Mathematics

Mathematics is one of the oldest and most fundamental sciences. Mathematicians use mathematical theory, computational techniques, algorithms, and the latest computer technology to solve economic, scientific, engineering, financial, and business problems. Mathematical skills are in greater and greater demand in today's workforce. The government, private industry, health and environmental fields, all areas of engineering, and the academic world all require sophisticated mathematical skills to help solve various problems.

If you decide to pursue Mathematics, you will gain an educational back-ground that many employers seek in job applicants. Your research skills, critical thinking and problem-solving ability, and general mathematical analysis skills will be sharpened through your mathematics courses, and also through various elective courses.

Skills and Competencies

Mathematical skills are in greater and greater demand in today's workforce. The government, private industry, health and environmental fields, and the academic world all require sophisticated mathematical skills to help solve various problems. If you decide to pursue Mathematics as a major, you are gaining an educational background that many employers seek in job applicants. Still, other skills and competencies you acquire during your time at NMU will be well-utilized when you enter the job market or continue your education in graduate school. Communication skills are absolutely necessary in any career field today, so be sure to possess strong speaking and writing skills. Employers need people who are able to communicate effectively with others. Moreover, your research skills, critical thinking and problem-solving ability, and general analysis skills will be sharpened through your mathematics and computer science courses, and also through various elective courses.

Course Work

This degree includes the following courses as part of the program requirements, and specific major requirements along with general education and graduation requirements.

Core

MA161	Calculus I (4 cr.)
MA163	Calculus II (4 cr.)
MA211	Linear Algebra (3 cr.)
MA265	Calculus III (4 cr.)
MA312	Abstract Algebra I (3 cr.)
MA361	Differential Equations (3 cr.)

Concentration:
General Mathematics (18 cr.)

MA363	Analysis I (3 cr.)
MA371	Probability (3 cr.)
MA412	Abstract Algebra II (3 cr.)
MA464	Analysis II (3 cr.)
DATA472	Statistics I (4 cr.)

MA/DATA Electives (11-12 cr.)
(select from MA300– 400-level courses except MA350-359 and MA450-459)

Actuarial Sciences (30 cr.)

MA370	Interest Theory (3 cr.)
MA371	Probability (3 cr.)
DATA472	Statistics I (4 cr.)
EC201	Microeconomic Principles (4 cr.)
EC202	Macroeconomic Principles (4 cr.)
FIN351	Financial Management I (4 cr.)

MA electives *(select from MA300—400-level courses except MA350-359 and MA450-459)* (8 cr.)

Other Required Courses
CS120	Computer Science I (4 cr.)

Minor (16 cr.)

Detailed course descriptions can be found at www.nmu.edu/bulletin.

Career Development

You should begin the resume-building process as soon as you can. The Academic and Career Advisement Center can assist you with career planning, while Career Services will help you fine tune your resume and look for jobs related to your field. In the meantime, the more hands-on experience you have, the better you prepare for employment. Becoming involved in a professional related internship is a way to develop your professional skills and gain experience. Your academic course work is important as well, so be sure to maintain a high grade point average.

Additional Considerations

A bachelor's degree in mathematics is the minimum education needed for prospective mathematicians. In the federal government, entry-level job candidates usually must have a four-year degree with a major in mathematics.

A minor or second major in business may be helpful for some of these fields of interest.

Job Outlook

Starting salaries are contingent upon geographic location and the individual applicant's work experience and initiative, and usually range from $80,000 to $106,000. Employment of mathematicians is expected to increase 13 to 28 percent. However, keen competition for jobs is expected. Master's degree and Ph.D. holders with a strong back-ground in mathematics and a related discipline, such as engineering or computer science, and who apply mathematics theory to real-world problem will have the best job prospects in related occupations.

Potential Careers

NMU's Mathematics Program prepares students for employment in the following careers:

- Accountant
- Actuary
- Agriculture Department
- Banker
- Commerce Department
- Defense Department
- Financial Planner
- Food and Drug Administration
- Insurance Agent
- Justice Department
- Labor Department
- NASA

Additional Resources and Information

For Career Planning and Opportunities:
Academic & Career Advisement Center
3302.1 C.B. Hedgcock
906-227-2971
www.nmu.edu/acac

Mathematics and Computer
Science Department
2200 Jamrich Hall
906-227-2020
www.nmu.edu/math

For Job Search, Resume and Career Information:
Career Services
3302.3 C.B. Hedgcock
906-227-2800
www.nmu.edu/careers

For Information about NMU Student Organizations Associated with this Major Contact:
Center for Student Enrichment
1206 University Center
906-227-2439
www.nmu.edu/cse

Math Club
Beta Eta Chapter of Gamma Iota Sigma

Internet Resource Links:
 www.beanactuary.org
www.careers.org
www.bls.gov

For Career Information with National Organizations:
www.ams.org -Am. Mathematical Society
www.amstat.org -Am. Statistical Assoc.
www.siam.org -Society for Industrial and Applied
                                        Mathematics
www.maa.org -Mathematics Assoc. of America

**NORTHERN MICHIGAN
UNIVERSITY**
MARQUETTE, MICHIGAN

The Academic & Career Advisement Center
2022

What to do with a major in...

Mathematics