Computer Science

Rev. Date: 05/2018

Freshman Year

Fall Semester		Spring Semester	
Math 1371 Calculus I *(placement into course or pre-req)*	4	Math 1372 Calculus II *(1371)*	4
Phys 1301W Intro Physics I *(&Math 1371)*	4	Science *select from Phys 1302W, Chem 1061/65 or 1062/66, ESci 2201, Psy 3011, or GCD 3022	4
CSE 1001 1st Yr Experience	1		
Liberal Education course or Writ 1301	3/4	CSci 1133 Intro Comp/Prog *(&Math 1371)*	4
Liberal Education course	3/4	Liberal Education course or Writ 1301	3/4

*Some courses may require additional pre-requisites.

Sophomore Year

Fall Semester		Spring Semester	
Stat 3021 Intro Prob & Statistics *(Math 1372)*	3	CSci 2021 Machine Arch & Org *(1933 or 1913)*	4
CSci 2011 Discrete Structures *(Math 1371)*	4	CSci 2033 Elem Comp Lin Alg *(1113/1133, Math 1371)*	4
CSci 1933 Intro Alg & Data *(1133)*	4	CSci 2041 Adv Prog Principles *(1933 or 1913, 2011)*	4
Liberal Education course	3/4	Liberal Education course	3/4

Junior Year

Fall Semester		Spring Semester	
CSci 3081W Prog Des & Dev *(UD, 2021, 2041)*	4	CSci 4061 Intro Oper Sys *(UD, 2021 or EE 2361)*	4
CSci 4041 Algs & Data Str (1933 or 1913, 2011)	4	UD CSci Required Track	3/4
UD Math Oriented Req	3/4	UD CSci Required Track	3/4
Liberal Education course	3/4	Open Elective (If needed to reach 120 credits)	3/4

Senior Year

Fall Semester		Spring Semester	
UD CSci Selected Track	3/4	UD CSci Elective	3/4
UD CSci Selected Track	3/4	UD CSci Elective	3/4
UD CSci Elective	3/4	Open Elective (If needed to reach 120 credits)	3/4
Open Elective (If needed to reach 120 credits)	3/4	Open Elective (If needed to reach 120 credits)	3/4

About This Plan

- This plan is not a contract. Curriculum can change. The APAS is the official method for tracking completion of University degree requirements.
- Shaded courses are only offered in the indicated semester.
- Course pre-requisites and co-requisites (designated by &) are listed below the course number and title. Upper Division (UD) requires admission to the major prior to enrollment.
- Students can take either the CSE-only or University-wide versions of the math courses (Math 1371/1271, 1372/1272).
- CSci 1103 and 1113 are accepted substitutions for CSci 1133 (not recommended). Students who have taken CSci 1103 or 1113 should take CSci 1913 in place of 1933.

Applying to your Major

Students who have completed the required courses for admission to this major (indicated with double boxes on plan) and have a 3.2 UM-TC technical GPA at the end of the fall semester will be guaranteed admission. All other students who have completed the required courses will be considered for admission on a space-available basis. Admission following the spring semester is only based on space availability. The major application database is available at z.umn.edu/csemajorapp.

Total Credits Needed for Degree: 120

Department Contact Information

- Website: www.cs.umn.edu/undergraduate/index.php
- Main Phone & Office: 612-625-4002; 4-192 Keller
- Director of Undergraduate Studies: Nick Hopper; cscidugs@umn.edu
- Departmental Advisors: Kevin Allen & Kelly Thomas; csciug@umn.edu
- Office Hours: z.umn.edu/csciadvisor or csci.appointments.umn.edu

University Degree Requirements

All students must complete the following Writing & Liberal Education requirements, as noted on their APAS report. See link for full Core & Theme names: z.umn.edu/liberaleducation

Writing Requirements:

University Writing:
Writ 1301/1401 or equivalent

Writing Intensive (WI):
Two: 1xxx or 2xxx level *
One: 3/4/5xxx level (in major)*
One: 3/4/5xxx level (any dept.)

Requirements with an (*) will be fulfilled by taking courses at UM-TC required for this major.

Liberal Education

CORES:	THEMES:
Bio	***4 of 5:***
Phy*	Civ
His	DSJ
SocS	Env
Ltr	GP
AH	TS
Mth*	

COLLEGE OF Science & Engineering
UNIVERSITY OF MINNESOTA

CSE Academic Advising & Career Center
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cse.umn.edu

Computer Science

POSSIBLE POSITIONS

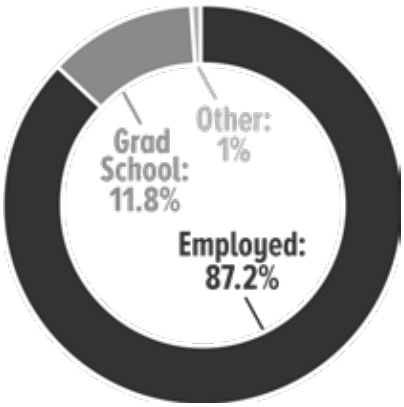
- **Application developer:** Design software or customize software for client use with the aim of optimizing operational efficiency.
- **Computer programmer:** Write and test code that allows computer applications and software programs to function and turn program designs created by software developers into instructions a computer can follow.
- **Computer support specialist:** Provides technical assistance to computer system users in person, via phone or from remote location. They provide assistance concerning the use of computer hardware and software.
- **Database administrator (DBAs):** Use specialized software to store and organize data, such as financial information and customer shipping records. Ensure that data are available to users and are secure from unauthorized access.
- **Information security analyst:** Plan and carry out security measures to protect an organization's computer networks and systems. Their responsibilities are continually expanding as the number of cyberattacks increases.
- **Software developer:** Develop computer program and applications that allow people to do specific tasks on a computer or another device. Others develop the underlying systems that run the devices or that control networks.
- **Web developer/engineer:** Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications.

***Some of these positions may require an advanced degree.*

CSE Career Outcomes

Average Starting Salary:
$73,854*

Post-graduation Outcomes:*



INDUSTRIES

- Aerospace
- Automotive manufacturing
- Communication
- Computer-aided design
- Consulting
- Digital communications
- Electrical hardware
- Environmental agencies
- Factory automation
- Federal safety agencies
- Finance
- Hardware design
- Healthcare
- High speed computing
- Industrial/food products
- Information management
- Insurance
- Manufacturing
- Medical technology
- Product development
- Software development
- Systems consulting
- Technology
- Telecommunications

EMPLOYERS

- Amazon
- Apple, Inc.
- Best Buy
- Cognizant Technology Solutions
- Cray
- Epic Systems
- Facebook
- Fast Enterprises
- General Dynamics Mission Systems
- Google
- IBM
- Infinite Campus
- Medtronic
- Microsoft
- National Instruments
- Open Systems International
- Target Corporation
- Thomson Reuters
- TripAdvisor
- Unisys
- UnitedHealth Group/Optum
- Wells Fargo

More Information

Career Center: cse.umn.edu/career
Salary Information: z.umn.edu/csesalary
More Information on Undergraduate Majors: cse.umn.edu/majors

Please visit the Career Center to continue exploring this major.
*Salary and Career Outcomes gathered from the 2016-2017 CSE Graduation Survey
Post-graduation outcomes reflect the percentage of students who were employed full-time in their field or were enrolled in a graduate program.