



ELECTRICAL ENGINEERING

W

ELECTRICAL ENGINEERS WORK TO SOLVE BOTH SOCIETAL AND TECHNOLOGICAL CHALLENGES USING ELECTRONICS AND ELECTRONIC RELATED PRINCIPLES.



QUICK FACTS

The EE major is housed in the Electrical and Computer Engineering Department

ECE has more startups than any other UW department

21% women

27% International Students

66% of UW EE grants are federally funded

WHAT DO ELECTRICAL ENGINEERS DO?

The work of an electrical engineer is wide ranging with our students working in areas from power systems, to embedded computing systems, to biomedical instrumentation. Largely based in math and physics, electrical engineers use abstract concepts to create real world solutions.

As a career, electrical engineering can offer flexibility with transferable knowledge between a wide ranges of sub-fields. Driving all of our work, is innovation, exploration and a passion for problem solving.

WHAT PROBLEMS ARE ELECTRICAL ENGINEERS TRYING TO SOLVE?

Our professors are some the leading experts in their fields and are excited to share their knowledge with the next generation of engineers. Here are some examples of the questions they are asking:

- Can the redundancies in plant signaling pathways be modeled using computation?
- Will a new hardware design allow true random number generation to be increasingly scalable and robust?
- How can the computations from large sensor arrays become more practical?
- Could wearable sensors be the key to improving air quality in Fiji?
- Do algorithms based in a geometric view point offer a better way of modeling power distribution systems of the future?

WHERE DO ECE ALUMNI WORK?

Air and space

Communications, power electronics and drives, controls | Boeing, SpaceX, BluOrigin, NASA

Computing, data and digital technologies

Digital VLSI, embedded computing systems | Microsoft, Amazon, Facebook, Google

Environment, sustainability and energy

Sustainable power systems, power electronics and drives | Public Utilities, Tesla, Jet Propulsion Lab (JPL)

Health and medicine

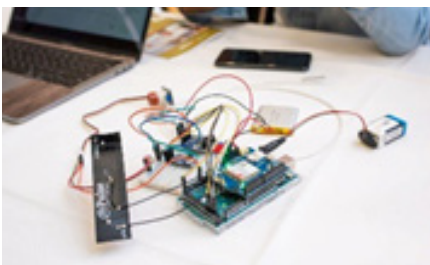
Biomedical instrumentation, neural engineering | Medtronic, Philips

Infrastructure, transportation and society

Power electronics and drives, communications, controls | Honeywell, Boeing, Seattle Metro

Robotics and manufacturing

Integrated systems, controls | Honeywell, BluHaptics



RECENT SPECIAL DESIGN PROJECTS

- > Brain-machine interfaces to restore motor function
- > Achieving increased energy-efficiency in chips using hardware design
- > Detecting home appliance usage with acoustic identification
- > Securing communications with quantum mechanics

WHAT MAKES ECE SPECIAL?

As the largest department in the College of Engineering, ECE offers its students the ability to choose from 11 different concentrations providing students with flexibility and a wide range of opportunities. Seniors can choose between different culminating capstone project options which can either be student driven or industry- led.

ECE has several associated student organizations including IEEE and HKN. These organizations create opportunities for students to network with industry professionals as well as faculty. The faculty in our department also offer undergraduate research opportunities allowing our students to gain additional skills which can be useful in industry or graduate school.

HOW CAN I LEARN MORE?

If you think the 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 492 and EE 215 to learn more!
- Come to an information sessions for prospective students
- Drop in hours for prospective students designed for brief questions. Students are seen on a first come, first serve basis.

UNDERGRAD@ECE.UW.EDU | ECE.UW.EDU



@uw_ece



@uwece