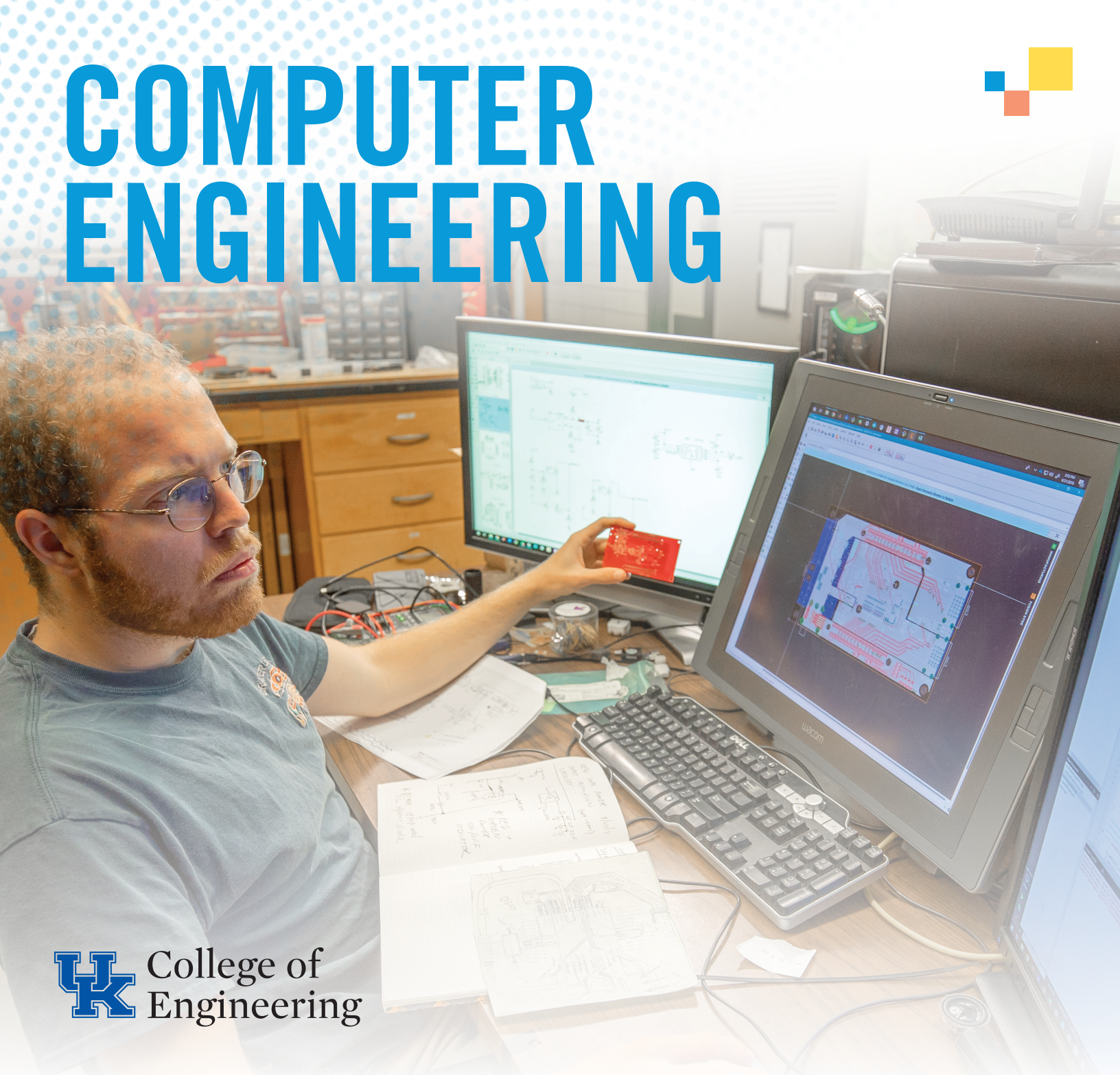
COMPUTER ENGINEERING



College of Engineering

Computer engineers are the driving force behind the most significant technological changes the world has ever seen. From integrated circuits to the internet to smartphones to artificial intelligence, computer engineering turns science fiction into science, and then puts it right in the palm of your hand. Whether they are strengthening cybersecurity, creating autonomous vehicles or making biomedical devices smarter, computer engineers work at the intersection of hardware and software, enhancing, enabling, empowering and elevating all technologies.

FOR MORE INFORMATION, VISIT:

www.engr.uky.edu/explore/computer-engineering

COMPUTER ENGINEERING CURRICULUM SAMPLE

This is a sample list of classes a student will take to pursue a degree in computer engineering. As part of the computer 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 computer engineering degree. Consult the departmental website for details on specific paths.

Freshman Year

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

Sophomore Year

Calculus III and IV	7
Circuits I	4
Computer Engineering Sophomore Seminar	1
Digital Logic Design	4
Discrete Mathematics	4
Intro to Embedded Systems	4
Intro to Software Engineering Techniques	3
Physics II and lab	5
Systems Programming	3
Total hours	**35**

Junior Year

AC Circuits	4
Advanced Computer Architecture	3
Algorithm Design and Analysis	3
Computer Organization	3
Engineering Statistics	3
Intro to Electronics	3
Signals and Systems	3
Technical Elective	3
UK Core Courses	6
Total hours	**31**

Senior Year

Capstone Design I and II	6
Computer Engineering Electives	9
Hardware Elective	3
Software Elective	3
Technical Elective	3
UK Core Courses	6
Total hours	**30**

PURSUING COMPUTER ENGINEERING AT UK

Computer engineering students at UK learn how today's technologies work so that they can imagine and create the innovations of tomorrow. Our faculty members bring their cutting-edge research in robotics, artificial intelligence, cybersecurity, aerospace, nanotechnology and renewable energy directly into the classroom, where students get hands-on experience in state-of-the-art laboratory facilities. In the ECE Engineering Prototype and Innovation Center (EPIC), students use advanced fabrication, 3D printing and circuit prototyping tools.

CAREER PROSPECTS IN COMPUTER ENGINEERING

A degree in computer engineering opens the door to a wealth of career opportunities. Computer engineers work in nearly every industry: robotics, aerospace, autonomous & intelligent systems, biomedical technology, gaming and entertainment, IoT devices and cybersecurity. With the U.S. Bureau of Labor Statistics predicting that computer-related occupations will represent over half of all job openings in the next 10 years, computer engineers are in demand.

UNDERGRADUATE RESEARCH IN COMPUTER ENGINEERING

Students in computer engineering participate in a wide variety of compelling, hands-on research projects with expert faculty members. Recent projects have included virtual reality systems, new methods for computational photography, multi-core computer architectures and deep learning for image processing.

CO-OPS

UK provides numerous opportunities to co-op with companies. Students can co-op during the fall, spring or summer semesters. Those who complete three co-op rotations will receive formal recognition on their transcript and a special cord at graduation. Students work with the Co-op Director and their academic advisor to determine the best timing for their co-op experience.

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

Revised August 2021. Information subject to change. For the most up-to-date information on the UK College of Engineering, visit www.engr.uky.edu.

College of Engineering

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