The physics B.A. program is a liberal arts degree providing the flexibility to integrate a broad foundation in physics with coursework in physics or other disciplines.

The required courses form a minimum program—students preparing for a specific career path may want to take more physics courses than required. Electives should be chosen to customize the physics degree to the individual need of the student. Students should consult a physics adviser to help formulate objectives for undergraduate study.

Degree Requirements

Students must complete at least 120 credits to graduate, including at least 37 credits in the major.

This minimum must include six required lower division physics courses, two physics courses selected from the basic upper division physics courses, two upper division physics electives, and an additional physics project. Additional courses must include four lower division calculus courses and the remaining University liberal education requirements.

Physics majors must take all required physics and mathematics courses A-F and must earn a grade of C- or better in all of those courses (except those offered S-N only). Only students with grades of B or better in the introductory physics courses can generally expect to succeed in the major.

Required Courses

- Phys 1301, 1302, 2503 or Phys 1401, 1402, 2403
- Phys 2601—Quantum Physics
- Phys 2605—Quantum Physics Laboratory
- 18 credits of 4xxx physics courses, including at least two courses from Phys 4001, 4002, 4101, 4201
- A physics project must be completed, either by completing Phys 4052—Methods of Experimental Physics II or by some other means approved by the department. In either case, any credits earned may be counted toward the 18 required 4xxx credits.
- Either of the following four-semester mathematics sequences: Math 1271, 1272, 2243, 2263 or Math 1371, 1372, 2373, 2374

Final Project

A physics project is required. This can be satisfied by completion of Phys 4052—Methods of Experimental Physics II, in which case the 5 credits earned may be counted towards the 18-credit requirement specified under “Required Courses.” Other ways of satisfying the physics project requirement must be approved by the physics department.

Minor Requirements

The minor in physics requires 24 credits in physics and 12 credits in math, distributed as follows:
What can I do with a major in physics?

**Skills**

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

- Critical thinking and analyzing skills
- Problem solving skills
- Mathematical reasoning
- Oral 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:

- **Government**—public information, campaigns, federal offices
- **Science**—research, computer programming, engineering
- **Communication**—technical writer
- **Business**—marketing, human resources, sales, consulting, recruiting
- **Education**—teaching, research, student affairs

How do I declare a physics 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, a professor, or a teaching assistant, to learn more about the major and its requirements.

2. When you decide upon a major, meet with the director of undergraduate studies to complete a One-Year Program Plan.

3. Bring a copy of the 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.

For more information

**About the physics major:**

Undergraduate Advising
148 Physics Building
(612) 624-7375
http://www.physics.umn.edu/

**About CLA requirements, graduation, and other information about majors:**

CLA Natural Sciences Student Community
B-18 Johnston Hall
(612) 624-6044
http://ncsci.clu.umn.edu
ncsci@class.clu.umn.edu

or

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

**About graduation with honors:**

Students interested in graduating with honors should contact:

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