

# Erik Jonsson School of Engineering and Computer Science

Bachelor of Science in Software Engineering



Software engineering is a young profession, which has become vital to our society. Most industries, services, healthcare, finances, security, education and the government depend on software assets and services. Relying on computer science, engineering and mathematics, software engineering provides principles and processes that help developers produce high-quality software, which is safe, secure and reliable.

## Careers in Software Engineering

Virtually all major companies and corporations need software related core competencies. Software engineers are central in developing and making use of these competencies. They work in teams that interface extensively with clients, company executives, IT managers, data scientists, security and domain experts. Software engineering professionals are creative, highly collaborative, well paid and in very high demand with employers.



Graduates of software engineering undergraduate programs embark on career paths that may lead to such positions as chief strategy officer, project manager, chief technology officer, software architect, senior manager of software development, risk management officer and security analyst.

## High School Preparation

Software engineering requires strong high school preparation. A minimum of elementary algebra and geometry should be completed, while trigonometry, calculus, physics and chemistry are highly recommended. Any Advanced Placement courses in computer science or advanced technology are highly beneficial, and solid communication skills are very important.

## Software Engineering at UT Dallas

The software engineering program is part of the University's Computer Science Department, which features an internationally recognized faculty with more than 2,800 students and a 150,000-square-foot building with modern classrooms and cutting-edge laboratories.

Like the BS degree in computer science, the BS in software engineering is based on a mathematical foundation that includes calculus, linear algebra and discrete mathematics. The two programs also have the same computer science core, including modern programming methodologies, the analysis of algorithms and data structures, and the study of operating systems. While the computer science program continues with courses in advanced data structures, programming languages and automata theory, the software engineering program includes courses in requirements engineering, software validation and testing, and software architecture. There is also a rich choice of application areas, including digital systems design, computer networks, embedded systems, computer imaging, artificial intelligence, machine learning and human-computer interaction.

## Internships and Fast-Track

The Jonsson School operates one of the largest internship and cooperative education programs of its kind, averaging more than 2,800 undergraduate and graduate student placements a year at Dallas-area high-tech companies, including Texas Instruments, State Farm, Lockheed Martin, AT&T, Fujitsu Laboratories of America, Samsung Electronics, Cisco, Intel, Raytheon and IBM.

The Fast-Track Program enables exceptionally gifted undergraduate students to include master's level courses in their undergraduate degree plans. When Fast-Track students graduate with a bachelor's degree, they are automatically admitted to graduate school at UT Dallas. The hours required to complete the master's degree are reduced by up to 15 hours by the number of Fast-Track graduate hours completed.

## Contact Information

### Office of Admission and Enrollment

800 West Campbell Road  
Richardson, TX 75080-3021  
Phone: 972-883-2270 or 1-800-889-2443  
Email: [interest@utdallas.edu](mailto:interest@utdallas.edu)  
Website: [utdallas.edu/enroll](http://utdallas.edu/enroll)

### Software Engineering Undergraduate Program

Dr. Ovidiu Daescu  
Phone: 972-883-4196  
Email: [Ovidiu.Daescu@utdallas.edu](mailto:Ovidiu.Daescu@utdallas.edu)  
Office: ECS 4.224  
Website: [utdallas.edu/~daescu/](http://utdallas.edu/~daescu/)

### Software Engineering Program

Erik Jonsson School of Engineering and Computer Science, EC-31  
The University of Texas at Dallas  
800 West Campbell Road  
Richardson, TX 75080-3021  
Website: [cs.utdallas.edu/](http://cs.utdallas.edu/)

For complete admission and degree requirements, view the Undergraduate Catalog at

[catalog.utdallas.edu](http://catalog.utdallas.edu)

800 W Campbell Rd, Richardson, TX 75080  
[utdallas.edu](http://utdallas.edu)

# Erik Jonsson School of Engineering and Computer Science



The Jonsson School is strategically located in the Telecom Corridor, home of the second-largest high-tech economy in the U.S. The School recently completed a major public-private initiative that greatly expanded its capabilities, including construction of a new state-of-the-art 220,000-square-foot interdisciplinary research building, and this year is opening a 200,000-square-foot engineering building. With more than 165 tenured/tenure-track faculty members, 7,400 students, and \$53 million in research funding, the Jonsson School has six academic departments:

Bioengineering	Computer Engineering	Computer Science
Materials Science and Engineering	Mechanical Engineering	Systems Engineering

The school also offers a minor in nanoscience and technology.

## Degrees Offered

**Bachelor of Science:** Biomedical engineering, computer engineering, computer science, electrical engineering, mechanical engineering, software engineering

**Master of Science:** Biomedical engineering, computer engineering, computer science, electrical engineering, materials science and engineering, mechanical engineering, software engineering, systems engineering and management\*, telecommunications engineering

**Doctor of Philosophy:** Biomedical engineering, computer engineering, computer science, electrical engineering, materials science and engineering, mechanical engineering, software engineering, telecommunications engineering

\*Joint program between Jindal School of Management and Erik Jonsson School of Engineering and Computer Science.

## Research

Research efforts underway at the school involve such cutting-edge technology as:

Medical imaging	Speech Recognition	Materials characterization	Cochlear implant technology
Cybersecurity	Organic electronics	Physical, chemical and biosensors	Wireless networking
Carbon nanotubes	Micro-electromechanical systems	Semiconductor design	

## Additional Facts

The Jonsson School's recent growth surge has helped propel its undergraduate programs into *U.S. News & World Report's* annual rankings of the nation's top schools of engineering.

The school's graduate program has continued its rise through the national *U.S. News* rankings, now placing among the top 25 public university graduate programs and ranking third in Texas.

The Jonsson School has significantly increased the size of its faculty in recent years, hiring top recent graduates of Stanford University, Cornell University, Purdue University, Georgia Tech and UCLA, as well as seasoned professionals from Rutgers University, University of Southern California, University of California, Davis, Sandia National Laboratories, Freescale Semiconductor and Texas Instruments.

The Jonsson School features a variety of student organizations that are actively involved in both academic and social activities. Completely student-run, these include the Association for Computing Machinery, the Game Development Group, the National Society of Black Engineers, a chapter of the scientific research society Sigma Xi, the Society of Hispanic Professional Engineers and the Society of Women Engineers.

## Contact Information

### Office of Admission and Enrollment

800 West Campbell Road  
Richardson, TX 75080-3021  
Phone: 972-883-2270 or  
1-800-889-2443  
Email: [interest@utdallas.edu](mailto:interest@utdallas.edu)  
Website: [utdallas.edu/enroll](http://utdallas.edu/enroll)

### Erik Jonsson School of Engineering and Computer Science

The University of Texas at Dallas  
800 W. Campbell Road EC32  
Richardson, TX 75080-3021