



UNIVERSITY OF MINNESOTA TWIN CITIES

# STEM-RELATED Majors

**If you enjoy working with numbers, math, and analyzing complex data...**

- Applied Economics
- Sustainable Systems Management
- Genetics, Cell Biology, and Development
- Economics
- Computer Engineering
- Electrical Engineering
- Computer Science
- Data Science
- Finance
- Materials Science and Engineering
- Astrophysics
- Mathematics
- Mechanical Engineering
- Statistics
- Physics



...working with numbers, math, and data

**If you enjoy communicating, teaching, and connecting with others...**

- Agricultural Communication and Marketing
- Agricultural and Food Business Management
- Kinesiology
- Nutrition
- Agricultural Education
- Speech-Language-Hearing Sciences
- Ecology, Evolution and Behavior
- Chemistry
- Biology
- Psychology
- Nursing
- Environmental Sciences, Policy and Management



...communicating, teaching, and connecting with others

**If you enjoy interacting with the environment, animals, and the molecules of life...**

- Animal Science
- Biochemistry
- Biology
- Cellular and Organismal Physiology
- Fisheries, Wildlife and Conservation Biology
- Chemistry
- Ecology, Evolution and Behavior
- Forest and Natural Resource Management
- Genetics, Cell Biology and Development
- Human Physiology
- Microbiology
- Neuroscience
- Plant and Microbial Biology
- Plant Science
- Environmental Engineering
- Environmental Geosciences
- Chemical Engineering



...interacting with the environment and animals

**IF YOU ENJOY...**

...being creative and outside-the-box thinking



**If you enjoy being creative and outside-the-box thinking...**

- Architecture
- Industrial and Systems Engineering
- Product Design
- Aerospace Engineering and Mechanics
- Civil Engineering
- Landscape Architecture
- Agricultural Communication and Marketing
- Biomedical Engineering
- User Experience (UX) Design

...the idea of working in a global environment



**If you enjoy the idea of working in a global environment...**

- Biology, Society, and Environment
- Earth Sciences
- Food Science
- Geoengineering
- Geography
- Management Information Systems
- Sustainable Agriculture and Food Systems
- Sustainable Systems Management
- Plant and Microbial Biology
- Bioproducts and Biosystems Engineering

The **MAJOR KEY** ([majors.umn.edu](http://majors.umn.edu)) is a great tool to help you explore these options!

The University of Minnesota has a variety of programs available for students interested in a STEM-related degree. For more information about these majors, please visit the Major Key at [majors.umn.edu](http://majors.umn.edu)

**Aerospace Engineering and Mechanics (CSE)** - Develop and apply your engineering skills to real world problems beyond aircraft and spacecraft alone.

**Agricultural Communication and Marketing (CFANS)** - Learn to be an expert voice in the food and agriculture industry by exploring the intersection of science and communication.

**Agricultural Education (CFANS)** - Prepare to teach agriscience, agribusiness, animal science, horticulture, food science, agricultural mechanics, and natural resource science.

**Agricultural and Food Business Management (CFANS & CSOM)** - Utilize business tactics, economics and applied science to identify, analyze, and solve management issues.

**Animal Science (CFANS)** - Learn about the care and management of farm animals, zoo animals, horses, pets or business within the animal industry.

**Applied Economics (CFANS)** - Gain a solid foundation in economics and learn how it is applied in the real world to improve people's lives.

**Architecture (CDES)** - Practice design, learn fabrication techniques and explore the history of architecture from the studio, workshop and classroom.

**Astrophysics (CLA, CSE)** - Study the physics of the universe along with interactions between objects in outer space; interpret data with mathematics and physical laws.

**Biochemistry (CBS)** - Focus on biosynthesis, metabolism, function, and regulation of molecules of life in order to understand disease.

**Biology (CBS)** - Understand the fundamental nature of living things, and cover the full range of life sciences, from cancer genes to marine mammals.

**Biology, Society, and Environment (CLA)** - Receive comprehensive biology training and study biology's influence on and relationship to philosophy, sociology and other disciplines.

**Biomedical Engineering (CSE)** - Study the fundamentals of biology, chemistry, physics, and mathematics to solve problems in the medical field.

**Bioproducts and Biosystems Engineering (CFANS & CSE)** - Design products and systems to meet the world's growing needs for materials, energy, and food to address environmental sustainability.

**Cellular and Organismal Physiology (CBS)** - Study underlying physiological mechanisms in organisms ranging from microorganisms to large animals.

**Chemical Engineering (CSE)** - Designing processes to create sustainable production of energy, pharmaceuticals, chemicals, and advanced materials.

**Chemistry (CLA, CSE)** - Interact with nature on a fundamental level, studying molecular structure, and the reactions that convert one material into another.

**Civil Engineering (CSE)** - Build the infrastructure of the world, including roads, bridges, buildings, water supply networks, sewage systems, pollution control facilities, and transportation hubs.

**Computer Engineering (CSE)** - Create, build, test, and install high-tech computing devices for everything from supercomputers to toys.

**Computer Science (CLA, CSE)** - Design computer software and hardware, apply computational techniques to other sciences, investigate social uses of computing, determine what programming language to use for a given problem, and advance new technologies such as artificial intelligence and robotics.

**Data Science (CSE)** - Learn the fundamentals of statistical and algorithmic tools and use those tools to extract meaningful insights from large data sets.

**Earth Sciences (CLA, CSE)** - Utilize tools from physics, chemistry, biology, chronology and mathematics to better understand how the Earth system works.

**Ecology, Evolution and Behavior (CBS)** - Explore a wide range of topics from evolutionary adaptations of plants and animals to the role of biodiversity in ecosystem stability.

**Economics (CLA)** - Master critical thinking, become an expert in economic principles, and customize your degree with quantitative training.

**Electrical Engineering (CSE)** - Learn to generate technological advances that impact virtually every aspect of modern life.

**Environmental Engineering (CSE)** - Prepare to design systems that resolve issues of environmental concern from wastewater treatment to protecting public health.

**Environmental Geosciences (CLA, CSE)** - Understand natural geologic processes and complete fieldwork to ensure the sustainability of our environment.

**Environmental Sciences, Policy and Management (CFANS)** - Address complex environmental challenges using science, policy, ethics, management models and communication theory.

**Finance (CSOM)** - Develop effective financial decision-making, and gain skills to assist in answering how to improve value, evaluate projects, measure risk, and understand markets.

**Fisheries, Wildlife and Conservation Biology (CFANS)** - Learn to research, plan and implement care and management plans for wildlife, fish, or aquatic resources.

**Food Science (CFANS)** - Apply chemistry, microbiology, and engineering to the science of making foods.

**Forest and Natural Resource Management (CFANS)** - Learn from a curriculum that covers the managerial, behavioral, and ecological sciences of our natural resources.

**Genetics, Cell Biology and Development (CBS)** - Learn about how genetics influence cell structure and function, leading to the formation of organisms

**Geoengineering (CSE)** - Plan, analyze, and design water and waste systems, tunnels, dams, and other facilities on or under the Earth's surface.

**Geography (CLA)** - Explore the ways both human and non-human forces shape the world, through social, political, economic, and ecological processes.

**Human Physiology (CLA)** - Concentrate on understanding the functions of the human body from individual cells to organ systems.

**Industrial and Systems Engineering (CSE)** - Design, plan, and manage large-scale and complex systems including global supply chains, healthcare delivery systems, business and financial services, infrastructures.

**Kinesiology (CEHD)** - Study physical activity and human movement to prepare for careers in health science, fitness, sport, and wellness.

**Landscape Architecture (CDES)** - Learn to respond to multiple environmental challenges using sustainable models of landscape design practice.

**Management Information Systems (CSOM)** - Become proficient in your ability to plan for, design, use, and manage the digital assets of an organization.

**Materials Science and Engineering (CSE)** - Understand the properties and origins of metals, ceramics, semiconductors, polymers, and composites, used in a wide range of industries.

**Mathematics (CLA, CSE)** - Go beyond numbers and formulas to understand how and why, and learn to solve complex real-world problems in diverse fields.

**Mechanical Engineering (CSE)** - Acquire and apply knowledge from and across a variety of disciplines including energy, transportation, medical device design, bioengineering and more.

**Microbiology (CBS)** - Examine the role of microbes such as bacteria, fungi, and viruses in our world and understand the impact on human health.

**Neuroscience (CBS)** - Study the building blocks of brain function in both animals and humans, as well as disease causing abnormalities.

**Nursing (NURS)** - Prepares future nurses through a rigorous, research-driven curriculum that unites scientific excellence, hands-on clinical training, and patient-centered care to protect health, safety, and dignity.

**Nutrition (CFANS)** - Discover how nutrients and foods aid the body in growth and development and in maintaining health and wellness.

**Physics (CLA, CSE)** - Explore the fundamental properties, laws, and structure of all forms of matter, living and non-living.

**Plant and Microbial Biology (CBS)** - Explore plants with an additional lens in microbiology, allowing all aspects of plants, fungi, and bacteria, which arguably impact human lives more than any other life forms, to be studied.

**Plant Science (CFANS)** - Prepare for diverse careers in areas such as plant breeding/genetics, sustainable food and plant production, and landscape management.

**Product Design (CDES)** - Utilize a hands-on, team-based approach to discover methods and tools used to invent the future.

**Psychology (CLA)** - Apply the scientific method and quantitative reasoning to examine human behavior through environmental and physiological determinants.

**Speech-Language-Hearing Sciences (CLA)** - Study the production and comprehension of human communication through speech and language.

**Statistics (CLA)** - Gain a B.A. or B.S. in statistical practice or statistical science to measure and communicate societal advancements.

**Sustainable Agriculture and Food Systems (CFANS)** - Learn all about the systems that feed the human population, encompassing an interconnected set of biological, technological, economic, and social activities.

**Sustainable Systems Management (CFANS)** - Advance sustainability through systems solutions that integrate the goals of economic growth, public health, and environmental protection.

**CDES** College of Design

**CEHD** College of Education and Human Development

**CFANS** College of Food, Agricultural and Natural Resource Sciences

**CBS** College of Biological Sciences

**CSE** College of Science and Engineering

**CSOM** Carlson School of Management

**CLA** College of Liberal Arts

**NURS** School of Nursing