Almost any technology that has impacted people's lives over the last century has the imprint of research and education pursued in the Department of Electrical and Computer Engineering. Electrical and computer engineers have advanced national and global prosperity through research spanning multiple fields, which directly impact the way we treat diseases and provide health care, the way we communicate and consume information, and the myriad ways electricity is used to provide energy to our homes, cities and the world and to power transportation. By choosing to study electrical or computer engineering, our graduates embark on exciting and productive careers with endless opportunities to help shape a better future for humankind.

RANKINGS

(Among public institutions, U.S. News & World Report)

Electrical Engineering

8th
Undergraduate Program (2023)

13th
Graduate Program (2024)

Computer Engineering

11th
Undergraduate Program (2023)

11th
Graduate Program (2024)

FACULTY NUMBERS

Faculty	**80**
Members of the National Academies	**7**
Fellows	**35**
Professorships	**15**
Chairs	**11**

ENROLLMENT (Fall 2022)

Undergraduate Students	**1,487**
Master's Students	**365**
Ph.D. Students	**280**

RESEARCH AREAS

Analog and Mixed Signals
- Analog and Mixed-Signal Circuits
- Millimeter-Wave Transceivers for 5G/6G
- Wireline and Wireless Communications Circuits and Systems
- Photonics and Optical Interconnect Circuits

Biomedical Imaging, Sensing and Genomic Signal Processing
- Biomedical imaging (MRI, Ultrasound)
- Micro/Nanodevices for Health
- Computational Biology and Bioinformatics
- Synthetic Biology and Biotechnology
- Flexible Bioelectronics

Computer Engineering and Systems
- Computer Systems and Architecture
- Hardware Security
- VLSI Circuits, Systems and Computer-aided Design
- Robotics and Virtual Reality/Augmented Reality
- ML/AI hardware and algorithms
- Networking and Wireless

Device Science and Nanotechnology
- Quantum sensing
- Nanoscale bio-sensing and neuron modeling
- CMOS and silicon technology
- Mid-IR photonics
- Solar energy
- Noise-based logic and secure communications
- Photoacoustics
- Bacteria sensing
- Table-top X-rays

Electromagnetics and Microwaves
- Antennas and Arrays
- Wave Propagation and Scattering
- Electromagnetic Sensing and Imaging
- High-frequency Circuits for Microwave to Terahertz Applications

Energy and Power
- Electric Power Systems
- Power Electronics
- Electric Machines
- Electrification of Transportation
- Smart Grid

Information Science and Learning Systems
- Statistical Communication and Information Theory
- Cognitive Radio
- Signal and Image Processing
- Adaptive Control Systems
- Wireless Systems/Networks
- Machine Learning and Applications

LABORATORIES

- Capstone and Robotics Laboratory
- Control Engineering Laboratory
- Digital Signal Processing Laboratory
- Downed Conductor Test Facility
- Electric Machines and Power Electronics Laboratory
- Electromagnetics and Microwave Laboratory
- Electronics Laboratory
- Electro-optics Laboratory
- Fluctuation and Noise Exploitation Lab
- Fuel Cell Power Systems Laboratory
- Functional Thin Film Laboratory
- Genomic Signal Processing Laboratory
- Magnetic Resonance Systems Laboratory
- Multimedia Laboratory
- Multimedia Communication and Networking Laboratory
- NanoBio Systems Laboratory
- AggieFab Nanofabrication Cleanroom Facility
- Power Electronics Laboratory
- Power Electronics and Motor Drives Laboratory
- Power Engineering Laboratory
- Power Quality Laboratory
- Power System Automation Laboratory
- Power System Control and Protection Laboratory
- Semiconductor, Sensing, Imaging and Communications Systems Laboratory
- Sensing, Imaging and Communication Systems Laboratory
- Secure and Trustworthy Hardware Laboratory
- Smoke Detector Test Facility
- Ultrasound Imaging Laboratory
- VLSI Laboratory
- Wireless Communications Laboratory

DEGREE PROGRAMS

Undergraduate
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Computer Engineering
- Minor in Electrical Engineering

Graduate
- Master of Science in Electrical Engineering
- Master of Science in Computer Engineering
- Doctor of Philosophy in Electrical Engineering
- Doctor of Philosophy in Computer Engineering
- Analog and Mixed-Signal Integrated Circuit Design Online Certificate
- Electric Energy Systems Online Certificate
- Master of Science in Data Science (jointly offered by the Department of Computer Science and Engineering, Mathematics, Statistics and the Texas A&M Institute of Data Science)