

ELECTRICAL ENGINEERING



Electrical engineers find innovative ways to use electricity, electronic materials and electrical phenomena to improve people's lives. The field of electrical engineering encompasses a very broad spectrum of technical areas, including computers and digital systems, electronics and integrated circuits, communications, systems and control, electromagnetics and electro-optics, energy conversion and power distribution, robotics, signal processing, solid state electronics and photonics. Electrical engineers work at the frontier of high technology and are involved in research, the creation of new ideas and the design and development of new products, manufacturing and marketing activities.

FOR MORE INFORMATION, VISIT THESE WEBSITES:

Electrical Engineering: www.engr.uky.edu/ece

University of Kentucky: www.uky.edu

College of Engineering: www.engr.uky.edu

Admissions: www.uky.edu/admissions

Visit Engineering: www.engr.uky.edu/visit

Scholarships: www.uky.edu/scholarships

Electrical Engineering Curriculum Sample

This is a sample list of classes a student will take to pursue a degree in electrical engineering. As part of the electrical engineering curriculum, students must complete the pre-engineering requirements, major requirements and general education coursework, called UK Core.

Note: This sample represents one of several paths to a College of Engineering degree. Consult the departmental website for details on specific paths.

Freshman Year

Engineering Exploration I and II	3
Fundamentals of Engineering Computing	2
Calculus I and II	8
Chemistry I and Physics I and Lab	9
Composition & Communication I and II	6
Introduction to Program Design	4
Total hours	32

Sophomore Year

Calculus III and IV	7
Physics II and lab	5
Circuits I	4
AC Circuits	4
Digital Logic Design	4
Introduction to Embedded Systems	4
UK Core Course	6
Total hours	34

Junior Year

Electromechanics	3
Signals and Systems	3
Intro to Electronics	3
Intro to Probability or Engineering Stats	3
Intro to Engineering Electromagnetics	4
Elective EE labs	4
Engineering/Science Elective	3
Technical Electives	6
UK Core Course	3
Total hours	32

Senior Year

EE Capstone Design I and II	6
EE technical Electives	12
Math/Statistics Elective	3
Engineering/Science Elective	3
UK Core Courses	6
Total hours	30

Pursuing Electrical Engineering at UK

Students who enroll as electrical engineering students at UK study at Kentucky's flagship research institution, meaning you'll be learning from people looking to make the next big breakthroughs in their field. Department of Electrical and Computer Engineering faculty are readily accessible both inside and outside the classroom and students have the chance to grow personally and professionally. Courses cover all the essentials: circuits, power, semiconductors, embedded systems, computer architecture and more. The undergraduate degree culminates in the capstone design courses where seniors work in teams to handle real-world problems outside the classroom and get a taste of the real world of engineering work.

Career Prospects in Electrical Engineering

Electrical engineers learn to understand and use electrical energy: They make it, control it, transmit it and tame it to design and run all kinds of traditional and advanced technologies. Electrical engineers also understand how to design and make the hardware that helps our newest intelligent tools and machines—and houses and cars—get smarter, smaller, cheaper, faster and safer. And when radical new technologies appear on the horizon that will dramatically change our technological landscape, one thing is certain: they will come from the imaginations of these engineers.

Undergraduate Research in Electrical Engineering

Electrical engineering undergraduates work with faculty members and graduate students on a wide range of cutting-edge research projects. Undergraduate research opportunities include antenna design, power and energy systems, nanotechnology, 3-D scanning, signal processing, machine learning, cybersecurity, computational electromagnetics and many more.

The University of Kentucky's electrical engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

Revised August 2018. Information subject to change. For the most up-to-date information on the UK College of Engineering, visit www.engr.uky.edu.