Duluth Campus

Computer Science B.A.

Computer Science

Swenson College of Science and Engineering

- Program Type: Baccalaureate
- Requirements for this program are current for Spring 2019
- Required credits to graduate with this degree: 120
- Required credits within the major: 57 to 58
- Degree: Bachelor of Arts

Computers are ubiquitous in today's society and have application in nearly every aspect of our working and personal lives. The field of computer science has evolved to the point where advanced computer science techniques are now an integral component in nearly every discipline. Computing professionals who have sufficient exposure to a second discipline in their undergraduate studies are desperately needed in order to interact in a knowledgeable manner with experts in other areas in order to solve a broad range of problems. The computer science BA degree program prepares students to become such computing professionals and also allows for the pursuit of graduate and professional degrees in a wide range of disciplines.

The computer science BA is an interdisciplinary program that will produce computing professionals who have the necessary depth of expertise in computer science to have lifelong professional careers in the field. The program requires each student to gain knowledge and experience in the fundamentals of computer science, including computer organization and architecture, data structures and related algorithms, and programming languages. In addition, it allows for significant course work in a second complementary discipline. Students who complete this degree will have enormous flexibility and opportunity in their future careers and education since there is no discipline that is not touched in significant ways by computer science.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Required prerequisites

Introductory Course (1 cr)

Transfer students with 24 or more credits and current students who change from a BS degree or change colleges may request to be waived from this requirement. New first-year students with 24 or more PSEO credits may request to be waived from this requirement.

UST 1000 - Learning in Community (1.0 - 2.0 cr)

General Requirements

The Board of Regents, on recommendation of the faculty, grants degrees from the University of Minnesota. Requirements for an undergraduate degree from University of Minnesota Duluth include the following:

1. Students must meet all course and credit requirements of the departments and colleges or schools in which they are enrolled including an advanced writing course. Students seeking two degrees must fulfill the requirements of both degrees. However, two degrees cannot be awarded for the same major.
2. Students must complete all requirements of the Liberal Education Program.
3. Students must complete a minimum of 120 semester credits.
4. At least 30 of the last 60 degree credits earned immediately before graduation must be awarded by UMD.
5. Students must complete at least half of their courses at the 3xxx-level and higher at UMD. Study-abroad credits earned through courses taught by UM faculty and at institutions with which UMD has international exchange programs may be used to fulfill this requirement.
6. If a minor is required, students must take at least three upper division credits in their minor field from UMD.
7. The minimum cumulative UM GPA required for graduation will be 2.00 and will include only University of Minnesota coursework. A minimum UM GPA of 2.00 is required in each UMD undergraduate major and minor. No academic unit may impose higher grade point standards to graduate.
8. Diploma, transcripts, and certification will be withheld until all financial obligations to the University have been met.

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Program Requirements

1. A minor or a second major from another department; the computer engineering minor may not be used to satisfy this requirement.

2. This schedule presupposes placement into MATH 1296.

3. A grade of C- or better is required in all prerequisite courses for computer science classes.

4. Senior survey; contact the computer science office for details.

Computer Science Required Courses (30 cr)
CS 1511 - Computer Science I [LE CAT] (5.0 cr)
or CS 1581 - Honors: Computer Science I [LE CAT] (5.0 cr)
CS 1521 - Computer Science II (5.0 cr)
CS 2511 - Software Analysis and Design (4.0 cr)
CS 2521 - Computer Organization and Architecture (4.0 cr)
CS 3531 - Automata and Formal Languages (4.0 cr)
CS 3541 - Software Engineering (4.0 cr)
CS 2531 - Discrete Structures for Computer Science (4.0 cr)
or MATH 3355 - Discrete Mathematics (4.0 cr)

Computer Science Electives (12 cr)
Take 12 or more credit(s) from the following:
•CS 4xxx
•CS 5xxx

Courses Required From Other Programs (14 - 15 cr)
COMM 1112 - Public Speaking [LE CAT, COMM & LAN] (3.0 cr)
MATH 1296 - Calculus I [LE CAT, LOGIC & QR] (5.0 cr)
STAT 3411 - Engineering Statistics (3.0 cr)
or STAT 3611 - Introduction to Probability and Statistics (4.0 cr)
WRIT 31xx Adv Writing (3 cr)

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