Computer Engineering

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 Engineering at WSU
The computer engineering program at WSU is accredited by ABET, the accrediting body for all engineering and related programs. The undergraduate program in computer engineering allows you to take a broad array of electives or concentrate your electives in hardware related courses, computer networking courses or courses from the electrical engineering areas. 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 engineering professionals.

Students have the option of earning a second degree in electrical engineering, if a student chooses to do so, by selecting technical electives carefully, both degrees can be earned with a minimum of an additional 30 hours of course work.

Career Opportunities
The demand for computer engineering graduates continues to increase. The computer engineering graduate is qualified for entry positions in a large number of industries and governmental organizations as a result of the graduate's broad technical background. A computer engineering degree opens the door to a satisfying and rewarding career. Computer engineers 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 Intro to Programming course, and Intro to Digital Design as soon as possible, since they are prerequisites for many EECS courses. The computer engineering program is designed to involve the student in design from their first semester through graduation.

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
You are encouraged to participate in the student branch of the Institute of Electrical and Electronics Engineers, Inc. (IEEE), Association of Computing Machines (ACM), the Engineering Council, and many other student organizations. A chapter of Eta Kappa Nu, the national honor society for electrical and computer engineering students is located at WSU.
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
- Differential Equations - 3 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
- Discrete Structures 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
- Statics - 3 credit hours
- Circuits I and II - 7 credit hours
- Engineering Economy - 3 credit hours
- Thermodynamics - 3 credit hours
- Introduction to Digital Design - 4 credit hours
- Assembly Language Programming - 3 credit hours
- Data Structures - 4 credit hours
- Object Oriented Programming - 3 credit hours
- Operating Systems - 3 credit hours
- Computer Networks - 3 credit hours
- Electronic Circuits I - 4 credit hours
- Introduction to Computer Architecture - 3 credit hours
- Microprocessor Based System Design - 4 credit hours
- Electrical Design Projects I and II - 4 credit hours
- Technical Electives - 11 credit hours

**Faculty**
- Rajiv Bagai (PhD). Data Bases, Programming Languages.
- Animesh Chakravarty (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
- Preethika Kumar (PhD). Quantum Computing.
- 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 Date 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

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For more information on Computer Engineering at WSU visit wichita.edu/engineering or call (316) 978-3425.