COMPUTER SCIENCE

http://cs.illinois.edu

Head of the Department: Nancy Amato
Director of Graduate Studies: Brian Bailey

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Email: academic@cs.illinois.edu

Major: Computer Science
Degrees Offered: M.C.S., M.S., Ph.D.

Major: Bioinformatics
Degrees Offered: M.S.
Graduate Concentration: Computer Science

Degrees Offered: M.C.S. in Computer Science

Joint Degree Programs: the M.C.S. in Computer Science can be earned jointly with the following
Degrees Offered:
M.Arch. in Architecture
J.D. in Law

Graduate Degree Programs

The Department of Computer Science is one of the longest established computer science departments in the world and is consistently ranked as a top-5 graduate program. The department offers graduate work leading to a master’s or doctoral degree, with an interdisciplinary master’s degree program in bioinformatics. In addition, the department offers an online professional master’s degree to reach students who are working full-time and unable to come to campus.

Admission

Applicants must hold a bachelor’s degree equivalent to that granted by the University of Illinois at Urbana-Champaign. The recommended background for students entering a Computer Science graduate degree program is a bachelor’s or a master’s degree (only if applying to the PhD program) in computer science or computer engineering. The Graduate Record Examination (GRE) (http://www.ets.org) general aptitude tests (Verbal, Quantitative, and Analytical) are no longer required. However, in some cases, GRE general scores may provide helpful supporting information.

Applicants to the computer science Ph.D. program must have a minimum grade point average (GPA) of 3.40 (A = 4.00) in their undergraduate studies (international GPAs are systematically converted) to be considered. The department reserves the right to admit applicants with lower GPAs under rare and exceptional circumstances. MS and MCS applicants must have a minimum GPA of 3.20. If an applicant also holds a graduate degree, the minimum GPA for that degree must be 3.00. Full details of the programs offered by Computer Science, admisissibility, application procedures, and deadlines can be found at the department’s Prospective Graduate Student Information Web site (http://cs.illinois.edu/admissions/graduate). To apply, click here (http://www.grad.uiuc.edu/admissions/apply).

All applicants whose native language is not English must submit a minimum TOEFL (http://www.toefl.org) score of 79 (IBT), 213 (CBT); or minimum International English Language Testing System (IELTS) (http://www.ielts.org) academic exam scores of 6.5 overall and 6.0 in all subsections. For those taking the TOEFL or IELTS, full admission status (http://grad.illinois.edu/admissions/instructions/04c) is granted for scores greater than 102 (TOEFL iBT), 253 (TOEFL CBT) or 7.0 (IELTS). Limited status (http://www.grad.illinois.edu/admissions/instructions/04c) is granted for lesser scores and requires enrollment in English as a Second Language (ESL) courses (http://linguistics.illinois.edu/students/esl/guidelines) based on an ESL Placement Test (EPT) taken upon arrival to campus. Applicants for the online Master of Computer Science program will be considered for full admission status only.

Faculty Research Interests

Illinois has been an international leader in computing research for almost five decades. Broadly organized around 10 research areas (http://cs.illinois.edu/research), 70 faculty members (http://cs.illinois.edu/people/faculty) conduct research with over 450 graduate students, and about 30 research staff members. They regularly collaborate with researchers across campus, in other departments or research units.

Facilities and Resources

The home of the Department of Computer Science at Illinois is the Thomas M. Siebel Center for Computer Science (http://cs.illinois.edu/about-us), a state-of-the-art building that opened its doors in 2004. On the north side of campus, home to the College of Engineering (http://engineering.illinois.edu), Siebel Center is an interactive computing habitat, made possible by a gift from alumnus Tom Siebel. The vision for the building was not only to create a magnificent space to work in, but to offer opportunities to investigate and apply computing tools on the building itself. Advanced wireless and wired communication networks, sensors, actuators, video capture and display equipment, video walls and information panels and storage and computing capabilities within the building allow researchers to examine communication and computation issues related to pervasive computing, multimedia infrastructure, building intelligence, security and privacy, and art.

Financial Aid

Fellowships, research assistantships, and teaching assistantships (all of which include tuition and partial fee waivers) are awarded on a competitive basis. All applicants, regardless of U.S. citizenship, whose native language is not English and who wish to be considered for teaching assistantships (one of the most common forms of financial aid for new graduate students in the department) must demonstrate spoken English language proficiency (http://grad.illinois.edu/admissions/taengprof.htm) by achieving a minimum score of 24 on the speaking subsection of the TOEFL iBT or 8 on the speaking subsection of the IELTS. Students who are unable to take the iBT or IELTS are required to receive a minimum score of 5 on the EPI test (http://cte.illinois.edu/testing/oral_eng/epi_overview.html), offered on campus. All new teaching assistants are required to participate in the Graduate Academy for College Teaching (http://cte.illinois.edu/programs/ta_train.html) conducted prior to the start of the semester.

- Master of Science in Computer Science (http://catalog.illinois.edu/graduate/graduate-majors/computer-science/ms-comp-science)
**Master of Science in Bioinformatics, Computer Science**

Concentration ([http://catalog.illinois.edu/graduate/graduate-majors/computer-science/ms-bioinformatics](http://catalog.illinois.edu/graduate/graduate-majors/computer-science/ms-bioinformatics))

**Master of Computer Science in Computer Science** ([http://catalog.illinois.edu/graduate/graduate-majors/computer-science/master-sci-comp-sci](http://catalog.illinois.edu/graduate/graduate-majors/computer-science/master-sci-comp-sci))

*For the degree of Doctor of Philosophy: Major in Computer Science*

## Doctor of Philosophy in Computer Science

**Entering with approved M.S. degree**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CS 599</td>
<td>Thesis Research (minimum applied toward degree)</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>500-level course work (12 hours must be CS courses)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Additional graduate-level course work or thesis research</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>credit (subject to Other Requirements and Conditions below)</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours** 64

### Other Requirements and Conditions

1. **Requirement**

   **Description**

   Other Requirements and Conditions may overlap

   Minimum hours of CS course work: 12

   CS 597 and CS 591 may not be applied to the 500-level course work requirement.

   CS 591 section PHD must be taken in the first semester. A maximum of 4 credit hours of CS 591 can be applied toward the Ph.D. degree.

   A teaching assistantship for an entire term, with a satisfactory performance evaluation by the department, is required by the end of the 5th year.

   Ph.D. exam and dissertation requirements:

   International Students must show demonstration of English proficiency (equivalent to that necessary to be a TA—see Financial Aid) before taking the Qualifying Exam.

   Qualifying exam

   Preliminary exam

   Final exam or dissertation defense

   Dissertation deposit

2. **Minimum GPA:** 3.0

### Entering with B.S. degree

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 599</td>
<td>Thesis Research (minimum applied toward degree)</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>500-level course work (12 hours must be CS courses)</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>400- or 500-level course work</td>
<td>24</td>
</tr>
</tbody>
</table>

**Total Hours** 96

### Other Requirements and Conditions

1. **Requirement**

   **Description**

   Other Requirements and Conditions may overlap

   Minimum hours of CS course work: 12

   CS 597 and CS 591 may not be applied to the 500-level course work requirement.

   CS 591 section PHD must be taken in the first semester. A maximum of 4 credit hours of CS 591 can be applied toward the Ph.D. degree.

   A teaching assistantship for an entire term, with a satisfactory performance evaluation by the department, is required by the end of the 5th year.

   Ph.D. exam and dissertation requirements:

   International Students must show demonstration of English proficiency (equivalent to that necessary to be a TA—see Financial Aid) before taking the Qualifying Exam.

   Qualifying exam

   Preliminary exam

   Final exam or dissertation defense

   Dissertation deposit

2. **Minimum GPA:** 3.0

### Master of Computer Science and Master of Architecture

A total of 70 graduate hours of credit are required: 32 for the M.C.S. degree as prescribed above and 38 for the Master of Architecture ([http://catalog.illinois.edu/graduate/graduate-majors/architecture/#jointdegrestext](http://catalog.illinois.edu/graduate/graduate-majors/architecture/#jointdegrestext)) degree. Course credit required for the individual degrees is mutually exclusive.

*Information listed in this catalog is current as of 09/2019*
Master of Computer Science and Juris Doctor in Law

Specific graduate hours of credit for each degree are required: 32 hours for the M.C.S. as prescribed above and 90 for the Juris Doctor (http://catalog.illinois.edu/graduate/graduate-majors/law). However, some credits used in each program may apply to the other, allowing students to earn both degrees in a shorter time. For the M.C.S. degree

1. at least 12 credit hours must be law course work relating to legal protections for intellectual property or in related business law fields and
2. at least 6 credit hours must be from approved law courses as determined by the College of Law.

For the J.D. degree, 12 credit hours may be computer science or other scientific course work leading to the M.C.S. degree.

Master of Computer Science Online Program

The online option allows individuals to earn a Master of Computer Science (http://catalog.illinois.edu/graduate/graduate-majors/computer-science/master-sci-comp-sci) degree from a leader in information technology entirely online with no required campus visits. Online students have the option to complete the comprehensive MCS track or the MCS program with a data science track. All online classes are taught by our world-recognized faculty. Online students also receive additional instructional support from Computer Science Graduate Teaching Assistants and program staff. Off-campus students have 5 years in which to complete the program. The degree awarded is the same as the on-campus M.C.S. degree. Admissions procedures and forms can be found at Graduate Admissions (http://cs.illinois.edu/admissions/graduate).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breadth Requirement (<a href="http://cs.illinois.edu/academics/graduate/professional-mcs-program/mcs-degree-requirements">http://cs.illinois.edu/academics/graduate/professional-mcs-program/mcs-degree-requirements</a>)</td>
<td>12-16</td>
<td></td>
</tr>
<tr>
<td>Advanced courses – chosen from CS 500 - CS 590 and CS 598; CS 597, or an approved non-CS 500-level course may satisfy 4 credit hours of this requirement.</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Elective courses (subject to Other Requirements and Conditions below)</td>
<td>4-8</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours**: 32

**Other Requirements and Conditions**

1. Requirement

<table>
<thead>
<tr>
<th>Requirement</th>
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<tbody>
<tr>
<td>A minimum of 24 CS credit hours must be taken from the University of Illinois at Urbana-Champaign campus.</td>
</tr>
<tr>
<td>A minimum of 12 500-level credit hours overall.</td>
</tr>
<tr>
<td>A maximum of 4 hours of CS 591 and CS 491 may be applied toward the degree.</td>
</tr>
<tr>
<td>A grade of B- or higher is required for Breadth course work.</td>
</tr>
</tbody>
</table>

At most, 12 semester credit hours of previous graduate course work may be transferred and applied to the M.C.S. degree requirements and 12 credit hours of non-degree graduate courses completed in the Department of Computer Science at the University of Illinois at Urbana-Champaign campus may be transferred and applied to the M.C.S. degree requirements.

All degree requirements must be completed within three consecutive semesters (only fall and spring semesters are counted).

Off-campus students have 5 years in which to complete this degree.

The minimum program GPA is 3.0.

For additional details and requirements refer to the department’s Graduate Degree Requirements (http://cs.illinois.edu/academics/graduate/professional-mcs-program) and the Graduate College Handbook (http://grad.illinois.edu/gradhandbook).

Information listed in this catalog is current as of 09/2019