

## **GRADUATE CATALOG (proposed, with major changes highlighted)**

### **COMPUTER SCIENCE**

Contact: [Graduate Program Director](#)

[Department's Home Page](#)

### **MASTER OF SCIENCE**

The Department of Computer Science in the School of Engineering offers a Master of Science degree in Computer Science. The CS program embodies both applied and theoretical components, but focuses solidly on applied areas of computer science such as software engineering, computer system architectures, data communications, computer networks, and artificial intelligence. The program is designed to meet the needs of both full-time and part-time students. In order to accommodate those students that work full time, all core courses and the majority of elective courses are offered in the evening.

Students who complete the degree program will be prepared for positions such as software developer, consultant, systems programmer, project leader, application software specialist or for advanced graduate work.

In addition to the master's degree, the CS program offers specialized course sequences for those who are not pursuing an advanced degree, but wish to update their knowledge of computing in specific areas.

### **ADMISSION**

The requirements for admission to the graduate major in computer science are:

1. A bachelor's degree from an accredited college or university. An undergraduate major in science, engineering, mathematics, or computing is desirable, but individuals with other backgrounds who are interested in the program are invited to discuss their career objectives with the program director.
2. An undergraduate grade point average of 2.75 (A=4.0) or above.
3. GRE general test scores taken within 5 years from the term for which admission is sought. An applicant should have a minimum of 650/800 in the Quantitative section. Under some circumstances this requirement may be waived in lieu of extensive work experience in the computer science field. To apply for a GRE waiver, an applicant should submit letters of recommendation and evidence of work experience in the field. Completion of prerequisite and required courses with grades of B or better within two years prior to the term for which admission is sought may also be considered in place of the GRE scores as supporting eligibility to enter the program.



courses and 3 semester hours of MS project. The Final Exam option requires eight elective courses and successfully passing the Final Exam. At least 19 of the 34 hours must be 500-level courses or above. For the purposes of assessment, students are also expected complete 2 anonymous graduation surveys at the conclusion of their graduate program here. Students in the program must maintain a grade point average of at least 3.0 in all graduate courses. Any course in which a grade below C has been earned will not count toward the graduate degree.

#### Core Courses (10 hours)

CS 456-3 Advanced Algorithms

CS 500-1 Graduate Seminar in Computer Science

CS 514-3 Operating Systems

CS 516-3 Computer Architecture

#### Elective Courses

Twenty-four (24) hours is required for the Final Exam option; 21 hours together with 3 hours of CS596 is required for the MS Project option; 18 hours together with 6 hours of CS 599 is required for the Thesis option . Up to 6 hours of courses not listed below may be taken for graduate credit with the approval of the CS Program Director.

#### CS Elective Courses:

CS 423-3 Compiler Construction

CS 434-3 Database Management Systems

CS 438-3 Artificial Intelligence

CS 447-3 Networks and Data Communications

CS 454-3 Theory of Computation

CS 482-3 Computer Graphics

CS 525-3 Principles of Simulation

CS 530-3 Software and Systems Management

CS 534-3 Advanced Database Management Systems

CS 535-3 Software Engineering

CS 537-3 Introduction to Expert Systems

CS 547-3 Network Programming

CS 550-3 Object Oriented Design and Programming

CS 582-3 Advanced Computer Graphics

CS 583-3 Topics in Programming Languages

CS 584-3 Topics in Artificial Intelligence

CS 587-3 Topics in Computer Networking

CS 590-3 Topics in Computer Science

CS 595-3 Independent Study

CS 596-3 MS Project

CS 599-6 MS Thesis

A student may take one other elective course (see list below) from outside the CS department. He/she can take additional outside electives if the courses are considered part of the concentration as approved by the graduate program director.

Other Elective Courses:

ECE 438-3 Computer Vision

ECE 439-3 Digital Image Processing

ECE 577-3 Advanced Network Engineering

CMIS 540-3 Management of Information Systems Development

CMIS 565-3 Oracle Database Administration

## **EXIT REQUIREMENTS**

Thesis Option

The thesis will normally be completed during the last semester or two in the program, but selection of the advisory committee and **the approval of thesis proposal** must be completed before the final semester. The final examination will include an oral presentation of the thesis and an oral examination on the thesis conducted by the advisory committee.

## Non-thesis Option

Students must complete one of the following two options:

- A. Final Exam – This is a non credit exam, given once each semester (fall and spring), for students who have completed at least 21 hours of graduate credit. Refer to the Final Exam Guideline for additional information.
- B. MS Project (CS596) – This is a 3 credit hour elective course whose oral exam will serve as the MS exit exam. Please refer to the MS project document for additional information.

## COMBINED PROGRAM LEADING TO BACHELOR OF SCIENCE / MASTER OF SCIENCE DEGREE IN COMPUTER SCIENCE (3 + 2 program)

The Department of Computer Science offers a five-year program leading to the Bachelor of Science (BS) and the Master of Science (MS) degrees. Undergraduates with senior level status (at least 90 semester hours) and a grade point average of at least 3.0 (A = 4.0) overall may be admitted to the BS-MS program. They may then take 35 semester hours of graduate level courses (400- and 500-level) during their combined senior and graduate years. An application for degree-seeking status as a graduate student must be approved by the Graduate School and the Graduate Committee in Computer Science following the procedures described under “Admission.” A program outline must also be submitted for approval by Graduate Records and the director of the graduate program in computer science prior to enrollment in any courses to be included as a part of the master’s program. Official admission to the program and to status as a classified graduate student is made only after the award of the baccalaureate degree. In no case will a graduate degree be conferred before all requirements for both degrees have been completed.

---

© 2008, [Southern Illinois University Edwardsville](#) | Last modified on 04/15/08 10:36:38 | [Privacy Policy](#) | [Copyright Information](#) | [Contact SIUE](#) | [Emergency Notification](#) (e-Lert)

---

© 2008, [Southern Illinois University Edwardsville](#) | [http://www.siu.edu/graduate/catalog/ch2/computer\\_science.shtml](http://www.siu.edu/graduate/catalog/ch2/computer_science.shtml) | Last modified on 04/15/08 10:36:38