

# 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. The EECS Department offers master of science degrees in computer science, electrical engineering, and computer networking and a doctoral degrees in electrical engineering. The EECS Department came into existence in the 2008 fall semester 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 Fairmont College of Liberal Arts and 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?”

## The Computer Science Program at WSU

Upon the incorporation of the computer science program into the College of Engineering, a decision was made to seek ABET accreditation for computer science program. ABET is the accrediting body for all engineering and related programs. The program has been structured to meet the requirements of ABET.

The undergraduate program in computer science allows you 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, study abroad or global learning, leadership, and multidisciplinary education. These requirements have been made in response to recommendations by the National Academy of Engineering on the future of society and the profession.

## 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, CCH, Cessna,

Hawker Beechcraft, Integra Technologies, LSI Logic, Netvision Technologies, Qualcomm, System Soft, and many more. For information on the co-op program, contact the co-op office at (316) 978-3688.

## Advising

You will be assigned an EECS department adviser who will help you plan your course of study and will outline specific requirements for degree completion. It is important that you complete Calculus I (Math 242), the EECS department’s C Language course (CS211), and Introduction to Digital Design (CS 194) 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, optical, computer and computer networking 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 Omicron Delta Kappa, Phi Kappa Phi, and Mortar Board.

## EECS Faculty

- Abu Asaduzzaman (PhD., Florida Atlantic University). Computer architecture.
- Rajiv Bagai (Ph.D., University of Victoria). Data Bases, Programming Languages.
- Animesh Chakravarthy (PhD., Massachusetts Institute of Technology). Dynamics and controls.
- Yanwu Ding (Ph.D., McMaster University), Signal Processing.
- Keenan Jackson, (M.S., Wichita State University). Programming Languages.
- Neeraj Jaggi (Ph.D., Rensselaer Polytechnic Institute). Wireless Networks, Sensor Networks.
- Ward T. Jewell (Ph.D., Oklahoma State University). Power Systems.
- Preethika Kumar (Ph.D., Wichita State University). Quantum Computing.
- Hyuck M. Kwon (Ph.D., University of Michigan). Communications Systems.
- Vinod Nambodiri (Ph.D., University of Massachusetts). Mobile Computing, Wireless Networks.
- Ravi Pendse (Ph.D., Wichita State University). Director of Advanced Networking Research Center, Associate VP for Academic Affairs and Research. Computer Networking.
- Shalini Prasad (Ph.D., University of California, Riverside). Bio-micro electrical mechanical systems.
- Prakash Ramaman (Ph.D., University of Illinois). Algorithms, Data Base Systems.
- M. Edwin Sawan (Ph.D., University of Illinois-Urbana). Control Theory.
- Steven R. Skinner (Ph.D., University of Iowa). Optics.
- Bin Tang (Ph.D., Stony Brook University). Data Insensitive Sensor Networks.
- Asrat Teshome (Ph.D., Cornell University). Power Systems and Control Theory.
- John M. Watkins (Ph.D., The Ohio State University). Control Systems.
- Paul K. York, (Ph.D., Texas A&M University). Professor Emeritus and Advisor.

## For More Information

To receive more information, or to arrange a campus visit, contact:  
Office of Admissions  
Marcus Welcome Center  
Wichita State University  
1845 Fairmount  
Wichita, Kansas 67260-0124  
Telephone (316) 978-3085  
Toll-free (800) 362-2594  
[www.wichita.edu](http://www.wichita.edu)

For more specific program information contact:  
Electrical Engineering and Computer Science Department  
Wichita State University  
1845 Fairmount  
Wichita, Kansas 67260-0044  
Phone (316) 978-3415  
[eeesdesk@cs.wichita.edu](mailto:eeesdesk@cs.wichita.edu)  
<http://webs.wichita.edu/?u=ece>

The University reserves the right to revise or change rules, charges, fees, schedules, courses, requirements for degrees, and any other regulations affecting students whenever considered necessary or desirable.

General Education Requirements	
Basic Skills (9 hours minimum) Must be completed in the first 48 college hours with a C or better	Minimum number of semester hours
<ul style="list-style-type: none"> <li>• College English Composition (English 100 or 101 and 102)</li> <li>• Public Speaking (Communication 111)</li> </ul>	6 3
Fine Arts, Humanities, and Social and Behavioral Sciences (18 hours minimum)	
<ul style="list-style-type: none"> <li>• One introductory course from a fine arts discipline</li> <li>• One introductory course from a humanities discipline</li> <li>• One introductory course from a social and behavioral sciences discipline</li> <li>• One introductory course from a second humanities discipline or a second social and behavioral sciences discipline</li> <li>• 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</li> <li>• Philosophy 354: Ethics and Computers</li> </ul>	3 3 3 3 3
Mathematics and Natural Sciences	
Calculus I and II	10
Discrete Mathematics I and II	6
University Physics I and II	8
General Chemistry I	5
Linear Algebra	3
Probability and Statistics	3
Professional Course Requirements	
Computing/Programming in C	4
Formal Logic	3
Introduction to Digital Design	4
Engineering Economy	3
Data Structures and Algorithms I and II	6
Assembly Language Programming	3
Introduction to Computer Architecture	3
Programming Paradigms	3
Object-Oriented Programming	3
Algorithm Design Methods	3
Computer Networking	3
Programming Language Concepts	3
Operating Systems	3
Introduction to Database Systems	3
Introduction to Software Engineering	3
Design Projects I and II	4
Technical electives	12
<b>General Education Course Requirements</b>	<b>62 Hours</b>
<b>Professional Course Requirements</b>	<b>66 Hours</b>
<b>Grand Total Hours for BSCS</b>	<b>128 Hours</b>