COMPUTER SCIENCE - PH.D.

College of Sciences and Humanities
Department of Computer Science
www.kent.edu/cs

About This Program

Push the boundaries of innovation with this research-intensive computer science Ph.D., which is designed to prepare you as a leader in academia, industry or government. Work alongside expert faculty in a collaborative environment that emphasizes discovery, integration and emerging technologies, building the advanced skills needed to solve complex, real-world problems and advance the future of computing. Read more...

Contact Information

- **Hassan Peyravi** | gradinfo@cs.kent.edu | 330-672-9047
- Connect with an Admissions Counselor

Program Delivery

- **Delivery:**
  - In person
- **Location:**
  - Kent Campus

Examples of Possible Careers and Salaries*

Computer science teachers, postsecondary

- 2.6% slower than the average
- 38,500 number of jobs
- $85,540 potential earnings

Computer and information systems managers

- 10.4% much faster than the average
- 461,000 number of jobs
- $151,150 potential earnings

Information security analysts

- 31.2% much faster than the average
- 131,000 number of jobs
- $103,590 potential earnings

Computer and information research scientists

- 15.4% much faster than the average
- 32,700 number of jobs
- $126,830 potential earnings

Database administrators and architects

- 9.7% much faster than the average
- 132,500 number of jobs
- $98,860 potential earnings

Computer programmers

- -9.4% decline
- 213,900 number of jobs
- $89,190 potential earnings

Software developers and software quality assurance analysts and testers

- 21.5% much faster than the average
- 1,469,200 number of jobs
- $110,140 potential earnings

* Source of occupation titles and labor data comes from the U.S. Bureau of Labor Statistics' Occupational Outlook Handbook. Data comprises projected percent change in employment over the next 10 years; nation-wide employment numbers; and the yearly median wage at which half of the workers in the occupation earned more than that amount and half earned less.

For more information about graduate admissions, visit the graduate admission website. For more information on international admissions, visit the international admission website.

Admission Requirements

- Bachelor's degree or higher in computer science (or closely related field) from an accredited college or university[1]
- Minimum 3.000 GPA on a 4.000-point scale
- Official transcript(s)
- GRE scores
- Résumé
- Goal statement
- Three letters of recommendation
- English language proficiency - all international students must provide proof of English language proficiency (unless they meet specific exceptions to waive) by earning one of the following:[2]
  - Minimum 71 TOEFL iBT score
  - Minimum 6.0 IELTS score
  - Minimum 50 PTE score
  - Minimum 100 DET score

[1] Students whose records clearly indicate a potential to do doctoral-level work in computer science may be directly admitted and must fulfill the requirements of both the master's and doctorate degrees.

[2] International applicants who do not meet the above test scores may be considered for conditional admission.

Application Deadlines

- **Fall Semester**
  - Application deadline: June 15
- **Spring Semester**
  - Application deadline: November 1
- **Summer Term**
  - Application deadline: April 1

All application materials (including applicable fee, transcripts, recommendation letters, etc.) submitted after these deadlines will be considered on a space-available basis.

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements		
CS 73005	ADVANCED DATABASE SYSTEMS DESIGN [1]	3
or CS 73901	SOFTWARE ENGINEERING METHODOLOGIES	
CS 73201	ADVANCED OPERATING SYSTEMS [1]	3
or CS 75101	ADVANCED COMPUTER ARCHITECTURE	
CS 76101	ADVANCED TOPICS IN ALGORITHMS [1]	3
CS 89191	DOCTORAL SEMINAR (repeated for 3 credit hours total) [2]	3
Computer Science (CS) Graduate Electives [3]		18-48
Culminating Requirement		
CS 89199	DISSERTATION I [4]	30
Minimum Total Credit Hours for Post-Baccalaureate Students		**90**
Minimum Total Credit Hours for Post-Master's Students		**60**

1. Post-master's students who have already completed one or more of these courses for their master's degree are exempt from retaking them and are permitted to substitute with electives, with the approval of the graduate coordinator.
2. Students must make at least two public presentations of project and/or research work (excluding the dissertation defense and candidacy examination) before graduation. At least one presentation must occur in the doctoral seminar no later than one full term before graduation and within two years of entering the program. CS 89191 is offered for 1 or 2 credit hours, and students must enroll in it at least twice. The course may be repeated multiple times, but a maximum of 3 credit hours may be applied toward the degree.
3. Post-master's students may apply maximum 9 credit hours of CS 89098 toward their degree. Post-baccalaureate students may apply maximum 3 credit hours of CS 69098 and maximum 9 credit hours of CS 89098 toward the degree. Post-baccalaureate students also may apply up to 12 credit hours of 50000-level courses and up to 18 credit hours of 60000-level courses. The remaining credit hours must be at the 70000 or 80000 level.
4. Upon admission to candidacy, each doctoral student is required to register for CS 89199, totaling 30 credit hours. It is expected that students will continuously enroll in Dissertation I and, subsequently, in CS 89299 each semester until all degree requirements are fulfilled. The dissertation must present original research conducted by the student. The chosen dissertation topic requires approval from both the advisor and the graduate coordinator. A dissertation committee, composed of graduate faculty, will evaluate the quality and significance of the work. The student is also required to present a public dissertation defense. Final approval of the dissertation and defense must be granted by the advisor and the dissertation committee.

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
-	3.000

Proficiency Requirements and Candidacy

1. Students must successfully complete the preliminary examination within the first two semesters for post-master's students and within the first three semesters for post-baccalaureate students.
2. The candidacy examination is a comprehensive assessment in the student's major field. The format of the exam will be determined by the student's Candidacy Examination Committee, which consists of the student's advisor and two additional graduate faculty members. The committee must be approved by the graduate coordinator. Students must complete the candidacy examination at least one year prior to the dissertation defense and no later than nine months before they expect to receive the degree. Notification of the approved dissertation topic and submission of the prospectus must occur no later than the semester preceding the semester in which the student anticipates earning the doctoral degree.

Program Learning Outcomes

Graduates of this program will be able to:

1. Have all around breadth-of-knowledge and understanding of essential facts, concepts, principles and theories relating to advanced topics in computer science to be regarded as a scholar of computer science.
2. Demonstrate depth of knowledge at least in one specialized topic.
3. Conduct independent research by advancing the body of knowledge in the area through the doctoral dissertation research.
4. Clearly articulate advanced research problems and their solutions.
5. Present general computer science topics in a learning environment.
6. Develop and write publishable papers that clearly articulate advanced research problems and their solutions.
7. Demonstrate integrative and deep knowledge of essential literature, facts, concepts, principles and theories relating to a chosen area of research.
8. Perform complete and thorough literature searches.
9. Evaluate, comprehensively and critically, the extent to which a particular work relates to and/or contributes to a given field.
10. Publish and participate in a chosen research community.

Full Description

The Ph.D. degree in Computer Science provides students with an educational and research environment that fosters personal and intellectual growth, flourishes academic goals and develops career paths through necessary training with emerging technologies. The program promotes research, discovery and integration, and is designed for students interested in becoming professional scholars, college and university professors or researchers in private, industrial or government research institutions.