Students pursuing the B.A. must complete at least 120 credits to graduate, including at least 69 credits in the major and the CLA second language requirement.

Required Courses
Complete requirements in the following categories: courses from other programs, general and organismal biology, biology core, electives in the major, and major project. All required courses in chemistry, math, physics and the biological sciences must be completed on the A-F grade basis unless they are only offered S-N. Grades of C- or better are required for all courses in the major (includes chemistry, math, physics, and the biological sciences).

Required Courses from Other Programs
Note: You may need to take prerequisite courses depending on your level of preparation. Consult your college adviser.

- Math 1271-1272 OR 1281-1282—Calculus I-II
- Chem 1021-1022—Chemical Principals I-II
- Chem 2301-2302—Organic Chemistry I-II
- Chem 2311—Organic Lab
- Phys 1202-1202—General Physics I-II OR Phys 1301-1302—Introductory Physics I-II

Note: Phys 1101-1102 is not an acceptable sequence.

General & Organismal Biology
Choose sequence A or B:

Sequence A (preferred sequence):
- Biol 1001—Introductory Biology I: Evolutionary and Ecological Perspectives
- Biol 1002—Introductory Biology II: Molecular, Cellular, and Developmental Perspectives
- Choose one organismal biology course or course pair from the following list:
  - Animal: Biol 2012 or Biol 3211 & 2005
  - Plant: Biol 2022 or Biol 3002 & 3005 or Biol 3007
  - Microbiology: Biol/MicB/VPB 2032 or Biol/MicB 3301

Sequence B (alternative sequence):
- Biol 1009—General Biology
- Choose two organismal biology courses or course pairs from two different sub-groups from the following list:
  - Animal: Biol 2012 or Biol 3211 & 2005
    - Plant: Biol 2022 or Biol 3002 & 3005 or Biol 3007
    - Microbiology: Biol/MicB/VPB 2032 or Biol/MicB 3301
**Biology Core**

Complete each of the following:

- Biol/BioC 3021—Biochemistry OR BioC 4331
- Biol 4003—Genetics
- Biol 4004—Cell Biology
- One of: BIOL 3407, BIOL 3409, BIOL 3411—Ecology, Evolution, or Animal Behavior

**Electives in the Major**

Complete eleven credits in upper division electives (3xxx, 4xxx, or 5xxx having Biol 1002 or 1009 as a prerequisite). Must include two additional laboratory or fieldwork courses or course pairs from this list:

**Laboratory or Fieldwork Electives**


These 11 credits may not include coursework fulfilling other requirements for the major. Upper division electives may be selected from any CBS department, as well as appropriate mathematics, physical science and computer science courses.

All 38xx and 48xx level CBS courses offered at the Lake Itasca Forestry and Biological Station are acceptable to count for a field course.

**Note:** Biol 3211 & 2005, Biol 3002 & 3005, Biol 3007 or Biol/MicB 3301 may be used if not used to satisfy the organismal biology requirement.

**Indicates directed research courses. A maximum of 6 credits of directed research or directed study will count toward the 11 upper division elective credits. 3 credits in directed research is the minimum number that will count as one lab course.

**Directed Study Courses**

Directed Study courses from the following list may count toward the 11 total credits in major electives, but will not count for a lab or field course: BioC 4993/4793W, EEB 4993/4793W, GCD 4993/4793W, MicB 4993/4793W, Nsci 4993/4793W, PBio 4993/4793W

**Major Project**

Students must complete a 3-6 credit independent research project, which can be applied to the eleven elective credit requirement. Select from BioC, EEB, GCD, MicB, NSc, or PBio using one of the following course numbers:

- 4993—Directed Study
- 4793W—Writing Intensive Directed Study
- 4994—Directed Research
- 4794W—Writing Intensive Directed Research

Only directed research credits may be applied to the two lab/field course requirements. Students may satisfy both of the lab/field course requirements through directed research only if 3 credits of 4994 or 4794W are completed in 2 different labs. A maximum of 6 credits of 4994/4794W or 4993/4793W will count toward the 11 upper division elective credits.

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

**Skills**

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

- Critical thinking and analytical skills
- Laboratory experience
- Quantitative skills
- Verbal and written communication skills
- Ability to work independently as well as part of a team

**Employment**

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

- **Basic Research**—microbiologist, animal behaviorist, biotechnologist
- **Environmental Science**—resources manager, recreation planner, political lobbyist
- **Health Care**—nurse, occupational or physical therapist, physician, pharmacist
- **Business**—technical writer, recruiter, salesperson, consultant
- **Education**—teacher, academic adviser, curriculum or program developer

**How do I declare a biology 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, professor, or teaching assistant, to learn more about the major. E-mail a CBS adviser at CBS-adviser@cbs.umn.edu with any questions.

2. When you decide upon a biology major, schedule an appointment with an adviser in the CBS Student Services Office ([612] 624-9717) to review major requirements and complete a Major Program form. No walk-in appointments are available.

3. Bring a copy of the form or plan 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.
About the biology major:
CBS Student Services
223 Snyder Hall
(612) 624-9717
http://www.cbs.umn.edu
cbs-advisor@cbs.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

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