DEPARTMENT OF
Computer Sciences
UNIVERSITY OF WISCONSIN-MADISON

Prospective Undergraduate Student FAQs

ACADEMICS

What are the CS major requirements?

- The CS major requires foundational coursework in programming, computer architecture, calculus, and additional math. Beyond that, students must complete one Theory course, two Software/Hardware courses, one Applications course, and two CS Elective courses.
- For more details, search "Computer Sciences" at guide.wisc.edu/

When can I declare the CS major?

- Contrary to what many believe, students are *not* admitted directly into the CS major. Students will spend time as a non-declared student while they work towards the major declaration requirements outlined below. Students can declare the CS major as soon as they have satisfied those major declaration requirements, which will take most students two semesters.

How do I declare the CS major?

- The requirements to declare the CS major are as follows:
  - ➔ Completion of COMP SCI 300 and (MATH 222 or 276)
  - ➔ Grade of BC or higher in an introductory programming course (COMP SCI 300, 354, or 400) taken at UW-Madison
  - ➔ 2.250 GPA or higher in the first attempt of the following courses: COMP SCI 300 and (MATH 222 or 276)
- Once these requirements are met, students must fill out an online major declaration form.

What if I have AP, IB, or other incoming credit?

Exam	Score	UW-Madison Credit/Course Equivalent
AP Computer Science A	3, 4, or 5	CS 200 - Programming I
AP Computer Science Principles	3	3 credits of general electives
	4 or 5	CS 202 - Introduction to Computation
IB Computer Studies (HL	4 or higher	CS 200 - Programming I

- Other incoming credit is evaluated by the Office of Admissions and Recruitment and the Department of Computer Sciences.

What if I have no programming experience?

- CS 200 – Programming I is the first course in the intro programming sequence and does not expect that students have any programming experience.

• The WES-CS Study Group (CS 304) is a 1-credit class that students can take concurrently with CS 200 for additional support and peer-to-peer learning.

What if I already have some programming experience?

• If you have substantial programming experience but no formal coursework (AP, IB, or transfer credit), you may be able to skip CS 200 – Programming I. There is also a self-assessment assignment you can complete to see if this is the right choice for you. Contact a CS advisor for more details.

Can I graduate in four years?

• The CS advisors generally recommend that students take two CS/math courses per semester. If you come to UW-Madison and immediately begin making progress towards the major, it is certainly feasible to graduate within four years. Students who wait until after their freshman year to begin taking CS courses may have to extend their time to degree.

• For more details, see: cs.wisc.edu/undergraduate/sample-four-year-planning- guides/

What kind of coursework does the department offer?

• The department offers project-oriented coursework in artificial intelligence, computational biology, computer architecture, computer graphics, computer networks, computer security, computer systems, databases, human-computer interaction, operating systems, programming languages and compilers, software engineering, and wireless systems.

• The department also offers additional coursework in algorithms and complexity, systems performance and analysis, numerical analysis, and optimization.

What programming languages are classes taught in?

• The intro programming sequence (CS 200, 300, and 400) is taught in Java.

• Other courses are taught in a variety of languages, such as Python, C, C++, MATLAB, and SQL.

Is the major tracked/do I have to pick a specialization?

• The CS major at UW-Madison is not tracked and does not require students to select a specialization. The major requirements are designed to allow students to take advanced-level courses that best align with their interests.

What is the difference between Computer Sciences and Computer Engineering?

• Computer Sciences is the study and application of computation and programming theory. CS places a greater focus on *software*. Computer Scientists, for example, build the OS and apps that make the iPhone run.

• Computer Engineering (CMPE) is the study and application of computers, computing, and computer-based systems. CMPE places a greater focus on *hardware*. Computer Engineers, for example, build the physical iPhone.

• There is a lot of overlap between these two fields. Many students double major in CS and CMPE.

What if I am also thinking about pursuing a major in the College of Engineering (CoE)?

• The College of Engineering offers direct admission to incoming freshmen. In order to be considered for direct admission into one of the CoE's programs, you must list an engineering major

as your first choice on your application for admission. Your second choice major must be something outside of the CoE (for example, Computer Sciences). Should you be admitted, your decision letter will specify which program you have been admitted into.

• If you are thinking about pursuing an engineering major, we recommend that you list that major as your first choice on your application so you can be considered for direct admission. If you do get directly admitted and decide that you no longer want to pursue engineering, it is easy to switch out. However, transferring in to the CoE as a continuing student requires an additional application and is a very competitive process. Please contact the Office of Admissions and Recruitment at onwisconsin@admissions.wisc.edu for more details.

Is there an honors program?

• Students in the College of Letters and Science have the option to apply to complete Honors in the Liberal Arts (HLA). HLA students complete honors-level coursework in the social sciences, humanities, and natural sciences. Students typically apply for HLA once they are admitted to UW-Madison, or early on during their academic careers. For more details, see: honors.ls.wisc.edu/

• Students in the CS major have the option to apply for Honors in the Major (HIM). To earn HIM, students must meet GPA requirements, write a year-long senior honors thesis, and complete at least one advanced-level CS course for honors credit. For more details, search "Computer Sciences" at guide.wisc.edu/

FACULTY, RESEARCH, AND INVOLVEMENT

Who are the faculty?

• Our faculty includes two national Medal of Science recipients and four winners of the Association for Computing Machinery's Doctoral Dissertation Award.

• Our faculty is recognized globally for research in computer architecture, database systems, distributed and grid programming, nonlinear optimization, and more.

Are there research opportunities for undergraduates?

• Yes! Students can work with faculty as part of a senior thesis, a senior honors thesis, through directed study, or without earning credit.

• Students can work with faculty in the CS department or with a number of affiliate faculty across campus. Affiliate faculty are housed in different departments (such as Engineering, Genetics, or Psychology), but do research that is very closely related to CS.

• It is up to students to take the initiative to set up a research opportunity. The first step is always to reach out to faculty, so it is important to develop rapport with professors.

• For information on which faculty are doing research in which areas, see: cs.wisc.edu/research/research-groups/

Can I study abroad if I do this major?

• Yes! Many of our students choose to study abroad and we are constantly evaluating courses to see if they can transfer back as courses that will satisfy CS major requirements.

• For more details, search "Computer Sciences" at studyabroad.wisc.edu/

What are some other involvement opportunities related to CS?

- There are lots of CS-related involvement opportunities available to UW-Madison students, including: WACM, Kappa Eta Kappa, The Hub, the Undergraduate Projects Lab (UPL), programming contests, and hackathons.
- For more details, see: cs.wisc.edu/the-student-experience/student-orgs-and- competitions/

INTERNSHIPS, CAREERS, AND GRADUATE SCHOOL

Are internships required?

- No, but they are recommended. Many CS majors will complete at least one internship and internships are a great way to get a feel for what it is like to work in the field.

Do you help students find internships?

- The Department of Computer Sciences hosts an annual job fair where companies recruit students for jobs and internships.
- Students can also utilize Handshake, a cross-campus job and internship database, to find opportunities.

What is the job placement rate for UW CS graduates?

- Approximately 80% of UW CS graduates receive full-time job offers by graduation.

Where are UW CS graduates working?

- Graduates of the UW CS department work for companies all over the world, but some notable companies that recent graduates have headed to include: Amazon, Epic, Facebook, Google, IBM, Intel, Liberty Mutual, X-ES, and Microsoft.

How many UW CS graduates go on to graduate school? Where are they attending?

- Approximately 12% of UW CS graduates plan on heading straight to graduate school after graduation. Students have been admitted to programs at UW-Madison, Berkeley, Carnegie Mellon, Cornell, Georgia Tech, Illinois, Minnesota, MIT, Princeton, Stanford, Texas, Tufts, Washington, and more.

Do you offer a 5-year dual Bachelor's/Master's program in CS?

- No, we do not.

MISCELLANEOUS

What kind of laptop should I buy? What operating system should I use?

- This is entirely up to you and your personal preferences. Our department has no formal recommendation. Students have been successful with Windows, macOS, and Linux operating systems. Students also have access to the labs in the CS building should they need to use software that they cannot get on their personal computers.

What residence hall do CS students prefer to live in?

- There is no preference. CS classes (and all other classes) are held in buildings across all of campus, so it does not matter where you live.

How do placement tests work?

- All incoming students are required to take placement tests for math and English. Should you wish to continue your foreign language study, optional tests are offered for French, German, and Spanish.
- For more details, see: testing.wisc.edu/

Do you offer tours of your building?

- No, we do not. However, the CS building (1210 W Dayton St) is open to the public during normal business hours. You are more than welcome to walk around on your own.

ADVISING

How can I contact a CS advisor?

- Prospective/admitted students can contact the CS advisors via email at advising@cs.wisc.edu.
- Once on campus, any student can meet with CS advisors scheduling an appointment.
- Declared CS majors can schedule advising appointments with CS advisors.