COMPUTER SCIENCES, M.S.

The Department of Computer Sciences offers the master of science and doctor of philosophy degrees in computer sciences. Research specialty areas include artificial intelligence, computational biology, computer architecture, computer graphics, computer networks, computer security, database systems, human–computer interaction, numerical analysis, optimization, performance analysis, programming languages and compilers, systems research, and theoretical computer sciences. The department’s Graduate Advising Committee (GAC) advises all computer sciences graduate students except those who have acquired an official major professor for Ph.D. work and are not candidates for a master’s degree. The role of GAC continues even after the student has a dissertation advisor, until the student reaches dissertator status. See the department website (https://www.cs.wisc.edu) for faculty interests, research activities, courses, facilities, and degree requirements.

REQUIREMENTS

MINIMUM DEGREE REQUIREMENTS AND SATISFACTORY PROGRESS

To make progress toward a graduate degree, students must meet the Graduate School Minimum Degree Requirements and Satisfactory Progress (http://guide.wisc.edu/graduate/#policiesandrequirementstext) in addition to the requirements of the program.

MASTER’S DEGREES

M.S., with available named option Professional Program

MINIMUM GRADUATE DEGREE CREDIT REQUIREMENT

30 credits

MINIMUM GRADUATE RESIDENCE CREDIT REQUIREMENT

16 credits

MINIMUM GRADUATE COURSEWORK (50%) REQUIREMENT

Half of degree coursework (15 out of 30 total credits) must be completed in computer sciences graduate-level coursework numbered 700 or higher; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide (http://my.wisc.edu/CourseGuideRedirect/BrowseByTitle).

PRIOR COURSEWORK REQUIREMENTS: GRADUATE WORK FROM OTHER INSTITUTIONS

M.S.: No credits taken at other institutions are allowed to satisfy requirements.

M.S.—Professional Program named option: With program approval, students are allowed to count no more than 14 credits of post-baccalaureate graduate coursework from other institutions. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNDERGRADUATE

M.S.: No credits from a UW–Madison undergraduate degree are allowed to satisfy requirements.

M.S.—Professional Program named option: With program approval, students are allowed to count no more than 7 credits from a UW–Madison undergraduate degree. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNIVERSITY SPECIAL

M.S.: With program approval, students are allowed to count no more than 15 credits of coursework numbered 300 or above taken as a UW–Madison University Special student. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

M.S.—Professional Program named option: With program approval, students are allowed to count no more than 14 credits of coursework numbered 300 or above taken as a UW–Madison University Special student. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

ADDITIONAL LIMITATIONS FOR PROFESSIONAL PROGRAM NAMED OPTION:

Summed across all the above categories (other graduate institutions, UW–Madison undergraduate, and UW–Madison Special student), a total of no more than 14 credits of prior coursework may be used to satisfy requirements.

CREDITS PER TERM ALLOWED

15 credits

PROGRAM-SPECIFIC COURSES REQUIRED

15 out of 30 total credits must be completed in computer sciences core courses numbered 700 or higher. 9 additional credits must be for computer sciences courses numbered 400 or above. The remaining 6 credits can be for any graded UW–Madison courses numbered 300 or above.

M.S.—Professional Program named option: Only computer sciences courses may be used to meet professional masters degree requirements.

OVERALL GRADUATE GPA REQUIREMENT

3.00 GPA required.

OTHER GRADE REQUIREMENTS

No other grade requirements.

PROBATION POLICY

At the end of any regular (nonsummer) semester, a student is considered to be making satisfactory academic progress (SAP) if the following conditions are all satisfied:

The student has completed at least 6 (if full load) or 3 (if part load) credits of approved courses during the semester.

The student has removed all Incomplete grades from any previous regular semester or summer session.
The student has passed any required exams and procedures within designated time limits.

Any graduate student who fails to make SAP during two consecutive regular semesters (fall and spring, or spring and fall) will be dismissed from the department at the end of the subsequent summer session. Any graduate student who fails to make SAP due to missed deadlines (criterion 3 above) will be dismissed from the department at the end of the subsequent summer session.

**ADVISOR / COMMITTEE**
A member of the graduate advising committee must formally approve all graduate schedules each semester.

**ASSESSMENTS AND EXAMINATIONS**
None.

**TIME CONSTRAINTS**
Master's degree students who have been absent for five or more consecutive years lose all credits that they have earned before their absence.

**LANGUAGE REQUIREMENTS**
No language requirements.

**ADMISSIONS**
Students with a strong background in computer sciences or a related field are encouraged to apply for admission. At a minimum, the applicant should have had some programming experience, including courses in data structures and machine organization, and should have had a year of college-level mathematics at the calculus level or above. Applicants are evaluated based on their previous academic record, GRE scores, letters of recommendation, and a personal statement. All applications must be submitted online. Admission is very competitive. Aid is offered to about half of the students to whom admission is offered. Aid is usually in the form of fellowships, teaching assistantships, or research assistantships. For more information on admissions, visit the department website (https://www.cs.wisc.edu).

**LEARNING OUTCOMES**

**KNOWLEDGE AND SKILLS**
- Articulates, critiques, or elaborates the theories, research methods, and approaches to inquiry or schools of practice in the field of study.
- Identifies sources and assembles evidence pertaining to questions or challenges in the field of study.
- Applies design and development principles in the construction of software systems of varying complexity.
- Applies foundational principles in practical applications.
- Independently acquires, synthesizes and applies required information pertaining to challenges in computer science.

**PROFESSIONAL CONDUCT**
- Communicates clearly in ways appropriate to the field of study.

**PEOPLE**

**Faculty:** Professors Hill (chair), A. Arpaci-Dusseau, R. Arpaci-Dusseau, Bach, Banerjee, Barford, Cai, Doan, Dyer, Ferris, Gleichler, Hill, Jha, Livny, van Melkebeek, Miller, Naughton, Patel, Reps, Ron, Shavlik, Sohi, Wood, Wright; Associate Professors Akella, Chawla, Joseph, Liblit, Mutlu, Sankaralingam, Swift, Zhu; Assistant Professors Albarghouti, D'Antoni, Gupta, Koutris, Sifakis, Snyder. See also Faculty (https://www.cs.wisc.edu/people/faculty) on the department website.