Computer engineers design computer systems, both hardware and software, to create new technologies and meet the ever-changing needs of society.

The field of computer engineering covers a wide range of topics including computer architecture, operating systems, communications, computer networks, robotics, artificial intelligence, supercomputers, computer-aided design and neural nets.

Whether designing and developing new products or improving manufacturing processes, computer engineers work at the frontier of technology.

**Pursuing Computer Engineering at UK**

Why the University of Kentucky? One reason is our reputation for strong academics combined with a great success rate for job placement and alumni success. Students who enroll as computer engineering majors at UK study at Kentucky’s flagship research institution, meaning you’ll be learning from top faculty looking to make the next big breakthrough in their field. Department of Electrical and Computer Engineering faculty are readily accessible both inside and outside the classroom and students have every opportunity necessary to grow personally and professionally.

Courses cover all the essentials: circuits, software, semiconductors, embedded systems, computer architecture and others. 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 real-world engineering work.

Undergraduate certificates are also available in power and energy as well as nanoscale engineering.

Students may directly enroll as pre-engineering students; however, there are minimum admission requirements. Minimum freshman entry requirements are an ACT math score of 23 or higher or a SAT math score of 540 or higher. Additionally, students must also meet the minimum Kentucky statewide academic readiness requirements for reading and writing. If you do not meet the initial admission requirements, please refer to the University of Kentucky Bulletin for alternative routes to admission to the College of Engineering.

**Program Educational Objectives**

- Graduates of the computer engineering program who take jobs in industry will demonstrate, within five years after graduation, professional advancements, such as technical accomplishments, supervisory responsibilities or other recognitions of their contributions.

- Graduates of the computer engineering program who continue their formal education in computer engineering or other fields will, within five years after graduation, receive advanced degrees, complete specialized training or receive professional certifications.

- Graduates of the computer engineering program will appreciate the preparation received in the program as it relates to their careers and their roles in society.

**Experiential Education**

Growth and learning also happen outside the classroom. It happens in labs working alongside professors and graduate students. It happens on student design teams in the capstone design courses. It happens on cooperative education rotations and internships with companies all over the country. It happens by competing in student robot competitions. There are also numerous education abroad programs.

The Engineering Career Development Office can assist you with developing job, co-op and internship search skills, participation in education abroad programs, participation in research endeavors and building career networks so you can secure a rewarding career in your chosen field of study.

**Student Involvement**

Learning also happens in student organizations, on field trips and on community service projects. UK students can get involved with the Institute of Electrical and Electronics Engineers, Eta Kappa Nu, Tau Beta Pi, the Society of Women Engineers, Engineers Without Borders and others.

FOR MORE INFORMATION, VISIT THESE WEBSITES:

- Computer Engineering: [www.engr.uky.edu/ece](http://www.engr.uky.edu/ece)
- College of Engineering: [www.engr.uky.edu](http://www.engr.uky.edu)
- University of Kentucky: [www.uky.edu](http://www.uky.edu)
- Admissions: [www.uky.edu/admissions](http://www.uky.edu/admissions)
- Visit Engineering: [www.engr.uky.edu/visit](http://www.engr.uky.edu/visit)
- Scholarships: [www.uky.edu/scholarships](http://www.uky.edu/scholarships)
**Computer Engineering Curriculum Sample**

This is a sample list of classes a student will take to pursue a degree in computer engineering. In addition to the computer engineering curriculum, students must complete the pre-engineering 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 websites for details on specific paths.

**Freshman Year**
- Creativity and Design in EE 3
- Calculus I and II 8
- Composition & Communication I and II 6
- Chemistry I 4
- Physics I and lab 5
- Intro to Computer Programming 3
- Design of Logic Circuits 3
- UK Core course 3
  **Total hour** 35

**Sophomore Year**
- Intro to Program Design 4
- Logical Design Lab 2
- Calculus III and IV 7
- Circuits I 4
- Physics II and lab 5
- Discrete Mathematics 4
- Intro to Software Engineering 3
- Microcomputer Organization 3
- UK Core course 3
  **Total hours** 35

**Junior Year**
- Circuits II 3
- Electrical Engineering lab 2
- Algorithm Design 3
- Intro to Embedded Systems 3
- Engineering Statistics 3
- Intro to Electronics 3
- Intro to Operating Systems 3
- Advanced Computer Architecture 3
- Signals and Systems 3
- Technical elective 3
- UK Core course 3
  **Total hours** 32

**Senior Year**
- Compilers for Algorithmic Languages 3
- EE Capstone Design I and II 6
- Technical electives 9
- Supportive electives 6
- UK Core course 3
  **Total hours** 30

**Honors & Scholarship Opportunities**

Computer engineering students may also choose to participate in the UK Honors Program. The College of Engineering, along with the Gatton College of Business and Economics, offers the Scholars in Engineering and Management (SEAM) program and the joint BS/MBA program.

The College of Engineering awards scholarships to freshman, continuing and transfer students. Most engineering scholarships are partial awards ranging from $500 to $5,000 per year and the average first year scholarship ranges from $1,500 to $3,000. Engineering students are also eligible to apply for a range of prestigious university scholarships.

**Career Prospects in Computer Engineering**

Computer engineers understand how to design and make the hardware that helps our newest intelligent tools, machines, houses and cars get smarter, smaller, cheaper, faster and safer.

Computer engineers work in every industry you can think of: film and television, aerospace, automotive, business machines, professional and scientific equipment, computers and electronics, communications and medical technology to name a few. They work in public utilities, for NASA, at the National Institutes of Health, at the Department of Defense, for consumer electronics companies, and much, much more. As researchers, they study everything from fuel cells to nanotechnology.

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**The University of Kentucky’s Computer Engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.**

**Revised August 2015.** Information subject to change. For the most up-to-date information on the UK College of Engineering, visit www.engr.uky.edu.