

MATHEMATICS

Mathematics is the language of science and technology. Its explosive development during the 20th century and its history as the oldest and most highly developed discipline make math one of the most exciting and rewarding areas of study for the 21st century.

Background Information

In the past few years a tremendous increase has occurred in the need for mathematics and mathematicians. In such fields as actuarial science, computer science, statistics, engineering, economics and commerce, mathematical training is in high demand.

If you enjoy mathematics and are good at it, you will find both challenges and opportunities in the Department of Mathematics. Your adviser, a faculty member in the department, will provide you with information concerning courses, curricula and the many exciting and rewarding careers open to mathematics graduates. The Cooperative Education Program offers the possibility of academic credit for on-the-job training. The student mathematics organization, Math Club, brings in both academic and nonacademic speakers who explore career possibilities and fascinating topics in mathematics at club meetings. Opportunities for paper grading and tutoring are available which allow students to deepen their understanding by assisting others in learning mathematics.

Our faculty members contribute research findings in a variety of areas in theoretical and applied mathematics to internationally known journals. This wide variety of areas of specialization and expertise of faculty members in the department means that you will probably find someone both interested and knowledgeable in any area of mathematics that might fascinate you.

The Program

The Department of Mathematics offers a broad and balanced curriculum of courses taught by a faculty of 15. A student may choose to major in mathematics or mathematics education. Minors in related areas are encouraged. These choices may be made immediately or deferred until the basic course work is completed. In addition to the B.S. degree, the department offers M.S. and Ph.D. degrees.

Career Opportunities

Our students have been very successful in finding employment. Graduates are working in a wide variety of corporations, agencies, universities and school systems. A number continue on for advanced degrees.

The Faculty

A. Akhmedov, Ph.D., Yale, 2004
M.A. Alfonseca, Ph.D., Madrid, 2003
N. Barabanov, Ph.D., Kiev, 1979
M. Bocea, Ph.D., Pennsylvania, 2004
C. Ciuperca, Ph.D., Kansas, 2001
D. Cómez, Ph.D., Toronto, 1983
D. Cope, Ph.D., Vanderbilt, 1980
J. Coykendall, Ph.D., Cornell, 1995
B. Duncan, Ph.D., Nebraska, 2004
R. Hladky, Ph.D., Washington, 2004
A. Hodge Ph.D., Purdue, 2007
F. Littmann, Ph.D., Illinois, 2003
W. Martin, Ph.D., Wisconsin, 1993
J. Olsen, Ph.D., Minnesota, 1968
C. Popovici, Ph.D., Pennsylvania, 2005
S. Sather-Wagstaff, Ph.D., Utah, 2000
W. Shreve, Ph.D., Nebraska, 1967
A. Ungar, Ph.D., Tel Aviv, 1973

The Curriculum

For a mathematics major, 41 credits (from required and elective mathematics courses) are required. The mathematics education major requires 37 credits and emphasizes those areas of mathematics and related disciplines that have proven most useful for secondary school teachers. In addition, there are cooperative double majors in mathematics and computer science, mathematics and physics, and mathematics and statistics which take advantage of the overlap of requirements and give the student a broader background, thus opening a wider range of career possibilities. Advisers in the Department of Mathematics can furnish details about these and other programs, such as an emphasis in actuarial mathematics. A minor in mathematics consists of 12 credits in calculus plus 9 credits of approved electives.

Sample Curriculum

General Education Requirements Credits

First Year Experience	
Univ. 189 - Skills for Academic Success.....	1
Communication	
Comm. 110 - Fund of Public Speaking.....	3
Engl. 110, 120 - College Composition I, II.....	3, 3
English Upper Level Writing Course	3
Quantitative Reasoning	
Math. 165 - Calculus I	3
Science & Technology	10
Humanities & Fine Arts.....	6
Social & Behavioral Sciences	6
Wellness	2
Cultural Diversity.....	-
Global Perspective	
Geol. 105 - Physical Geology.....	-
Total.....	40

College and Department Requirements Credits

Hum/Soc. Science Electives (B.S. Degree).....	6
Hum/Soc. Science Electives (B.A. Degree)	12
Second Year Language Proficiency	-
Totals	6-12

Major Requirements Credits

Math. 165 - Calculus I.....	4
Math. 166 - Calculus II.....	4
Math. 265 - Calculus III	4
Math. 266 - Introduction to Differential Equations	3
Math. 270 - Introduction to Abstract Math.....	3
Math. 420 - Abstract Algebra I.....	3
Math. 421 - Abstract Math <i>or</i>	
Math. 451 - Real Analysis II.....	3
Math. 429 - Linear Algebra I.....	3
Math. 450 - Real Analysis I.....	3
Math. 491 - Seminar.....	1
Math Electives.....	10
Totals.....	41

Related Requirements Credits

CSci. 160 - Computer Science I.....	4
Lab Science Sequence.....	8-10
Computer Science Electives.....	6
Electives.....	9-17
Totals	29-35
CURRICULUM TOTAL	122

This sample curriculum is not intended to serve as a curriculum guide for current students, but rather an example of course offerings for prospective students. For the curriculum requirements in effect at the time of entrance into a program, consult with an academic adviser or with the Office of Registration and Records.

For Further Information

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 Web: <http://www.math.ndsu.nodak.edu>