

COMPUTER SCIENCE

Program of Study

The Department of Computer Science offers the Doctor of Philosophy (Ph.D.) and the Master of Science (M.S.) degrees. The Ph.D. is the highest academic degree. It confers the right to be addressed as “doctor” and opens the door to rewarding and fulfilling careers in academia and industry. The degree is granted to highly-qualified students who have completed a rigorous course of study and research training resulting in the preparation and defense of a dissertation describing original computer science research. Students are required to complete 58 semester hours in an approved program of study: 39 hours of course credit, 18 hours of thesis credit, and a 1-hour Ph.D. orientation seminar.

In addition, the student must pass a comprehensive examination and prepare and defend a dissertation. The dissertation is a major written work describing the student's original research. There is a written and oral proposal as well as a final oral defense of the dissertation.

The M.S. degree provides an intensive course of study in areas of faculty interest. It provides the student with an excellent understanding of computer science that gives a solid foundation for many advanced jobs in the field as well as a sound basis for Ph.D. work for those students interested in further study. Students are required to complete 30 semester hours in an approved program of study. The degree is offered with either a thesis or non-thesis option. The thesis option requires 12 hours of 500-level (or above) courses plus 6 hours of thesis credit, while the non-thesis option requires at least 15 hours of courses plus 3 hours of project credit.

Financial Aid

Financial assistance is currently available in the form of teaching and research assistantships. The Department currently offers a number of teaching assistantships. Additional research assistantships as well as summer support may be available. All students who apply to the graduate program are automatically considered for financial aid; no separate application is necessary.

Applying

Consideration for admission is given to highly-qualified and motivated individuals on the basis of scholastic preparation and intellectual capacity. The requirements for admission are: a four-year undergraduate (bachelor) degree; at least a B average in undergraduate computer science courses; a year of calculus or a semester of calculus and as a semester of linear algebra; a semester of statistics; courses equivalent to: COS 125 (Introduction to Problem Solving using Computer Programming) and COS 225 (Introduction to Object-Oriented Programming and Design) or COS 220 (Introduction to C++ Programming) and COS 221 (Advanced C++ Programming); COS 250 (Discrete Structures); COS 301 (Programming Languages); COS 335 (Computer Organization and Architecture); COS 350 (Data Structures and Algorithms); and COS 431 (Operating Systems). Students whose background is deficient can be admitted on a conditional or provisional basis and be given an opportunity to make up deficiencies before being admitted to the regular program.

An applicant must present evidence of ability and academic preparation which makes success in graduate work likely. Applicants should submit a completed application form in duplicate, three letters of recommendation, two copies of official transcripts and official GRE scores. The GRE subject test in computer science is not required. International students should submit their TOEFL scores.

Correspondence

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Graduate Faculty

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George Markowsky, Ph.D. (Harvard, Mathematics, 1973), Professor and Graduate Coordinator. Theoretical computer science, discrete structures, lattice theory, algorithms, computer security, devices for the handicapped, PC applications, applications of computer science in biology. (markov@maine.edu)

Roy M. Turner, Ph.D. (Georgia Institute of Technology, Computer Science, 1989), Associate Professor and Graduate Coordinator. Artificial intelligence (problem solving, planning, context-sensitive reasoning), cooperative distributed problem solving, multiagent systems, control of autonomous underwater vehicles, biological modeling, applications of AI in biology. (rmt@cs.umaine.edu)