B.A.
The School of Mathematics offers a program in the College of Liberal Arts leading to a bachelor of arts degree. The course of study is flexible and may be adapted to satisfy a wide variety of interests and needs. Students may prepare for graduate study in mathematics or may emphasize various fields of interest such as preparation for secondary school teaching, actuarial science, or programs in applied mathematics, including industrial mathematics, mathematics applicable to computer science, and numerical analysis. Programs for specializations in actuarial science, secondary school teaching, and computer science earn a designation that appears on the diploma.

See the Institute of Technology section for the B.S.Math. program.

Degree Requirements
At least 120 credits are required for graduation. Students must complete one of the lower division sequences described below and six adviser-approved, upper division courses (including two satisfying the requirement in algebra and two satisfying the requirement in analysis). A senior project is also required.

Students must take all required courses in composition and in the major A-F. A grade of C- or better must be earned in all of these courses.

For details about what courses are appropriate for the actuarial science or secondary teaching specializations, consult your adviser or see the publication *Mathematics Major Requirements*, available in the Undergraduate Mathematics Office, 115 Vincent Hall, or on the Web at <www.math.umn.edu>. For courses appropriate for other interests, consult your adviser.

Required Courses

**Lower Division Requirements**

One of the following sequences:

- Math 1271-1272-2243-2263 (Calculus I-II, Linear Algebra and Differential Equations, Multivariable Calculus)
- Math 1371-1372-2373-2374 (IT Calculus I-II, IT Linear Algebra and Differential Equations, IT Multivariable Calculus)
- Math 1571-1572-2573-3574 (Honors Calculus I-II-III-IV)

In addition, students who have not taken all four semesters of Honors Calculus must take Math 2283 or Math 3283W. Math 3283W satisfies the requirement of a writing-intensive course in the major.

**Upper Division Requirements**

- Six upper division courses, including two satisfying the algebra requirement and two courses satisfying the analysis requirement.

  To satisfy the algebra requirement, a student must take two courses from the following: Math 4242, 5248, 5251, 5285, 5286, 5385, 4707 or 5705 or 5707 (only one of 4707, 5705 or 5707 may be used to satisfy this requirement), 5711.

  To satisfy the analysis requirement, a student must take two courses from the following: Math 4606, 5486, 5525, 5535, 5583, 5587, 5588, 5615, 5616, 5651, 5652, 5654.

- The School of Mathematics will accept Stat 5101 and Stat 5012 as part of the six-course upper division mathematics requirement (content of Stat 5101 is the same as Math 5651—Basic Theory of
You have not declared a major until you have:

- completed a Major Program Form with your major adviser
- filed a copy with the major department
- filed a copy with your CLA student community
- be sure to keep a copy for yourself

Final Project

All CLA math majors must complete a senior project, Math 4995 or 4997W. Consult your math adviser about this project before the beginning of your senior year.

Minor Requirements

Students complete all lower division requirements for the major, plus two adviser-approved upper division math courses.

What can I do with a major in mathematics?

Skills

Mathematics majors develop skills that are applicable to a wide variety of careers. These skills include:

- Strong quantitative reasoning abilities
- Creative problem solving skills
- Analytical and logical reasoning skills
- Independent, self-motivated work ethic
- Ability to formulate clear and persuasive messages
- Listening, clarifying, questioning and responding skills

Employment

Common areas of employment for this major include but are not limited to:

- Government—public information, campaign research, economist
- Sciences—research and development, computation, experimentation
- Business—insurance actuary, research analyst, financial analyst
- Public Relations and Advertising—market research, corporate public affairs, lobbying
- Media—technical writing, investigative research, management
- Arts and Entertainment—writing, managing, development
- Education—teaching, research, student affairs
- Nonprofit—fundraising, programming, account management
- Industry—mathematical modeling, numerical methods

How do I declare a mathematics major?

You will be required to declare a major by the time you have completed 60 credits.

1. Talk with an adviser from the department to learn more about the major and its requirements. Appointments can be made by calling 625-4848 or by visiting 115 Vincent Hall.

2. Complete a One-Year Program Plan with the help of the departmental adviser. To qualify for this step, you must have completed at least one sophomore-level calculus course (Math 2243, 2263, 2283 or equivalent) with a grade of C- or better.

3. Bring a copy of the form to your CLA student community.

4. If you decide to change your major, contact your CLA student community for more information on the new major’s declaration process.

Remember!

You have not declared a major until you have:

- completed a Major Program Form with your major adviser
- filed a copy with the major department
- filed a copy with your CLA student community
- be sure to keep a copy for yourself
**About the mathematics major:**
Undergraduate Advising
115 Vincent Hall
(612) 625-4848
http://www.math.umn.edu/

**About CLA requirements, graduation, and other information about majors:**
CLA Languages and Math Student Community
114 Johnston Hall
(612) 624-7540
http://langmath.cla.umn.edu
langmath@class.cla.umn.edu

or

CLA Martin Luther King, Jr. Program
19 Johnston Hall
(612) 625-2300
http://www.mlk.umn.edu/
mlk@class.cla.umn.edu

**About careers, internships, and community learning opportunities in this major and others:**
Career and Community Learning Center
135 Johnston Hall
(612) 624-7577
www.cclc.umn.edu
cclc@class.cla.umn.edu

**About graduation with honors:**
Students interested in graduating with honors should contact:

CLA Honors Division
115 Johnston Hall
(612) 624-5522
www.cla.umn.edu/honors/
honors@class.cla.umn.edu