

# COMPUTER SCIENCE

School of Engineering • Department of Computer Science

## Undergraduate Degrees Available at SIUE

- Bachelor of Science (ABET Accredited)
- Bachelor of Arts



## Why Computer Science?

The bachelor's degree programs in Computer Science prepare students for challenging careers in software design and development. Information technology continues to advance at a rapid pace, and computer scientists are needed in every field -- business, cyber-security, mobile applications, networking, medicine, game & movie entertainment, education, robotics, military -- every corner of our society is impacted by computer applications. Computing will unlock our human potential, it will help provide solutions to global energy & environmental problems, and take us to places in our solar system and beyond. This is an exciting time in the technology revolution and computer scientists will lead the way.

## Computer Science at SIUE

In addition to developing a core understanding of programming, computer hardware, user interface design, project management, problem solving, and operating systems, students in the Computer Science degree programs participate in a variety of team projects. Elective courses cover a broad spectrum of advanced topics, including networks, database management, graphics, robotics, game design, mobile applications, and artificial intelligence.

## Career Outlook

The demand for graduates in Computer Science remains high with urgent needs for software development to keep pace with both hardware advances and the needs of businesses and consumers. The emphasis on practical experience in the SIUE degree programs in Computer Science, including a two-semester team-based senior assignment, has been particularly appealing to potential employers.

The Career Development Center provides many services designed to help students and alumni find jobs or change careers. The Center's Cooperative Education and Internship Program actively assists Computer Science students in gaining career-related work experience while attending SIUE.

## Admission Requirements

Students admitted to programs offered in the School of Engineering shall have met the University admission requirements and the following additional School of Engineering requirements:

- completion of all Academic Development courses required by the University
- completion of any courses required to address School of Engineering high school deficiencies
- eligibility to enroll in MATH 125 - Pre-Calculus at a minimum
- maintenance of a cumulative grade point average of at least 2.0 (on a 4.0 scale)

## Exit Requirements

Satisfactory completion of all university, program and departmental requirements as outlined in the undergraduate catalog.

## Other Engineering Programs at SIUE

Civil Engineering\*, Computer Engineering, Construction Management, Electrical Engineering\*, Industrial Engineering\*, Manufacturing Engineering, Mechanical Engineering\*

\* graduate program also available



## Faculty

### Dennis J. Bouvier, Ph. D. (Acting Chair)

1994, University of Louisiana at Lafayette

### Bryon K. Ehlmann, Ph. D.

1992, Florida State University

### Hiroshi Fujinoki, Ph.D.

2001, University of South Florida

### Steve Klein, M.S.

1998, Southern Illinois University Edwardsville

### Gary R. Mayer, Ph. D.

2009, Arizona State University

### Andreas Stefik, Ph.D.

2008, Washington State University

### Socratis Tornaritis, M.S.

1992, Southern Illinois University Edwardsville

### Jerry B. Weinberg, Ph.D.

1996 Vanderbilt University

### William W. White, Ph.D.

1989, Ohio State University

### Xudong W. Yu, Ph.D.

2000, Vanderbilt University

## Sample Four-Year Curriculum for BS Degree

(See Undergraduate Catalog for Additional Information and information on BA and minor degrees)

	FALL	SPRING
YEAR 1	<b>CS 111</b> Concepts of Computer Science (3) <b>CS 140</b> Introduction to Computing I (4) <b>ENG 101</b> English Composition I (3) <b>MATH 150</b> Calculus I (5) SPC 103 (IGR) Interpersonal Communication Skills (3) Total hours 18	<b>CS 150</b> Introduction to Computing II (3) <b>ENG 102</b> English Composition II (3) FL 106, IME 106, <b>PHIL 106</b> , or MATH 106 (3) <b>MATH 152</b> Calculus II (5) <b>MATH 224</b> Discrete Mathematics (3) Total hours 17
YEAR 2	<b>CS 240</b> Introduction to Computing III (3) CS 275 Interaction Programming (3) <b>Laboratory Science Sequence</b> (5)* Intro Fine Arts & Humanities (3) Intro Social Sciences (3) Total hours 17	CS 312 Intro to Computer Org & Architecture (3) ECE 282 Digital Systems Design (4) <b>Laboratory Science Sequence</b> (5)* Intro Fine Arts & Humanities or Social Sciences (3) Total hours 15
YEAR 3	CS 321 Human-Computer Interaction Design (3) CS 340 Algorithms and Data Structures (3) MATH Elective (3) <b>Laboratory Science</b> (5)* Total hours 14	CS 325 Software Engineering (3) CS 314 Operating Systems (3) CS Elective I (3) STAT 380 Statistics for Applications (3) Dist Fine Arts & Humanities (3) Total hours 15
YEAR 4	CS 330 Programming Languages (3) CS 425 Senior Project: Software Design (3) CS Elective II (3) CS Elective III (3) Interdisciplinary Studies Course (IS) (3) Total hours 15	CS 499 Senior Project: Software Implementation (3) CS Elective IV (3) CS Elective V (3) Dist Social Sciences (3) International Issues/International Culture (II/IC) (3) Total hours 15

\* **PHYS 151/151L + 152/152L**, or **CHEM 121A/125A + 121B/125B**, or CHEM 131/135 + 121B/125/B and one additional lab course from **BIOL150**, **PHYS 151/151L**, **CHEM 121A/125A**, **PHYS 201/201L**

**TRANSFER STUDENTS** Maximize your transfer experience - complete the **bolded** courses/requirements pre-transfer **AND** satisfy the Illinois Articulation Initiative (IAI) General Ed Core or receive an AA, AS, or AAT (early childhood, special ed, or math) degree from an IAI community college. If 'Minor' requirements are shown, discuss careful course selection with the academic advising contact listed. Transfer Credit Equivalency Guides are located at [siue.edu/transfer/](http://siue.edu/transfer/)

BA degree requires two semesters of same foreign language.

### Academic Advising Information

Engineering Student Services  
 School of Engineering  
 Southern Illinois University Edwardsville  
 Campus Box 1806  
 Edwardsville, IL 62026-1806  
 618.650.5300  
[www.siue.edu/engineering/studentsservices](http://www.siue.edu/engineering/studentsservices)

### Contact Info

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 School of Engineering  
 Southern Illinois University Edwardsville  
 Campus Box 1656  
 Edwardsville, IL 62026-1656  
 618.650.2386  
[www.cs.siue.edu](http://www.cs.siue.edu)

