In our global, digital economy, there are few facets of today’s world that are not supported by computer technology. Computer science is the study of principles, applications, and technologies of computing and computers. It involves the study of data and data structures and the algorithms to process these structures; of principles of computer architecture—both hardware and software; of problem-solving and design methodologies; of computer-related topics such as numerical analysis, operations research, and artificial intelligence; and of language design, structure, and translation techniques.

The discipline ranges from theoretical studies of algorithms to practical problems of implementation in terms of computational hardware and software.

There is a critical shortage of computer science professionals, with a projected one million more jobs than qualified graduates by 2020. For students interested in a field that is constantly evolving and has infinite potential, CS stands out as a flexible and dynamic field of study.

**Computer Science Careers**

Although many CS graduates are hired to develop application software for businesses, the following list is made up of positions generally reserved for those CS degrees:

- Systems Engineer $46,384 - $103,638
- Video Game Programmer $40,000 - $100,493
- .NET Software Developer $45,519 - $93,664
- Embedded Sys. Engineer $58,560 - $112,848
- Software Engineer $64,386 - $122,769
- Sys. Software Developer $61,000 - $143,300
- iOS developer $53,408 - $122,080
- Interaction designer $50,380 - $118,710
- UI/UX architect $55,081 - $120,278

Salary figures were obtained from Payscale (http://www.payscale.com/).

**The ISU Advantage**

While many CS graduates enter the workforce as systems software developers, even more are hired across the nation by businesses to build applications software. As such, CS graduates require a better knowledge of the business context of the systems being developed than they would acquire if limited to only CS courses.

Our CS majors take courses in Systems Analysis and Design and Database Design in which they gain exposure to concepts like business rules, varied stakeholders, and business requirements elicitation. They also learn the importance of accounting and financial data, and gain a better awareness of the importance of written and oral communication.

CS graduates from ISU are better prepared to develop both traditional systems software and business application software.
**CLASS ENVIRONMENT**

Classes at ISU tend to be small, particularly in the upper-division major-field courses. Core classes run 25-45 students while major field courses average 10-30 students. ISU students are provided easy access to expert guidance in their studies. Unlike many universities, classes are taught by professors rather than teaching assistants. Professors are highly accessible and enjoy working closely with individual students to help them develop their skills and knowledge. Students appreciate the opportunity to establish close relationships with professors who are dedicated to helping students align their educational goals with their career objectives.

The ICS department has joined the National Center for Women & Information Technology Academic Alliance to encourage more women to participate in computing and technology.

**COMPUTER SCIENCE**

Computer science focuses on technical and theoretical problems. A degree in computer science provides students with knowledge of computer operating systems, coding, and computer architecture.

Computer science emphasizes theory, algorithms, programming methodology and languages, and computer elements and architecture. Other critical areas include software engineering, artificial intelligence, parallel computation, distributed computation, computer-human interaction, computer graphics, operating systems, and numerical and symbolic computation.

Computer science students take courses in the design and implementation of software systems and the algorithms used to solve real world problems in business, industry, and engineering. Our curriculum focuses on implementing large, complex, high-performance, secure, asynchronous systems that require complex algorithms and intricate data structures including network, operating system, compiler, graphics and simulation packages.

Our curriculum incorporates 30 credit hours of math and science including differential and integral calculus, linear algebra, discrete math, and statistics.

**COMPUTER SCIENCE DEMAND**

As technology plays an increasingly important role in almost every aspect of society, the demand for computer science skills is increasing at a faster pace than the number of graduates available.

Graduates in computer science are far more likely to land good-paying jobs, have exponential career growth opportunities, and possess bright career prospects, both in terms of return-on-investment and work-flexibility (Vernon Computer Resource).

According to the Bureau of Labor Statistics, employment in computing-related areas is projected to grow 11 percent from 2014 to 2024.

**TUITION WAIVERS**

Computer science majors are qualified to receive Non-resident Tuition Waivers for Technology Majors, which are used to recruit top non-resident students to ISU. Any student majoring in CS is eligible to receive the in-state tuition rate.