

# Computer Science & Engineering

During the past two decades, society has experienced unprecedented growth in digital technology. This revolution continues to redefine our way of life, our culture and our economy. Computer science and engineering education plays an irreplaceable role in this trend by preparing future technology leaders and innovators. It opens our minds to new horizons, unlocks doors to a broad range of career paths, accelerates professional advancement, and exposes us to ideas that are advancing the frontiers of science and technology beyond the field of computing. Alumni and students continually remind us that pursuing a degree in the Department of Computer Science & Engineering is an experience rarely matched elsewhere.

## Master's Programs

The Department of Computer Science & Engineering offers four master's degrees: **Master of Science in Computer Science, Master of Science in Computer Engineering, Master of Science in Cybersecurity Engineering,** and **Master of Engineering in Computer Science and Engineering.** We accept both full-time and part-time students, offering class schedules that are flexible enough for part-time students but that provide enough classes for students to attend full-time. Obtaining a master's degree from the Department of Computer Science & Engineering can be done as a pure course option (MS in Computer Science and MS in Computer Engineering degrees only), or it can incorporate a specialized research experience. Master's research is a great way for our students to easily transition into future doctoral studies. Graduates of our program are also prepared to enter the industry, with many accepting positions at companies like Boeing, Google and Microsoft. Applicants to our master's programs are expected to have completed an undergraduate degree. A major or minor in computer science or computer engineering is helpful, but it is not required. Background requirements are listed within each degree program, along with options for meeting them.

## PhD Programs

The Department of Computer Science & Engineering offers **PhD programs in Computer Science and in Computer Engineering.** Computer science research encompasses the fundamentals of software and algorithm design, machine learning and bioinformatics, visual and cyber-physical computing, and human-computer interaction. Computer engineering focuses on the interaction of software and hardware in the design of computing systems and networks. Our research groups have extensive interdisciplinary ties across the university, with collaborations in medicine, science, the humanities and social work. Recent graduates have accepted research and teaching faculty positions as well as research and engineering positions in leading technology companies.

Both PhD programs require a combination of courses, research and teaching. The required courses are often completed early in the program, since students are integrated into research groups during their first year and the program's emphasis is on creative research. The program has milestones that involve both written and oral components, and these provide structure for the five- to six-year degree. The program considers applicants with either bachelor's or master's degrees and has had successful applicants in the past whose backgrounds were outside of the field of computer science.

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