COMPUTER SCIENCE, BS-MS

for the joint degree of Bachelor of Science in Computer Science and Master of Science in Computer Science

The five-year B.S.-M.S. program in Computer Science combines two degrees: a B.S. in Computer Science with an M.S. (with thesis) in Computer Science. Current Computer Science students enrolled in The Grainger College of Engineering who maintain superior academic performance are eligible to apply for this program. Students admitted to the program will receive both degrees once all requirements for the 5-year B.S.-M.S. degree program have been successfully completed.

Admission
For deadlines and procedures, consult the department website (https://cs.illinois.edu/academics/graduate/fifth-year-masters-programs/5-year-bs-ms-program/). Current Computer Science majors enrolled in The Grainger College of Engineering with one to two semesters (not including Summer term) left of their undergraduate study after the application term, with an overall GPA of at least 3.50 may apply for provisional admission to the program. The 5-year program is highly competitive. Admission is based on overall academic performance, letters of reference, and statement of purpose. The GRE General Test is not required.

Students provisionally admitted to the program:

- are assigned a graduate academic advisor when admitted.
- must maintain an overall GPA of 3.00 through completion of the B.S. component of the program, to remain in the program.
- may register for graduate courses and earn graduate hours credit, with approval from their graduate academic advisor, even if they are more than 10 hours from completing the B.S. component.
- must earn at least 120 hours of undergraduate credit, 9 hours of graduate credit (in the Breadth Requirement courses), and satisfy all B.S. requirements to be officially admitted to the Graduate College.

Upon successful completion of the B.S. component (including grades of B- or better in the Breadth Requirement), and an overall GPA of at least 3.00 in all graduate course work, students:

- will be officially admitted into the Graduate College.
- will be issued letters of admission from the Graduate College Office of Admissions and Records and the Siebel School of Computing and Data Science, at which time they will be considered graduate students and assessed graduate tuition the following semester.
- may apply or be considered for graduate research or teaching assistantships, tuition waivers, as well as fellowships and scholarships available to graduate students.
- must continue to maintain a graduate GPA of 3.00 or better in order to remain in the combined program.
- Students must complete the M.S. degree requirements remaining beyond the three shared Breadth Requirement courses within two consecutive semesters beginning with the semester they are admitted to the Graduate College (fall-spring, spring-summer, or spring-fall).

Withdrawal
Students may withdraw from the program at any time by notifying the Office of the Associate Dean for Undergraduate Programs and the Siebel School Assistant Director of Graduate Programs. Students who do not complete all 5-year B.S.- M.S. degree program requirements may upon request have all graduate hours earned, including the Breadth Requirement course work converted to undergraduate hours and applied toward a traditional B.S. in Computer Science degree. Students reverted back to the B.S. degree program must earn the minimum number of hours and satisfy all degree requirements of whichever version of the B.S. curriculum is appropriate. Graduate credit not used to fulfill the B.S. degree requirements will remain on the transcript and may, at some future point, be considered for transfer to another degree program.

Continued Graduate Study
Students in the program are eligible to apply for the Ph.D. program in Computer Science near completion of the M.S. component. If admitted, the combined degree will count as Stage 1 of the Ph.D. program, as if the student is admitted with a master's degree.

Students are strongly advised to seek faculty counsel about the 5-year program to be sure they understand the pros and cons of pursuing a master's degree via the 5-year program. If their intention is to ultimately pursue a Ph.D., then it may be preferable to avoid the rapid pace of the 5-year program and instead invest time in research as an undergraduate. For admission to competitive Ph.D. programs, the expectation of publications and extensive research experience is higher for M.S. graduates. Therefore, as an alternative to the 5-year program, many top students may prefer to conduct research, possibly leading to a B.S. thesis, as a way to improve their admissions chances into top Ph.D. programs.

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Requirements

B.S. Component (120 hours plus three 400-level courses for 9-12 graduate hours):

- Same required courses as the traditional B.S. degree with the minimum hours required – not counting technical electives taken for graduate credit (see below) – reduced from 128 to 120.
- Course work shared by the B.S. and M.S. components must include three courses and at most 12 credit hours of 400-level CS courses required for the B.S. which also count towards the Breadth Requirement course work of the M.S. component, all of which must be taken for graduate credit. (Students must take the graduate section of the courses if offered and are strongly encouraged to take the 4-hour section if available). The CS Graduate academic advisor will assist students in mapping out this course work.
- Illinois undergraduate student minimum residence requirement satisfied
- Overall grade point average (GPA) of 3.00 maintained through completion of B.S. component of the program.

M.S. Component (minimum 16 additional credit hours plus 4 hours of CS 599):

- Identical to the traditional M.S. program with the Breadth Requirement course work satisfied while still classified as undergraduate (though held to the standards of a graduate student). A total of 32 credit hours (including the shared course work) are required.

- Satisfy Illinois' graduate student minimum residence requirement.
- Overall GPA of 3.00 must be maintained through completion of M.S. component of the program.

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Sample Sequence

This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence.

Students must fulfill their Language Other Than English requirement by successfully completing a third level of a language other than English. See the corresponding section on the Degree and General Education Requirements *(http://catalog.illinois.edu/general-information/degree-general-education-requirements/).*

Students use 3 400-level CS courses, taken as undergraduates and completing undergraduate requirements, to satisfy "Breadth Requirements" for the MS. These three "shared" courses may be taken for 3 or 4 hours. To ensure that students have the minimum 120 undergraduate hours remaining when the "shared" courses are moved to the MS, students should take an extra free elective hour for every 4-hour "shared" course. In this example, the student is using the minimum of three 3-credit hours Breadth area courses (9 total) as shared between the BS and MS degrees.

Total Undergraduate Hours: 120 hours + 3 x (3 or 4 hours), counting toward both undergraduate requirements and graduate "Breadth Requirements."

Total Graduate Hours : 23 + (9 shared BS-MS hours), must ***equal*** *degree total minimum hours requirement listed on the degree's requirements page in the catalog.*

First Year

First Semester	Hours	Second Semester	Hours
CS 100	1	CS 128	3
CS 124	3	CS 173	3
MATH 221 (MATH 220 may be substituted)	4	MATH 231	3
ENG 100	1	General Education course	3
CS Science Elective Course	3	Comp I or General Education course	3
Comp I or General Education course	4		
	16		**15**

Second Year

First Semester	Hours	Second Semester	Hours
CS 222	1	CS 233	4
CS 225	4	CS 361	3
MATH 241	4	MATH 257	3
PHYS 211	4	PHYS 212	4
General Education course	3	Free elective course	3
	16		**17**

Third Year

First Semester	Hours	Second Semester	Hours
CS 210 or 211	2	CS 374	4
CS 341	4	CS Technical Elective course	3
CS 357	3	CS Technical Elective course	3
CS Technical Elective course	3	General Education course	3
Language Other Than English (3rd level) course	4	Free Elective course	3
	16		**16**

Fourth Year

First Semester	Hours	Second Semester	Hours
CS 421	3-4	CS Advanced elective course	3
CS Technical Elective course/ MS Breadth requirement (shared) course	3-4	CS Technical Elective course/ MS Breadth requirement (shared) course	3-4
CS Technical Elective course/ MS Breadth requirement (shared) course	3-4	Free Elective course	3-4
Free Elective course	3-4	Free Elective course	4
Free Elective course	4	Free Elective course	4
	16		**17**

Fifth Year

First Semester	Hours	Second Semester	Hours
CS 500-level (1st Advanced course - should be in Breath area)	4	CS 500-level (3rd Advanced course)	4
CS 500-level (1st Advanced course - from any area)	4	CS 599	4
CS 400-level (Additional elective)	4	CS 400-level (Additional elective)	3
	12		**11**

Total Hours 152

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Siebel School of Computing and Data Science website

Siebel School of Computing and Data Science faculty (https://siebelschool.illinois.edu/people/faculty/)

The Grainger College of Engineering