

COMPUTER AND INFORMATION SCIENCE AND ENGINEERING DEPARTMENT

Chair: Juan Gilbert, The Banks Preeminence Chair in Engineering
Graduate Coordinator: Ahmed Helmy

The Department of Computer and Information Science and Engineering is concerned with the theory, design, development, and application of computer systems and information processing techniques. The mission of the CISE Department is to educate undergraduate and graduate majors as well as the broader campus community in the fundamental concepts of the computing discipline, to create and disseminate computing knowledge and technology, and to use our expertise in computing to help society solve problems.

The Department of Computer and Information Science and Engineering (CISE) offers

- Ph.D. degree in computer engineering through the College of Engineering
- Master of Engineering degree in computer engineering through the College of Engineering
- Master of Science degree in computer engineering through the College of Engineering
- Ph.D. degree in computer science through the College of Engineering
- Ph.D. degree in human-centered computing through the College of Engineering
- Master of Science degree in computer science through the College of Engineering
- Master of Science degree in digital arts and sciences through the College of Engineering
- Master of Science degree in computer science through the College of Liberal Arts and Sciences

The department also offers a combined bachelor's/master's degree program. Contact the Department's Student Services Center for information.

The CISE Department has six broad areas of specialization:

- **Computer systems:** computer architecture, distributed systems, networks and communication, operating systems, performance evaluation, security, mobile computing, software engineering, programming languages, multimedia systems, and web technologies
- **Database and information systems:** database management systems, database design, database theory and implementation, data mining, database machines, parallel and distributed databases, digital libraries, E-services and commerce, medical, and bio-informatics
- **High-performance computing/applied algorithms:** design and analysis of algorithms, data structures, parallel and distributed computing, medical algorithms, numerical methods, computational complexity, and applied computational geometry
- **Computer graphics, modeling, and art:** modeling methodology, simulation, virtual reality, aesthetic computing, computer arts, animation, real-time rendering, medical modeling, digital media, and musical acoustics

- **Intelligent systems and computer vision:** artificial intelligence, machine learning, visualization, image analysis and processing, pattern recognition, signal processing, biomedical imaging, and image databases
- **Computer networks and security:** wired and wireless networks, network routing and protocols, and QoS.

Applications for admission must be approved by both the Department and the college in which the student wishes to enroll. Applicants should have a strong computer science background.

All master's students must satisfy a core requirement by completing the appropriate number of core courses as specified by their degree program. According to Graduate School rule, students must maintain a 3.0 overall GPA, as well as a cumulative 3.0 GPA for all courses taken from CISE, to graduate. Students can select a thesis or non-thesis option for the master's degree. Digital Arts and Sciences students must choose either thesis or project in lieu of thesis. All options require a minimum of 30 credit hours. The thesis degree requires:

- A minimum of 6 credit hours must be taken in CIS 6971 Research for Master's Thesis (1-15 cr.).
- Specific degree requirements can be found at: <https://www.cise.ufl.edu/academics/grad> (<https://www.cise.ufl.edu/academics/grad/>)

The non-thesis option requires:

- Each non-thesis master's student is required to pass a comprehensive examination.
- Specific degree requirements can be found at: <https://www.cise.ufl.edu/academics/grad> (<https://www.cise.ufl.edu/academics/grad/>)

The Digital Arts and Sciences project in lieu of thesis option requires 6 credit hours of project/performance credits.

To demonstrate breadth and proficiency, Ph.D. students who major in Computer Engineering or Computer Science must take 4 required core courses obtaining a 3.4 GPA in 3 of the 4 required core courses, with no more than one of the core courses receiving a letter grade below B, to be eligible to take the Ph.D. qualifying examinations.

To demonstrate breadth and proficiency, Ph.D. students who major in Human-Centered Computing must take 3 required core courses obtaining a 3.4 GPA in 2 of the 3 required core courses, with no more than one of the core courses receiving a letter grade below B, to be eligible to take the Ph.D. qualifying examinations.

Ph.D. students are required to take a minimum of 90 credit hours. Of these, at least 36 hours must be graduate-level CISE course work excluding individual study and research credits. A minimum of 3 hours must be taken in CIS 7980 Research for Doctoral Dissertation (1-15 cr.). A maximum of 30 credits may be awarded toward the Ph.D. degree from an appropriate master's degree.

The Database Systems Research and Development Center, the Software Engineering Research Center, the Center for Computer Vision and Visualization Center, and a number of other campus research centers provide opportunities for students enrolled in the program.

Human Centered Computing (HCC) Ph.D.

The degree is focused on the design, construction, and evaluation of computational technologies as they relate to the human condition and

impacts on society in general. The purpose of the HCC PhD degree is to train a new generation of computing researchers/developers that design, implement, and evaluate computing systems and technologies in real world, or applied, contexts.

HCC PhD degrees exist because the expertise required for this degree does not fit in traditional Computer Science (CS) or Computer Engineering (CE) PhD programs. CS & CE PhD programs have requirements for computer systems and theory.

For more information, please see the program pages below, or visit our website: <http://www.cise.ufl.edu>

Majors

- Computer Engineering (<http://catalog.ufl.edu/graduate/colleges-departments/engineering/computer-information-science/computer/>)
- Computer Science (Engineering) (<http://catalog.ufl.edu/graduate/colleges-departments/engineering/computer-information-science/computer-science/>)
- Digital Arts and Sciences (Engineering) (<http://catalog.ufl.edu/graduate/colleges-departments/engineering/computer-information-science/digital-arts-sciences/>)
- Human-Centered Computing (<http://catalog.ufl.edu/graduate/colleges-departments/engineering/computer-information-science/human-centered-computing/>)

Faculty

Professor

- Chen, Shigang
- Dorr, Bonnie
- Gader, Paul D.
- Gilbert, Juan Eugene
- Helal, Abdelsalam Ali
- Helmy, Ahmed Abdelghaffar
- Kahveci, Tamer
- Lok, Benjamin
- Mishra, Prabhat Kumar
- Peters, Jorg
- Ranka, Sanjay
- Schneider, Markus Paul
- Thai, My Tra
- Traynor, Patrick
- Vemuri, Baba C.

Associate Professor

- Banerjee, Arunava
- Bermudez, Manuel E.
- Boyer, Kristy
- Butler, Kevin
- Dobra, Alin Viorel
- Entezari, Alireza
- Kavalan, Jonathan C L
- Peir, Jihkwon
- Rangarajan, Anand
- Sanders, Beverly A.

- Shrimpton, Thomas
- Sitharam, Meera
- Ungor, Alper
- Wang, Zhe
- Williams, Byron Joseph
- Wilson, Joseph N.
- Woodard, Damon
- Xia, Ye

Assistant Professor

- Anthony, Lisa
- Bindschaedler, Vincent Christophe
- Boucher, Christina A.
- Chuyew Yee, Sharon Lynn
- Gardner-McCune, Christina
- Huang, Kejun
- Jain, Eakta
- McMullen, Kyla
- Newman, Richard E.
- Ragan, Eric D.
- Ruiz, Jaime
- Thebaut, Stephen M.
- Toler-Franklin, Corey Theresa

Distinguished Professor

- Sahni, Sartaj Kumar

Associate Scientist

- Schmalz, Mark S.

Senior Lecturer

- Zhang, Rong

Affiliated Faculty

- Fortes, Jose A.
Eminent Scholar
- Glenn, Alina Zare
Associate Professor
- Michailidis, George
Professor
- Oliveira, Daniela
Associate Professor
- Rashidi, Parisa
Assistant Professor
- Wu, Dapeng
Professor
- Yang, Lin
Associate Professor
- Yavuz, Tuba
Assistant Professor