



# COMPUTER SCIENCE

## UW-EAU CLAIRE UNDERGRADUATE FACT SHEET

The field of computer science is concerned with a wide range of topics involving the development and applications of computing. The study integrates concepts from mathematics, science and engineering into a coherent study of computational processes.

### WHY STUDY COMPUTER SCIENCE?

- The U.S. Department of Labor projects that seven of the 10 fastest growing occupations over the next 10 years will be in the information technology field.
- Learn object-oriented programming – the latest innovation in computer problem solving and development of new languages.
- Enhance your ability to think creatively, logically and quantitatively.
- Strengthen your planning, teamwork and leadership skills through group projects.

### THE EAU CLAIRE ADVANTAGE

- An innovative, nationally recognized curriculum in which students gain the breadth and depth of knowledge needed to be successful in business, industry and graduate school. The computer science program is nationally accredited by the Computing Accreditation Commission of ABET, Inc.
- The computer science department received a \$4.5 million gift from David and Marilyn Karlgaard in 2002. The gift is supporting financial incentives to outstanding faculty, scholarships for students and technology updates.
- The department has received two grants from the National Science Foundation in the last six years in

recognition of its innovative curriculum. The department also has three times been nominated for the UW System Outstanding Teaching Department.

- Five new faculty have joined the department in recent years, bringing with them interests and expertise in areas such as computer graphics, vision, robotics, computer architecture, computer security, distributed systems, networking, theory of computation, artificial intelligence and computational science. They join faculty members who are excellent teachers with expertise in databases, operating systems, software engineering and user interface design.

### UW-EAU CLAIRE FACTS AT A GLANCE

- Location: Eau Claire, Wis.; city pop. 64,000, metro. pop. 151,000
- Average enrollment: 10,500
- Undergraduates: 10,063
- Graduate students: 503
- International students: 124
- Multicultural students: 485
- Average men-women ratio: 2-to-3
- Students who spend at least a semester studying abroad: 24%
- Students doing undergraduate research with faculty/staff: 710+
- ACT composite average: 24+
- Average high school rank: 77%
- Average class size: 28
- Faculty-student ratio: 1-to-20
- Computers-student ratio: 1-to-9
- Student organizations: 224
- Walk across campus: About 10 minutes
- Nickname: Blugolds
- Colors: Navy and old gold

- A state-of-the-art software design lab opened in the fall of 2002. This new lab contains the latest computing technologies for developing and implementing group software design projects.
- A computer security lab opened in the spring of 2003. This new lab contains the latest computer security software tools for gaining practical experience in network security attacks and defense.
- An in-depth, object-oriented programming sequence that includes a three-course introduction to object-oriented programming
- A variety of upper division electives including topics such as computer security and information warfare, wireless computing, data mining, computer animation, cryptography, digital system design, microprocessor system design and computational biology.
- Well-equipped laboratories – students have access to over 80 machines, ranging from Pentium 4 Windows XP systems to Linux workstations. All are part of the UW -Eau Claire local area network running fast Ethernet connections (100 Mb) to provide an integrated environment.
- Students who are interested in graduate school or who have an aptitude for research can enroll in a senior capstone sequence, CS 482 (Collaborative Research I) and CS 492 (Collaborative Research II), where they will work directly with a faculty member on research topics.
- UW-Eau Claire is the UW System Center of Excellence for undergraduate collaborative research.
- Internships provide on-the-job experience, a paycheck and course credit. The internships are competitive so you must interview for positions.

- Faculty and staff set aside time to answer questions and work with students, and classes are taught by professional faculty, not graduate students.

## CAREER OPTIONS

Work as a software engineer, computer engineer, programmer/analyst, systems programmer, engineering software support personnel, computer system engineer or Internet software developer. Develop and/or modify computer systems software and hardware. Work with computer operating systems and utilities.

## UNDERGRADUATE PROGRAMS

The UW-Eau Claire department of computer science offers:

### Majors

- Computer Science\*
- Computer Engineering\*
- Software Engineering
- Geographic Information Systems\*  
\*comprehensive major; requires no minor.

### Minors

- Computer Science
- Computational Science
- Web Design and Development

## HIGH SCHOOL PREPARATION

- Students should enjoy the challenge of completing complex assignments and be able to solve simple and sophisticated problems. They also should be willing to spend time analyzing problems independently or collaboratively as a project may require.
- A strong mathematics background is essential. Students are required to show a college algebra (Math 110) competency before taking CS185 (see Freshman Course work).
- All students who enroll at UW-Eau Claire are required to have a minimum of 17 college preparatory units including:
  - 4 years of English (at least 3 composition and literature)

- 2 years of a single foreign language
- 3 years of math (algebra, geometry, 1 advanced college preparatory math)
- 3 years of natural science
- 3 years of social science (1 must be world or American history)
- 2 additional units in the areas already mentioned or other academic areas

## FRESHMAN COURSE WORK

### Sample First Year

Most students take 30 credits (15 per semester) their freshman year.

Computer science majors typically take the following courses their first year:

COURSE#	TITLE	CREDIT
CS 185	Foundations of Computer Science*	4
CS 245	Fundamentals of Object Oriented Programming**	4
MATH 114	Calculus I	4
	Freshman Experience course	
	General electives	

\*An introduction to computer science. In CS 185, students study computer architecture, so they understand the basics of computer hardware; operating systems, so they understand the work that is going on behind the scenes; databases, so they understand the fundamentals of a common application used in computing; and Web design and development, so they can quickly begin to apply their skills in this, the most visible, of computing technologies.

\*\*An introduction to computer programming. In CS 245, students use an object-oriented approach with Java as its programming language. Java is a language developed for use on the Internet, and it provides interesting features such as graphics and connections to Internet sites.

## FOR MORE INFORMATION

For more information about UW-Eau Claire's programs in computer science, contact:

### COMPUTER SCIENCE

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For more information about campus including costs, housing, admission requirements and tours:

### ADMISSIONS

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