Microbiology examines the nature and activities of microorganisms, the distinctive microscopic life forms that recycle the elements in aquatic, atmospheric, and soil environments. The field has applications for fields of industry, agriculture, and medicine. As remarkably useful model systems for research, microorganisms play a key role in the development of modern biology. This program prepares students for graduate study or professional work in microbiology.

**Degree Requirements**

Students must complete 120 credits to graduate, including 66 credits in the major.

**Required Courses**

- Choose introductory biology sequence A, B, or C:
  A. Biol 1001–1002—Introductory Biology I–II
  B. Biol 1009, Biol 3211 and Biol 2005
  C. Biol 1009, Biol 3002, and Biol 3005 or Biol 3007
- Choose one biochemistry course from BioC 3021 or BioC 4331
- Choose one genetics course from GCB 3022 or Biol 4003
- MicB 3301—Biology of Microorganisms
- Choose four microbiology courses from MicB 4111, MicB 4121, MicB 4131, MicB 4141, MicB 4151, MicB 5352
- Choose advanced laboratory sequence A or B:
  A. MicB 4215, MicB 4235
  B. MicB 4215 or MicB 4235 plus 6 credits of MicB 4994
- Math 1271-1272—Calculus I–II
- Chem 1021-1022—Chemical Principles I–II
- Chem 2301-2302—Organic Chemistry I–II
- Chem 2311—Organic Lab
- Phys 1301-1302—Introductory Physics I–II or Phys 1201-1202—General Physics I–II

**Final Project**

Students must complete 6 credits of MicB 4993—Directed Studies or MicB 4994—Directed Research.

Internships are not required but are available. For more information, contact the Office of Student Services in the College of Biological Sciences or CLA’s Career and Community Learning Center (CCLC).

**What can I do with a major in microbiology?**

**Skills**

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

- Problem solving and analytical skills
- Quantitative orientation
- Independent, self-motivated work ethic
- Ability to formulate clear and persuasive messages
- Ability to work well with diverse groups

**Employment**

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

**How do I declare a microbiology major?**

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

1. Talk with someone from the department: an adviser or a professor, to learn more about the major and its requirements.
2. When you decide upon a microbiology major, meet with the appropriate person from the department to complete a Major Program form.
3. Bring a copy of the form to your CLA student community.
4. If you decide to change your major, contact your student community to learn more about your 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

**For more information**

**About the microbiology major:**
Undergraduate Advising
1460 Mayo Building
(612) 624-5947
http://www.microbiology.med.umn.edu/

**About CLA requirements, graduation, and other information about majors:**
CLA Natural Sciences Student Community
B-18 Johnston Hall
(612) 624-6044
http://natsci.cla.umn.edu
natsci@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