COLLEGE OF NATURAL AND SOCIAL SCIENCES
MATHEMATICS AND STATISTICS

MATHEMATICS COMPREHENSIVE

While completing the mathematics comprehensive program requirements, you will gain in-depth knowledge in mathematics. You also get to choose an emphasis in computer science, applied mathematics or general mathematics. Class topics range from applied courses in differential equations and numerical analysis to the abstract, including advanced calculus, number theory and modern algebra. Some graduates earn graduate degrees in mathematics, statistics, business administration or the sciences. Other graduates work in the financial industries or in actuarial sciences. As a mathematics student, a faculty adviser will guide you through your coursework and help you achieve your personal goals. At UNK, class sizes are small, and you can get to know your instructors, ask for help or receive advice in a comfortable atmosphere.

Employment opportunities

- Computer programming
- Actuarial science
- Mutual funds and financial industries
- Computer systems analyst
- Administration
- Higher education
- Cryptography
- Biomathematics
- Operations research
- Statistics

Reasons to major in math at UNK

- After the calculus sequence, average class size is 15 students.
- Mathematics faculty are committed to student success.
- Instructors are available outside of class for further assistance.
- Free peer tutoring is available through UNK's Learning Commons.

Alumni profile

"A math degree seemed to be the most natural thing for me to pursue," said Josh Brummer, a 2013 UNK graduate with dual majors: mathematics and computer science. "Since I was young, I have always had a deep passion for mathematics."

Brummer is now in graduate school at Kansas State University. "Making the transition from undergraduate to graduate studies is such a huge leap in expectations, but my busy extra-curricular schedule and tough coursework at UNK helped give me the confidence that I could succeed in graduate school."

JOSH BRUMMER

At UNK, Brummer says professors know you by name and take an actual interest in you as an individual and your aspirations. "Participating in undergraduate research gave me the chance to work one-on-one with different professors in the math department. I believe this really shaped who I am as a mathematician today."

Brummer plans to teach at a university. "I see myself very happy as a mathematics professor. Some day I will pass on my love for the subject to students."

Tips for success in math

Attendance: Each class builds on previous lectures all semester. Attend class, read the text and do homework consistently.

Standards: Raise the bar and form a study group that meets once or twice a week. Not only will you develop friendships, but will gain a teamwork atmosphere with math peers.

Common sense: If needed, seek help soon rather than later. Begin the semester ready to use all of the campus resources available.

MATHEMATICS COMPREHENSIVE
FOUR YEAR CLASS SCHEDULE: BACHELOR OF SCIENCE

The schedule is a guideline for progress toward a degree. Consult with your academic adviser.

Semester 1 (17 credits)
GS core Oral Communication
GS Aesthetics course
GS Portal 188 course (your choice)
GS core ENG 102 Writing and Research
MATH 115 Calculus I w/Analytic Geom.

Semester 2 (17 credits)
GS core Democracy in Perspective
GS Humanities course
GS Social Sciences course
MATH 202 Calculus II w/Analytic Geom.
MATH 250 Foundations of Math

Semester 3 (16-17 credits)
GS Humanities course
GS PHYS 275 General Physics I with lab
MATH 260 Calculus III
CSIT 111, 112 or 130

Semester 4 (15 credits)
GS Natural Sciences course
GS Social Sciences course
GS Distribution course
MATH 305 Differential Equations
MATH 350 Abstract Algebra

Semester 5 (13 credits)
GS Capstone 388 course (your choice)
GS Distribution course (1 credit)
MATH 460 Advanced Calculus I
MATH emphasis area course
Unrestricted elective

Semester 6 (14-15 credits)
MATH 365 Complex Analysis
MATH 440 Linear Algebra
MATH emphasis area course
Unrestricted elective (2-3 credits)
Unrestricted elective

Semester 7 (15 credits)
MATH emphasis area course
MATH emphasis area course
MATH emphasis area course
Unrestricted elective
Unrestricted elective

Semester 8 (12 credits)
MATH 420 Numerical Analysis
MATH emphasis area course OR
    unrestricted elective
Unrestricted elective
Unrestricted elective

STUDENT PROFILE – Natalie Hanisch
Hometown: Rockville, Neb.
Major: mathematics comprehensive
Minor: computer science
Graduation: May 2015

"When I became a math major at UNK, it was the first time in my life that I felt surrounded by like-minded people. I met a group of people who appreciated math as more than just a means to an end," said Natalie Hanisch from Rockville, Neb. "I actually ended up at UNK by default. When I entered the college system, I didn't really know much about choosing a college. Looking back, if I had known, I would have still picked UNK because of the small student-to-teacher ratios, the large number of opportunities for students, and the fact that Kearney is a small town yet big enough to have an active nightlife."

Math organizations

UNK Math Club

UNK Math Club is for any student, faculty or staff who are interested in challenging their mind and having fun. Come and enjoy fun activities with like-minded people.

- Pi Day
- Fun Run/Walk Pi K

Kappa Mu Epsilon Organization

Kappa Mu Epsilon is a national mathematics honorary society. An undergraduate student is eligible for membership when they have maintained standards of scholarship, demonstrated professional merit and attained academic distinction.

Scholarships available

- L.M. Larsen Memorial Mathematics Scholarship
- Donald L. Liehs Scholarship Endowment
- Harriet McFadden Memorial
- Dr. Mary L. Morse Memorial
- Daniel H. and Debra L. Mowrey Statistical Excellence Fund
- Theodora Nelson Endowed Fund
- James W. Nielsen Memorial
- Helen E. Ogle Memorial

Character traits needed for success

- Demonstrates the ability to think mathematically
- Solves problems with multiple and/or alternative solutions
- Persists in the search for solutions
- Displays a proactive mindset
- Is thorough
- Thinks realistically
- Shows self-confidence
- Manages time with the ability to prioritize
- Applies and adapts to new knowledge
- Desires life-long learning

Looking for something powerful to do with your life? At UNK, you can get the most out of your education, form lifelong friendships and uncover your capacity to make a meaningful difference in society.

For more information, contact:
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