritious, and taste good.

Anuradha Vegi (701) 231-6240
anuradha.vegi@ndsu.edu

GENERAL AGRICULTURE provides a broad background in agriculture for students who are exploring majors in the field and those who want to develop a broad study program to meet specific career goals.

Adam Marx (701) 231-7439
adam.marx@ndsu.edu

HORTICULTURE AND URBAN AGRICULTURE teaches students about the science of production, processing, use and management of fruit, vegetable, turf and ornamental crops. Horticulture is an important aspect of our everyday lives and prepares students with academic options in science, business and production, landscape design, landscape management, sports and urban turfgrass management or urban forestry.

Todd West (701) 231-6476
todd.p.west@ndsu.edu



Academic Programs

MICROBIOLOGY is the study of bacteria, viruses and other microbes that are important to animal and human health, the environment, food technology and safety, and the biotechnology industry.

Danielle Condry (701) 231-7512
danielle.condry@ndsu.edu

NATURAL RESOURCES MANAGEMENT provides students with a broad background in conservation, environmental health, and management for native and agricultural ecosystems. Students choose to focus on an area of interest including water, habitat, wildlife, rangeland ecology, rangeland livestock production, soil science, entomology, environmental sustainability, and policy.

Sophia Maruska (701) 231-2068
sophia.maruska@ndsu.edu

PRE-VETERINARY MEDICINE allows students to complete all the requirements they need to be admitted to any veterinary college in the U.S., Canada and some foreign countries.

Lisa Christenson (701) 231-6304
lisa.christenson@ndsu.edu

PRECISION AGRICULTURE TECHNOLOGY AND MANAGEMENT combines an understanding of agricultural, biological and physical sciences with economics, managerial and technical skills. This understanding of science, technology and related practices, including unmanned aerial systems (drones), remote sensing, artificial intelligence, machine learning, sensors, robotic applications, cloud computing, big data management, and site-specific resources management is a crucial component of modern agriculture

Matt Olhoft (701) 231-7269
matthew.olhoft@ndsu.edu

VETERINARY TECHNOLOGY provides classroom instruction, clinical experience and a professional internship that prepares students for a career in animal health care.

Lisa Christenson (701) 231-6304
lisa.christenson@ndsu.edu



For more information about the academic programs listed above, visit www.ndsu.edu/programs.

Additional Opportunities

A major in agricultural communication is available through the NDSU College of Arts and Sciences. A major in agricultural engineering is available through the NDSU College of Engineering.

Graduate Study

Opportunities to study for a master's or doctoral degree are available in many of the programs included in this booklet as well as cellular and molecular biology, cereal science, genomics, phenomics and bioinformatics, international agribusiness, plant sciences and plant pathology. Learn more at www.ndsu.edu/gradschool.

Career Options



Protecting the environment

- Agricultural Engineer
- Aquaculturist
- Biochemist
- Conservation Officer
- Entomologist
- Environmental Consultant
- Environmental Educator
- Environmental Engineer
- Environmental Technician
- Fisheries Technician
- Fish and Wildlife Specialist
- Forester
- Horticulturist
- Hydrologist
- Microbiologist
- Natural Resources Technician
- Nature Interpreter
- Park Ranger
- Soil and Water Engineer
- Soil Chemist
- Soil Conservationist
- Soil Scientist
- Waste Management Specialist
- Wetland Scientist
- Wildlife Rehabilitator
- Wildlife Technician

Working with food

- Chemist
- Dairy Quality Assurance Officer
- Food Broker
- Food Sales Representative
- Food Scientist
- Food Technologist
- Grain Merchandiser
- Horticulturist
- Labeling Specialist
- Meat Quality Assurance Officer
- Microbiologist
- Nutritionist
- Processing Plant Manager
- Quality Control Manager
- Recipe Modification Specialist
- Sensory Analyst

Working in health professions

- Biochemist
- Chemist
- Doctor
- Geneticist
- Medical Technologist
- Microbiologist
- Nurse
- Nutritionist
- Pharmacist
- Physical Therapist
- Veterinarian
- Veterinary Technician

Working in business

- Accountant
- Advertising Agent
- Ag Loan Officer
- Agribusiness Manager
- Agricultural Salesperson
- Business Manager
- Commodity Broker
- Computer Systems Analyst
- Credit Analyst
- Economist
- Export Marketer
- Extension Specialist
- Farm Management Consultant
- Financial Analyst
- Food Broker
- Food Inspector
- Food Sales Representative
- Grain Merchandiser
- Horticulturist
- Insurance Agent
- Lawyer
- Livestock Buyer
- Livestock Production Specialist
- Market Analyst
- Marketing Manager
- Public Relations Specialist
- Quality Control Specialist
- Real Estate Appraiser
- Retail Manager
- Rural Development Specialist
- Sales Representative
- Securities Broker
- Technical Service Representative
- Wholesale Manager



Career Options

Working with plants

- Agronomist
- Biochemist
- Chemist
- Crop Scout
- Crop Utilization Specialist
- Entomologist
- Forester
- Fruit Grower
- Geneticist
- Grain Farmer
- Horticulturist
- Microbiologist
- Pest Management Specialist
- Plant Breeder
- Plant Ecologist
- Plant Pathologist
- Plant Physiologist
- Seed Production Specialist
- Seed Scientist
- Turfgrass Specialist
- Weed Scientist

Working in science

- Agronomist
- Animal Ecologist
- Animal Nutritionist
- Animal Scientist
- Aquaculturist
- Biochemist
- Chemist
- Doctor
- Entomologist
- Environmental Engineer
- Environmental Technician
- Fisheries Technician
- Fish and Wildlife Specialist
- Food Scientist
- Food Technologist
- Forester
- Geneticist
- Horticulturist
- Hydrologist
- Microbiologist
- Natural Resources Technician
- Nutritionist
- Ornithologist
- Plant Breeder
- Plant Ecologist
- Plant Pathologist
- Plant Physiologist
- Science Writer
- Seed Scientist
- Soil and Water Engineer
- Soil Scientist
- Veterinarian
- Veterinary Technician
- Weed Scientist
- Wetland Scientist
- Wildlife Technician

Working with people

- Advertising Executive
- Agricultural Educator
- Agricultural Journalist
- Broadcaster
- Communication Specialist
- Copywriter
- Doctor
- Economist
- Editor
- Extension Specialist
- Family and Consumer Sciences Educator
- Farm Management Consultant
- Horticulturist
- Lawyer
- Market Analyst
- Marketing Manager
- Nutritionist
- Park Ranger
- Public Administration Specialist
- Public Policy Analyst
- Public Relations Specialist
- Rural Development Specialist
- Rural Sociologist
- Sales Representative
- Science Writer
- Veterinary Technician
- Videographer

Working with animals

- Animal Ecologist
- Animal Nutritionist
- Animal Scientist
- Aquaculturist
- Biochemist
- Chemist
- Dairy Farmer
- Entomologist
- Fisheries Technician
- Geneticist
- Kennel Manager
- Livestock Producer
- Livestock Product Sales
- Microbiologist
- Nutrition Consultant
- Ornithologist
- Stable Manager
- Veterinarian
- Veterinary Technician
- Wildlife Rehabilitator
- Wildlife Technician
- Zoo Keeper

Scholarships



Scholarships

Encouraging and rewarding academic achievement

The College of Agriculture, Food Systems, and Natural Resources (CAFSNR) at North Dakota State University provides one of the best college-based scholarship programs in the Upper Midwest. Colleges of Agriculture around the country frequently have excellent scholarship programs because our alumni and the industries we support understand the value of investing in students.

Many scholarships range from \$800 to \$2,000 per year. Some students receive one or more scholarships every year of their college career, depending on the student's academic performance. The college selectively matches several of its scholarships for gifted incoming freshmen with scholarships administered by the Office of Admission.

Funds* for scholarships are provided by individuals, companies, foundations and organizations that are aware of the commitment a student must make to complete a college education. They established these scholarships to encourage students who are enrolled in CAFSNR to pursue academic excellence. Scholarship recipients and donors are recognized at a luncheon held on campus each fall.

The scholarships and awards are divided into three categories:

CAFSNR General Scholarships — awarded to students enrolled in the college, regardless of their major program of study

Program Scholarships — awarded through departments or other academic units in the college to students enrolled in their specific academic programs

University Scholarships — awarded through the Office of Admission and Office of Financial Aid and Scholarships to students enrolled in CAFSNR

Am I eligible?

You are eligible to be considered for a CAFSNR scholarship if you are enrolled as a student in the college according to the Office of Registration and Records. Eligibility and awards are contingent on sustained enrollment in the college as a full-time student in good standing through the semester(s) during which the scholarships are disbursed.

Most scholarships are awarded based on scholastic merit, while a few are awarded based on a combination of scholastic merit and financial need. Some scholarships have specific eligibility qualifications.



See a list of scholarships available to eligible CAFSNR students at www.ndsu.edu/agriculture/academics/scholarships

*All funds must be deposited in the NDSU Foundation and Alumni Association in order to be recognized as part of the scholarship program. They act as custodian of the funds and distribute them as authorized by CAFSNR.



Scholarships

How do I apply?

Application procedures for entering freshmen

To apply for a CAFSNR General Scholarship –

Submit the NDSU Freshman Scholarship Application, complete your admission to NDSU and declare a major in CAFSNR by February 1. Apply online at www.ndsu.edu/admission/financial_aid. Use your NDSU Username and Passphrase.

Application procedures for current NDSU students

To apply for a CAFSNR General Scholarship or a Program Scholarship –

Current students in CAFSNR should submit the NDSU Scholarship Application online at www.ndsu.edu/onestop/scholarships. Use your NDSU Username and Passphrase. The application will be available beginning November 1. The deadline for submission is March 1.

How are the recipients selected?

Scholarship recipients are selected based on criteria established by donors for each scholarship. Most incoming freshman scholarships are awarded competitively on the basis of scholastic achievement. Current and transfer students are awarded scholarships primarily on the basis of academic performance.

The CAFSNR Scholarship Committee selects recipients for the general scholarships. Program scholarships are awarded through selection procedures established by the individual departments or academic units. University scholarships are awarded through the Office of Admission and Office of Financial Aid and Scholarships.

Are other scholarships available?

If you are a high school student, check with your counselor for information regarding additional scholarships that may be available to you through civic organizations, foundations, professional organizations and corporations. Once enrolled at NDSU, you also may be eligible for external regional and national scholarships and awards.

Where can I get additional information?

For scholarship information, contact:

College of Agriculture, Food Systems,
and Natural Resources
NDSU Dept. 2200
PO Box 6050
Fargo, ND 58108-6050
Phone: (701) 231-8790
Email: ndsu.cafsnr@ndsu.edu
Web: www.ndsu.edu/agriculture/academics



Learn more and apply for scholarships at www.ndsu.edu/onestop/scholarships

Student Organizations



Student Organizations

Achieving lifetime skills through involvement in student activities

When dozens of qualified people apply for the same job, how does an employer choose? “I look for tie breakers,” a representative of a major corporation said. “I look for people with demonstrated leadership, communication skills and job experience.”

That’s a familiar concept to students in the NDSU College of Agriculture, Food Systems, and Natural Resources. Students here are taught that there are four things they can do to foster their own success at the university: 1) go to class and study, 2) join some clubs in order to learn teamwork, leadership and to build your network of friends, 3) get to know faculty and staff outside of the classroom, and 4) have fun. Student organizations obviously contribute to the second item but also provide great opportunities that contribute to the third and fourth items.

Of course there’s much more to be gained from involvement in student organizations than an entry on your résumé. Student groups are a great way to meet people with similar interests and to have a good time. You can get to know upperclassmen who can provide good information about courses, instructors and campus life. You can interact with faculty and staff outside of the classroom, and they can become references in your job applications and will, in many cases, become your lifelong friends. You can meet professionals who work in your field, take field trips and travel to regional and national meetings and competitions, and gain confidence through improved organizational, leadership and communication skills.

The College of Agriculture, Food Systems, and Natural Resources sponsors over 30 student organizations. NDSU has many additional organizations, committees and activities, and many College of Agriculture, Food Systems, and Natural Resources students are active in them as well. One good way to learn about all the student organizations is to attend the Student Involvement Expo at the beginning of each semester.



Student Organizations

General Agriculture

- Ag Ambassadors
- Collegiate Farm Bureau

Agribusiness and Agricultural Economics

- Agribusiness Club
- Agribusiness and Applied Economics Graduate Club
- Bison Fund Club
- Entrepreneurship Club
- National Agri-Marketing Association (NAMA)

Agricultural and Biosystems Engineering

- ABEN Graduate Student Association
- Agricultural Systems Management Club
- Alpha Epsilon
- Bison Pullers

Agricultural Education

- Agricultural Education Society

Animal Sciences

- Animal Sciences Graduate Student Association
- Bison Dairy Club
- Collegiate Cattlewomen
- Horsemen's Association
- Human-Animal Interaction Club
- Judging Club
- Pre-Veterinary Club
- Rodeo Club
- Saddle and Sirloin Club
- Veterinary Technology Club

Biotechnology and Microbiology

- Biotechnology and Microbiology Club
- Genetic Engineering Corps of NDSU
- Microbiological Sciences Graduate Student Association

Family and Consumer Sciences Education

- American Association of Family and Consumer Sciences

Natural Resource Sciences

- Entomology Club
- Natural Resources Management Club

Plant Pathology

- Plant Pathology Student Organization

Plant Sciences

- Agronomy Club
- Food Science/Food Safety Club
- Horticulture and Forestry Club
- Plant Sciences Graduate Student Association

Fraternities and Sororities

- Alpha Gamma Rho Fraternity
- FarmHouse Fraternity
- Sigma Alpha Professional Agricultural Sorority



Learn more about all student organizations at myndsu.ndsu.edu

For more information

COLLEGE OF AGRICULTURE, FOOD SYSTEMS, AND NATURAL RESOURCES



College of Agriculture, Food Systems,
and Natural Resources

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