



UNIVERSITY OF
SOUTH CAROLINA.
UPSTATE

The USC UPSTATE Computer Science Faculty

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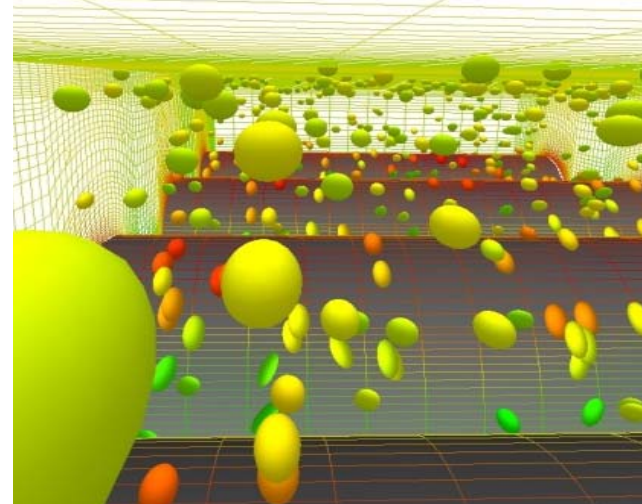
Michael R. Harper, *Instructor, Computer Science*
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M.S., Clemson University

Computer Science at the University of South Carolina Upstate

*Division of Mathematics
and Computer Science
2004-2005*



In the Division of Mathematics and Computer Science, students may pursue majors in computer science, computer information systems, computational mathematics, and mathematics. A rigorous curriculum and dedicated faculty prepare students to excel in careers and graduate study in their major fields of study.

The USC Upstate Computer Science Program

A comprehensive curriculum, strong faculty, and small classes combine to provide an excellent program for students who choose to major in computer science. Three degree programs are available: the Bachelor of Science in Computer Science, the Bachelor of Arts in Computer Information Systems, and the Bachelor of Science in Computational Mathematics.

The curriculum leading to a Bachelor of Science in Computer Science, recently accredited by the Accreditation Board for Engineering and Technology (ABET), provides the foundation necessary for continued study at the graduate level as well as knowledge and skills that may be used in careers in business and industry. In addition to this program, students may pursue majors in computer information systems and computational mathematics.



The computer science major requires the completion of the four-semester foundation sequence, assembler language programming, an additional programming language, , and 7 additional upper level computer science courses. The curriculum also requires 12 semester hours of laboratory science for science majors (with one 2-semester sequence), 18 semester hours of mathematics that include 3 semesters of calculus and a junior-level statistics course. A sample plan of study for the major follows.

The curriculum leading to a Bachelor of Arts in Computer Information Systems is designed to prepare programmers who have a foundation in business administration and enhanced communication skills. In addition to computer science courses that provide programming competency and knowledge of database principles, students study accounting, business information systems, and are required to complete 3 upper level courses in either business administration or English.



A networking lab facilitates instruction in local and wide area networking, providing the resources for hands-on application of the theoretical concepts that are studied.



Industrial robotics is a new area being developed in the USC UPSTATE curriculum. A robotics lab houses six industrial robots given to USC UPSTATE and its computer science program by the Stäubli Corporation. An introductory course is offered twice a year. Additional courses are in the planning stages.





The G. B. Hodge Center, home of the Division of Mathematics and Computer Science, has two walk-in computer labs open to students while the building is open. Each has 12 Pentium personal computers equipped with Windows XP Professional, Office XP, and all of the mathematics and computer software used in classes.

Computing capabilities for faculty and students in mathematics and computer science are further enhanced by two multiprocessor Sun Workstations and a six-unit Linux cluster.



The computer information systems major requires the completion of the four-semester foundation sequence, an additional programming language selected from Java, Visual BASIC, or COBOL, and 5 additional upper level computer science courses. Students are also required to complete two semesters of a foreign language, precalculus mathematics, and a general statistics course.

Students who choose the curriculum leading to a Bachelor of Science in Computational Mathematics are prepared as programmers who are equipped with mathematical tools to model and find numerical solutions to problems that may be encountered in business and industry. Complementing their curriculum in computer science, students study accounting, matrix algebra, differential equations, and numerical analysis.



The computational mathematics major requires the completion of the four-semester foundation sequence, assembler language programming, an additional programming language, and 4 additional upper level computer science courses.

Alumni of the programs have entered professional life as programmers, systems analysts, network administrators, web developers, and managers in information technology. Others have pursued graduate study in computer science and have completed master's degree programs.



Students may pursue either a major or minor course of study in computer science. Students majoring in other disciplines can receive a minor

in computer science by completing Precalculus I, Elements of Discrete Mathematics, the foundation sequence in computer science (Computer Science 141, 241, 242, and 321) and 9 semester hours of higher level (300-level or above) computer science course work.



For Further Information

Please contact USC Upstate at (864) 503 – 5305 or write:
Division of Mathematics and Computer Science
University of South Carolina Spartanburg
800 University Way
Spartanburg, SC 29303

Computer Science Tutoring Lab

For students who need help on programming problems, the



Division operates a walk-in tutoring lab. Staffed by upper-class computer science majors, the lab provides assistance as needed by students when they run into problems that give them difficulties. The room used for tutoring a computer lab housing 12 state-of-the-art personal computers.

Classrooms and Computer Labs

Classrooms have the latest technology for learning mathematics.



There are three smart classrooms, equipped with ceiling-mounted video-data projectors and document cameras. In addition, there are three computer classrooms, each equipped with 24 student stations, a laser printer, and an instructor's station with software that enables the instructor to control the student computers in the classroom through the campus network.

Scholarships

Scholarships are awarded to students based on demonstrated academic ability, career plans, educational goals, and community service. Applications are available from the financial aid office or from the USC Upstate web site after December 1 each year. The application deadline is February 1, unless otherwise indicated in the scholarship definition. For a listing of available scholarships, see the USC Upstate academic catalog.

Awards

Each year, the computer science faculty recognizes the outstanding computer science student at a special awards day celebration in the spring.



Award winners for 2002-2003 were Laura Hassler (left) and Nathan Burgess (right).



Computer Science Club

The USC Upstate Computer Science Club invites all USC Upstate students who enjoy computer science to become active members. The club meets at least twice per term for programs that explore career opportunities in computer science as well as interesting new areas. It provides members an opportunity for leadership development and interaction with others who have similar interests in computers.

Major Course of Study: Computer Science

Freshman Year

Fall Semester (15)

English 101 (3)
Math 126 (3)
Social and Behavioral Science (3)
Foreign Culture (3)
History 111 or 112 (3)

Spring Semester (15)

English 102 (3)
Math 127 (3)
Math 174 (3)
Computer Science 141 (3)
Social and Behavioral Science (3)

Sophomore Year

Fall Semester (16)

Chemistry 111 (4)
Speech 201 (3)
Computer Science 241 (3)
Math 143 (3)
Government and International Studies
201 or American Studies 101 or 102 (3)

Spring Semester (16)

Chemistry 112 (4)
Computer Science 242 (3)
Math 144 (3)
Philosophy 311 (3)
Fine Arts (3)

Junior Year

Fall Semester (13)

Computer Science 310 (3)
Computer Science 321 (3)
Math 315 (3)
Lab Science in Biology, Chemistry,
Physics (4)

Spring Semester (15)

Computer Science 210 (3)
Computer Science 420(3)
Math 243 or higher (3)
Elective (3)
Cognate (3)

Senior Year

Fall Semester (15)

Computer Science 23x (3)
Computer Science 300 or higher (3)
Computer Science 540 (3)
Cognate (3)
Elective (3)

Spring Semester (15)

Computer Science 300 or higher (3)
Computer Science 511 (3)
Computer Science 530 (3)
Computer Science 599 (3)
Cognate (3)

Major Course of Study: Computer Information Systems

Freshman Year

Fall Semester (15)

English 101 (3)
Math 126 (3)
Social and Behavioral Science (3)
Fine Arts (3)
History 111 or 112 (3)

Spring Semester (15)

English 102 (3)
Math 127 (3)
Economics 221 (3)
Computer Science 141 (3)
Math 174 (3)

Sophomore Year

Fall Semester (16)

Computer Science 241 (3)
Natural Science (4)
Speech 201 (3)
Govt & International Studies 201 or
American Studies 101 or 102 (3)
Business Administration 225 (3)

Spring Semester (16)

Natural Science (4)
Computer Science 242 (3)
Business Administration 226 (3)
Philosophy 311 (3)
Elective (3)

Junior Year

Fall Semester (15)

Computer Science 321 (3)
Computer Science 310 (3)
Communications (3)
Math 201 (3)
Foreign Language (3)

Spring Semester (15)

Computer Science 420 (3)
Computer Science 23x (3)
Business Administration 390 (3)
Foreign Language (3)
Cognate (3)

Senior Year

Fall Semester (15)

Computer Science 520 (3)
Computer Science 300 or higher (3)
Communications (3)
Cognate (3)
Elective (3)

Spring Semester (13)

Computer Science 300 or higher (3)
Computer Science 599 (3)
Cognate (3)
Elective (1)
Elective (3)

Major Course of Study: Computational Mathematics

Freshman Year

Fall Semester (15)

English 101 (3)
Math 126 (3)
Govt & International Studies 201 or
American Studies 101 or 102 (3)
Foreign Culture (3)
History 111 or 112 (3)

Spring Semester (15)

English 102 (3)
Math 127 (3)
Social and Behavioral Science (3)
Fine Arts (3)
Math 174 (3)

Sophomore Year

Fall Semester (16)

Chemistry 111 or Physics 201 (4)
Speech 201 (3)
Computer Science 141 (3)
Math 143 (3)
Social and Behavioral Science (3)

Spring Semester (16)

Chemistry 112 or Physics 202 (4)
Computer Science 241 (3)
Math 144 (3)
Philosophy 311 (3)
Elective (3)

Junior Year

Fall Semester (15)

Computer Science 242 (3)
Computer Science 310 (3)
Math 243 (3)
Business Administration 225 (3)
Elective (3)

Spring Semester (15)

Computer Science 321 (3)
Computer Science 210 (3)
Math 344 (3)
Math 245 (3)
Business Administration 226 (3)

Senior Year

Fall Semester (15)

Computer Science 23x (3)
Computer Science 300 or higher (3)
Computer Science 300 or higher (3)
Math 315 (3)
Math 560 (3)

Spring Semester (13)

Computer Science 300 or higher (3)
Computer Science 599 or Math 599 (3)
Cognate (3)
Elective (3)
Elective (1)