

COMPUTER SCIENCE



Computer scientists identify and solve computational problems in all areas of modern life. They use a combination of technical skills and creativity to design and build software, formulate solutions to computing problems and invent new algorithms and better ways of using computers. The discipline of computer science offers many challenging, interesting and socially meaningful careers that appeal to a diverse range of people. Computer scientists are not only employed by software companies, but also by health care companies, government agencies, educational institutions and more.

FOR MORE INFORMATION, VISIT THESE WEBSITES:

Computer Science: www.cs.uky.edu

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

Computer Science Curriculum Sample

This is a sample list of classes a student will take to pursue a degree in computer science. As part of the computer science 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 science 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

Intro to Software Engineering Techniques	3
Design of Logic Circuits	3
Calculus III	4
Discrete Mathematics	4
Systems Programming	3
Algorithm Design and Analysis	3
Technical Elective	3
Science Elective	3
UK Core Courses	6
Total hours	32

Junior Year

Intro to Computer Networking	3
Intro to Numerical Methods or Matrix Algebra	3
Logic and Theory of Computing	3
Engineering Statistics	3
Computer Science Electives	12
Natural Science Elective	3
Technical Elective	3
UK Core Course	3
Total hours	33

Senior Year

Software Engineering for Senior Project	3
Senior Design Project	3
Computer Science Electives	6
Technical Electives	6
Free Electives	10
UK Core Course	3
Total hours	31

Pursuing Computer Science at UK

As a computer science major, you will be taught by professors who are recognized leaders in their respective fields, and are readily available both inside and outside the classroom to discuss course material, emerging topics of research and the computing profession. Our faculty members have expertise in computing foundations, algorithms, networking, systems, data mining, software engineering and artificial intelligence. Faculty members who recently joined our department bring additional strength in modern computer science topics such as machine learning, big data, mobile computing, security and cyber-physical systems.

Career Prospects in Computer Science

Worried about what you will do after graduation? Good news! According to the Bureau of Labor Statistics, computer occupations will constitute 57% of all job openings in STEM (science, technology, engineering and mathematics) fields from 2012-2022. The Bureau of Labor Statistics has also projected that employment of computer software engineers and computer programmers will increase much faster than the average for all occupations—around 24% between 2016 and 2026. Related occupations, such as information technology managers, have similar prospects for growth.

Undergraduate Research in Computer Science

Students are encouraged to excel through participation in summer research programs, workshops, programming, hackathon events, and undergraduate research opportunities with faculty in their labs. Some examples of projects students work on include artificial intelligence, bioinformatics, medical informatics, networking, natural language processing and computational research for humanities. Undergraduate research also provides students with breadth and depth, making them competitive for nationwide scholarships, recognition and careers.

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

Revised August 2019. Information subject to change. For the most up-to-date information on the UK College of Engineering, visit www.engr.uky.edu.