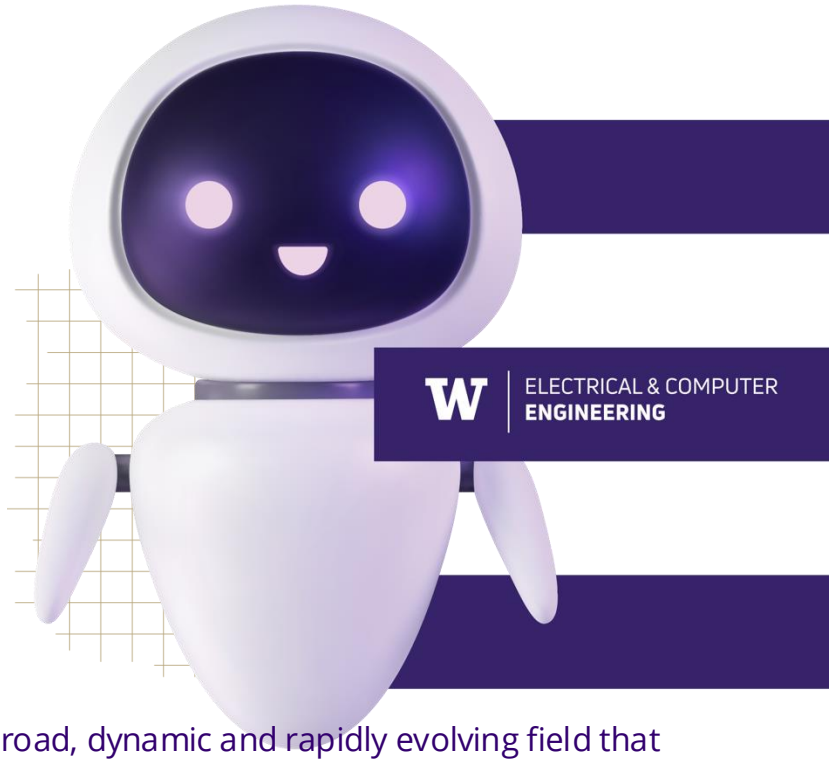
UNIVERSITY of WASHINGTON



Electrical and computer engineers develop new technologies at the cutting edge of electrical engineering and computer science.

Electrical and computer engineering (ECE) is a broad, dynamic and rapidly evolving field that encompasses a wide spectrum of technical areas related to electrical engineering and computer science. ECE involves the design of devices and systems that can range greatly in scale — from microchips to multinational electrical power grids.

What makes electrical and computer engineering special?

ECE offers students many flexible pathways to pursue a degree that quickly adapts to technological advances in research areas such as neural engineering, sustainable energy, quantum computing, data science, photonics and nanotechnology. Students can choose to gain broad knowledge of the field or focus on specialized areas.

As seniors, ECE students choose between culminating capstone project options, either student-driven or industry-led. UW ECE has several associated student organizations including the student chapter of the Institute of Electrical and Electronics Engineers (IEEE) and the IEEE-WIE (Women in Engineering). The department offers strong internship and career opportunities thanks to our strong interdisciplinary partnerships and proximity to leading technology companies. Research by our faculty and students is world-class, sparking groundbreaking discoveries and innovative startup companies that have broad economic, societal and human impact.

What do electrical and computer engineers do?

Electrical and computer engineering has a vast range of potential applications, which stem from the prevalence of electrical systems and computers in everyday life. Graduates with degrees in electrical and computer engineering work in areas that include power systems, computing systems and the semiconductor industry. As a career, ECE offers flexibility with transferable knowledge between a wide range of sub-fields. Our work is driven by innovation, exploration and a passion for problem solving.

Optional academic pathways in ECE

UW ECE offers students myriad pathways to receive their degree. Students can also take a breadth of courses rather than specializing in specific pathways to craft a degree that uniquely suits their interests.

SENSING AND COMMUNICATION	SUSTAINABLE ENERGY SYSTEMS
CONTROL SYSTEMS	NEUROTECHNOLOGY
COMPUTING	VLSI/DIGITAL SYSTEMS DESIGN
COMPUTER ARCHITECTURE	PHOTONICS
MACHINE LEARNING	EMBEDDED SYSTEMS
QUANTUM TECHNOLOGIES	MICROELECTRONICS AND NANOTECHNOLOGY
INTEGRATED SYSTEMS	

WHERE DO UW ECE ALUMNI WORK?

Air and Space

Sensing and Communication, Embedded Systems, Computing, Control Systems, Photonics

Boeing, SpaceX, Blue Origin, Amazon, Astronics, NASA, Raytheon

Computing, data and digital technologies

Computer Architecture, VLSI Design/Digital Systems Design, Embedded Systems, Computing, Machine Learning, Quantum Technologies

Microsoft, Amazon, Meta, Google, Texas Instruments, Micron, Intel, AMD

Environment, sustainability and energy

Sustainable Energy Systems, Microelectronics and Nanotechnology

Public and private utilities, Tesla, Schweitzer Engineering, GE Vernova, Siemens

Health and medicine

Neurotechnology, Photonics, Embedded Systems

Medtronic, Philips, Epic Systems, Siemens, Stryker, Neuralink

Infrastructure, transportation and society

Sustainable Energy Systems, Sensing and Communication, Control Systems

Honeywell, Boeing, Seattle Metro, Paccar, Stantec, McKinstry, Sound Transit, T-Mobile

Robotics and manufacturing

Integrated Systems, Machine Learning

Honeywell, Olis Robotics, Amazon, Boeing, Intuitive Surgical, Boston Dynamics

QUICK FACTS

825 undergraduate students in the 2025–2026 academic year

—

#1 startup generator of all UW departments for over 10 consecutive years

—

52 research labs in the department

—

69% of undergraduate UW ECE students pursue at least one internship

—

24% of undergraduate ECE students go on to pursue graduate studies following graduation

—

Consistently ranked in the Top 20 EE / ECE graduate programs in the country by U.S. News & World Report

How can you learn more?

If you think the UW ECE department might be for you, there are many opportunities to explore more.

- Perform research in a lab before placing into a major
- Join a club in an electrical engineering role
- Check out EE 215 Fundamentals of Electrical Engineering
- Come to an information session or drop-in hours for prospective students
- Meet with an ECE peer adviser to learn about the student experience