

COMPUTING FUNDAMENTALS, CERT

for the Graduate Certificate in Computing Fundamentals (on campus or online)

The Graduate Certificate in Computing Fundamentals provides students with Bachelor's degree or higher in a non-computing discipline with an accelerated foundation in computing fundamentals. The Graduate Certificate requires four bridging courses in fundamentals of computing and algorithms and two excursions in computing courses. To allow flexibility and gain deeper knowledge in a computing subject of interest, students are required to complete an independent study along with a graduate-level elective.

The Graduate Certificate in Computing Fundamentals requires a minimum of 20 credit hours distributed over eight courses as follows. A course cannot be used to satisfy more than one requirement within the certificate.

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Graduation Requirements

Minimum Cumulative GPA: 2.75 (as required for awarding of the Campus Graduate Certificate)

Minimum hours required for certificate completion: 20 hours

Students who have successfully completed this certificate may use the certificate to satisfy the following degree requirements, subject to department approval, and provided they apply and are admitted to the degree program:

- 8 hours of breadth or elective course coursework for Master of Computer Science
- 8 hours of breadth or elective coursework for Master of Science in Computer Science
- 8 hours of required or elective coursework for Master of Science in Bioinformatics: Computer Science
- 8 hours of elective coursework for PhD in Computer Science

* The 8 credit hours of transferable coursework may not include the bridging courses: CS 400, CS 401, CS 402, and CS 403.

** A letter grade of B or above, or an S is required for transfer.

Coursework Requirements

Code	Title	Hours
Core Coursework		17
CS 400	Accelerated Fundamentals of Computing I	3
CS 401	Accelerated Fundamentals of Algorithms I	3
CS 402	Accelerated Fundamentals of Computing II	3
CS 403	Accelerated Fundamentals of Algorithms II	3
CS 491	Seminar (Section: Seminar – Excursions in Computing I)	1
CS 491	Seminar (Section: Seminar – Excursions in Computing II)	1
CS 597	Individual Study	3

Additional Coursework	3
Elective 400-level CS course	3
Total Hours	20

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The learning objectives for the program are the following.

1. Exhibit proficiency in the design, implementation, and testing of software.
2. Demonstrate skills and experience working in small teams in order to solve problems; design, implement, and test code; and learn from one another.
3. Apply algorithmic and theoretical computer science principles to solve computing problems from a variety of application areas.
4. Demonstrate the ability to learn and develop competencies in specialized or emerging computer science fields.
5. Demonstrate the ability to read, analyze, and discuss research papers.

Students will be assigned letter grades appropriate to the course subject.

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Admission Requirements

The iCAN program is a broadening participation program designed for college graduates without a background in computer science. Successful completion of the iCAN program results in a student receiving a Computing Fundamentals Certificate. Below are the admission requirements for the iCAN program (<https://cs.illinois.edu/academics/graduate/ican/application-process/>).

- A baccalaureate degree (or higher) in any field other than computer science.
- College algebra
- Overall GPA of 3.0 or above.
- Unofficial transcripts are accepted for application review.
- Test scores: A GRE score is not required for admission into the iCAN program.

Financial Aid

The department offers tuition scholarships for the iCAN program based on financial need and application materials.

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Other Graduate Programs in the Department of Computer Science

- degrees:
 - Computing Fundamentals, CERT (p. 1)
 - 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/>)

- Computer Science, PhD (<http://catalog.illinois.edu/graduate/engineering/computer-science-phd/>)
 - 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 (CS) offers other graduate programs leading to the degrees of Master of Science and Doctor of Philosophy in Computer Science, as well as a Computer Science concentration under the interdisciplinary Master of Science in Bioinformatics.

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Department of Computer Science

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iCAN Program Director: Tiffani Williams (tiffani@illinois.edu)
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Department of (<https://cs.illinois.edu/>) Computer Science website
Program website (<https://cs.illinois.edu/academics/graduate/ican/>)
1312 Siebel Center, 201 N Goodwin, Urbana, IL 61801
(217) 333-4428
Program (ican@cs.illinois.edu)email (ican@cs.illinois.edu)

Grainger College of Engineering

Grainger College of Engineering website (<https://grainger.illinois.edu/>)

Admissions

Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)
Department Admissions & Requirements (<https://cs.illinois.edu/admissions/graduate/applications-process-requirements/>)