COMPUTER SCIENCE, PHD

for the degree of Doctor of Philosophy in Computer Science

department head: Nancy Amato (namato@illinois.edu)
director of graduate studies: Brian P Bailey (bpbailey@illinois.edu)

overview of admissions & requirements: https://cs.illinois.edu/admissions/graduate/applications-process-requirements
overview of grad college admissions & requirements: https://grad.illinois.edu/admissions/apply
department website: https://cs.illinois.edu/ (https://cs.illinois.edu/)
program website: https://cs.illinois.edu/academics/graduate/phd-program
department faculty: https://cs.illinois.edu/people/faculty/
college website: https://grainger.illinois.edu/
contact: Viveka P Kudaliga (kudaliga@illinois.edu)
address: 1210 Siebel Center, 201 N Goodwin, Urbana, IL 61801
phone: (217) 333-4428
email: academic@cs.illinois.edu

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.

Opportunity exists for specializing in computational science and engineering via the Computational Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/) optional graduate concentration.

Admission Requirements

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 PhD 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. 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, admissibility, application procedures, and deadlines can be found at the department's Prospective Graduate Student Information Web site (http://cs.illinois.edu/admissions/graduate/).

All applicants whose native language is not English are required to submit TOEFL (http://www.toefl.org/) or International English Language Testing System (IELTS) (http://www.ielts.org/) scores as evidence of English proficiency. Minimum admission requirements (https://grad.illinois.edu/admissions/instructions/04c/) are set by the Graduate College.

Financial Aid

Fellowships, research assistantships, and teaching assistantships (all of which include tuition and partial fee waivers) are awarded on a competitive basis. Starting in Fall 2020, Grainger Engineering PhD students in their first five years of enrollment who meet the minimum eligibility requirements (https://grainger.illinois.edu/academics/graduate/phd-funding-guarantee/) are guaranteed a funded appointment for fall and spring that includes a full tuition waiver, a partial fee waiver, and a stipend.

All applicants, regardless of US 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 (https://citl.illinois.edu/citl-101/teaching-learning/grad-academy-for-college-teaching/) conducted prior to the start of the semester.

Department Research

Illinois has been an international leader in computing research for almost five decades. Broadly organized around 11 research areas (http://cs.illinois.edu/research/), 80 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.

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 Grainger College of Engineering (https://grainger.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.

Other Graduate Programs in the Department of Computer Science

degrees:
Computer Science, MCS (http://catalog.illinois.edu/graduate/engineering/computer-science-mcs/)

optional concentrations:
Computational Science and Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/)

Computer Science, MS (http://catalog.illinois.edu/graduate/engineering/computer-science-ms/)

optional concentrations:
Computational Science and Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/)
Bioinformatics: Computer Science, MS (http://catalog.illinois.edu/graduate/engineering/concentration/computer-science/bioinformatics/)

joint programs:
Computer Science, MCS & Architecture, MArch (http://catalog.illinois.edu/graduate/engineering_faa/joint-degree/computer-science-mcs-architecture-march/)
Computer Science, MCS & Law, JD (http://catalog.illinois.edu/graduate/engineering_law/joint-degree/computer-science-mcs-law-jd/)

The Department of Computer Science offers other graduate programs leading to the degrees of Master of Science in Computer Science and Master of Computer Science (MCS), as well as a Computer Science concentration under the interdisciplinary Master of Science in Bioinformatics. The MCS program is also available online for students who are working full-time and unable to come to campus.

for the degree of Doctor of Philosophy in Computer Science

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

**Doctor of Philosophy in Computer Science**

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

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CS 599</td>
<td>Thesis Research (minimum applied toward degree)</td>
<td>32</td>
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<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 credit (subject to Other Requirements and Conditions below)</td>
<td>16</td>
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<td>Total Hours</td>
<td>64</td>
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**Other Requirements and Conditions**

For the degree of Doctor of Philosophy in Computer Science, 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^1
Preliminary exam^2
Final exam or dissertation defense^3
Dissertation deposit^4
Minimum GPA: 3.0

**Entering with B.S. degree**

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<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>
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<td></td>
<td>400- or 500-level course work</td>
<td>24</td>
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<td></td>
<td>Additional graduate-level course work or thesis research credit (subject to Other Requirements and Conditions below)</td>
<td>16</td>
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<td></td>
<td>Total Hours</td>
<td>96</td>
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**Other Requirements and Conditions**

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

<table>
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<tr>
<th>Requirement</th>
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<tr>
<td>Other Requirements and Conditions may overlap</td>
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<tr>
<td>Minimum hours of CS course work: 12</td>
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<tr>
<td>CS 597 and CS 591 may not be applied to the 500-level course work requirement.</td>
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<tr>
<td>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.</td>
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<td>A teaching assistantship for an entire term, with a satisfactory performance evaluation by the department, is required by the end of the 5th year.</td>
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<tr>
<td>Ph.D. exam and dissertation requirements:</td>
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<tr>
<td>Qualifying exam^1</td>
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<tr>
<td>Preliminary exam^2</td>
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<tr>
<td>Final exam or dissertation defense^3</td>
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Information listed in this catalog is current as of 11/2020
Dissertation deposit

Minimum GPA: 3.0

1. Qualifying Exam information (http://cs.illinois.edu/academics/graduate/phd-program/qualifying-exam/)
2. Preliminary Exam information (http://cs.illinois.edu/academics/graduate/phd-program/preliminary-exam/)
3. Final exam or dissertation defense information (http://cs.illinois.edu/academics/graduate/phd-program/final-exam-thesis-defense/)
4. Dissertation deposit information (http://cs.illinois.edu/academics/graduate/phd-program/phd-thesis-format-review-guidelines/)