Computer Science

EECS Department
The Electrical Engineering and Computer Science (EECS) Department at WSU offers undergraduate degrees in electrical engineering, computer engineering and computer science. EECS offers a Master of Science degree in computer science, electrical engineering, and a computer networking, and a doctoral degree in electrical engineering and computer science. The EECS Department came into existence in 2008 as a result of the merger of the Electrical and Computer Engineering Department and the Computer Science Department. As a result of this reorganization, the computer science program was moved from the Fairmount College of Liberal Arts & Sciences to the College of Engineering.

Computer Science
The professional organization of computer scientists defines computer science as “the systematic study of algorithmic processes that describe and transform information – their theory, analysis, design, efficiency implementation, and application.” Underlying all computing are the fundamental questions: “What can be automated?” and “How can the automation best be accomplished?”

Computer Science at WSU
The computer science program at WSU is accredited by ABET. The undergraduate program in computer science allows you to take a broad array of technical electives in computer science, computer engineering, and computer networking. In your senior year, you will work with a team of students on a two-semester real world project under the supervision of a faculty member. These projects are conducted in such a manner as to prepare you for a professional career with an emphasis on those skills required of computer science professionals.

Career Opportunities
Opportunities for computer science graduates are abundant in our modern, technologically based society. The computer science graduate is qualified for many entry positions in business, industry, education, and government as a result of the graduate’s broad technical background. A computer science degree opens the door to a satisfying and rewarding career. Computer science graduates have the potential to shape the future of society through creative problem solving, design, innovation, and discovery.

Engineer of 2020
All graduates of the College of Engineering are required to complete three of the following six activities: undergraduate research, cooperative education or internship, service learning, study abroad or global learning, leadership and multidisciplinary education. These requirements were made in response to recommendations by the National Academy of Engineering on the future needs for engineering graduates.

Cooperative Education Program
There are many opportunities for EECS students to obtain valuable experience through the WSU Cooperative Education program. EECS students currently participate in the co-op program at Bombardier-Learjet, Cessna, Hawker Beechcraft, Integra Technologies, NetApp, Netvision Technologies, Qualcomm and many more. For information about the co-op program, contact the Career Development Center at (316) 978-3688.

Advising
You will be assigned an EECS department advisor who will help you plan your course of study. It is important that you complete Calculus I, the EECS department’s Introduction to Programming course, and Introduction to Digital Design as soon as possible, since they are prerequisites for many EECS courses.

Laboratory and Computer Facilities
At Wichita State, you will have access to modern electrical, electronic, and computer laboratories. A local area network connects the department’s computers to the computers in other departments, the rest of the university and the Internet.

Related Opportunities
As a computer science student, you are encouraged to participate in the student chapter of the Association of Computing Machinery. If you are eligible, you may be invited to join several academic honor societies including Eta Kappa Nu, Omicron Delta Kappa, Phi Kappa Phi, and Mortar Board.
Education Requirements

Basic Skills (9 hours minimum)
Must be completed in the first 48 college hours and a C or better.
- College English Composition (Eng. 100 or 101 and 102) - 6 credit hours
- Public Speaking (Communication 111) - 3 credit hours

Mathematics and Natural Sciences
- Calculus I and II - 10 credit hours
- Discrete Structures I and II - 6 credit hours
- Physics for Scientists I and II - 8 credit hours
- General Chemistry I - 5 credit hours
- Linear Algebra - 3 credit hours
- Engineering Probability & Statistics I - 3 credit hours

Fine Arts, Humanities, and Social and Behavioral Sciences (18 hours minimum)
- One introductory course from a fine arts discipline - 3 credit hours
- One introductory course from a humanities disciplines - 3 credit hours
- One introductory course from a social and behavioral sciences discipline - 3 credit hours
- One introductory course from a second social and behavioral sciences or humanities discipline - 3 credit hours
- One further study course from one of the two disciplines in the division, humanities or social and behavioral sciences, in which two introductory courses are taken - 3 credit hours
- Philosophy 354 Ethics and Computers - 3 credit hours

Major Requirements
- Introduction to Programming - 4 credit hours
- Formal Logic - 3 credit hours
- Data Structures - 4 credit hours
- Introduction to Digital Design - 3 credit hours
- Engineering Economy - 3 credit hours
- Design and Analysis of Algorithms - 4 credit hours
- Assembly Language Programming - 3 credit hours
- Introduction to Computer Architecture - 3 credit hours
- Programming Paradigms - 3 credit hours
- Object-Oriented Programming - 3 credit hours
- Computer Networks - 3 credit hours
- Programming Language Concepts - 3 credit hours
- Operating Systems - 3 credit hours
- Introduction to Database Systems - 3 credit hours
- Introduction to Software Engineering - 3 credit hours
- Design Projects I and II - 4 credit hours
- Technical Electives - 14 credit hours

Faculty

Visvakumar Aravinthan (PhD). Power Systems.
Abu Asaduzzaman (PhD). Computer Architecture.
Rajiv Bagai (PhD). Data Bases, Programming Languages.
Animesh Chakravarthy (PhD). Dynamics and Controls.
Zheng Chen (PhD). Dynamics and Controls.
Ali Eslam (PhD). Error Correcting Codes.
Yanwu Ding (PhD). Signal Processing.
Kiyun Han (PhD). Antennas and Electromagnetics.
Keenan Jackson (MS). Programming Languages. Lecturer
Murtuza Jadhialwa (PhD). Information Assurance and Security.
Huzefa Kagdi (PhD). Software Engineering.
Preethika Kumar (PhD). Quantum Computing.
Hyuck M. Kwon (PhD). Communications Systems.
Prakash Ramanan (PhD). Algorithms, Data Base Systems.
Manira Ran (MS). FPGA Programming.
Kaushik Sinha (PhD). Machine Learning and Data Mining.
Steven R. Skinner (PhD). Optics.
Yi Song (PhD). Wireless Networks.
Perlekar Tamtam (PhD) Power Systems.
Pu Wang (PhD). Modeling and Optimization of Data Networks.

For more information

If you have further questions or would like to schedule a campus visit, please contact the Office of Admissions.

Marcus Welcome Center
Office of Admissions
1845 Fairmount
Wichita, KS 67260-0124
wichita.edu/admissions
wichita.edu/visit

KSDegreeStats.org