

BACHELOR OF SCIENCE  
MAJOR IN COMPUTER SCIENCE  
Spring 2003

This program is designed for students who desire a major in computer science based on a sound foundation in mathematics. It is designed to prepare the student for graduate work as well as career opportunities in industry, education, business, and government.

See liberal arts and sciences general education requirements in the General Education Section of the undergraduate catalog.

Required Core Courses (46 hours):

CS	220	Introduction to Computer Science	3 hours
CS	260	Programming and Problem Solving	3 hours
CS	340	Algorithms and Data Structures I	3 hours
CS	345	Algorithms and Data Structures II	3 hours
CS	350	Programming Languages	3 hours
CS	542	Discrete Structures	3 hours
CS	555	Principles of Computer Organization	3 hours
CS	557	Operating Systems	3 hours
CS	561	System Programming	3 hours
MA	161	Calculus I	5 hours
MA	240	Discrete Mathematics	3 hours
MA	262	Calculus II	5 hours
MA	322	Linear Algebra	3 hours
MA	380	Probability and Statistics	3 hours

Required Courses (6 hours) to be selected from:

PH	550	Digital Electronics	3 hours
PH	551	Digital Electronics Lab	2 hours
CS	501	Advanced Computer Programming	3 hours
CS	552	Principles of Software Engineering	3 hours
CS	570	Theory of Computation	3 hours

Electives:

Any computer science course listed above that has not been applied toward the 6 hour requirement may be taken as an elective. In addition, the following courses may be taken for elective credit.

CS	315	Java Programming	3 hours
CS	320	Computer Networks and Internets	3 hours
CS	325	HTML Programming	3 hours
CS	410	Seminar in Computer Science	3 hours
CS	480	Independent Study Computer Science	3 hours
CS	486	Cooperative Education II: Computer Science	3 hours
CS	523	Artificial Intelligence	3 hours
CS	760	Numerical Analysis	3 hours
CS	762	Optimization Techniques	3 hours
CS	763	Simulation Techniques	3 hours
CS	765	Numerical Linear Algebra	3 hours
CS	775	Compiler Design	3 hours
CS	780	File Structures	3 hours
MA	263	Calculus III	3 hours
MA	335	Differential Equations I	3 hours

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Electives Continued:

MA	425	Abstract Algebra	3 hours
MA	532	Math Stats I	3 hours
MA	727	Groups, Rings, and Fields	3 hours
MA	728	Vector Spaces	3 hours
MA	733	Mathematical Statistics II	3 hours
MA	734	Complex Variables	3 hours
MA	735	Advanced Calculus I	3 hours
MA	736	Advanced Calculus II	3 hours
MA	740	Number Theory	3 hours
MA	764	Regression Analysis	3 hours
IS	323	COBOL Programming	3 hours
IS	383	Advanced COBOL Programming	3 hours
IS	393	BAL (Basic Assembler Language) Programming	3 hours

In addition to the electives listed above, students are encouraged to consult with their advisor about selecting additional courses from computer science, mathematics, statistics, business, economics, physical sciences, and biology to complete the 70-hour major.