COMPUTER SCIENCE (BA)

Computer Science is a rapidly growing area of study—one that is important in the technological age in which we live. The Computer Science major at Benedictine College provides a balanced approach to the discipline, treating computing both as an art and as a tool for varied use. The major prepares students for graduate study in the field of computer science or for employment in an ever-expanding spectrum of occupations dependent upon computing. Most graduates obtain jobs in computer programming or software engineering. Benedictine College offers majors leading to the Bachelor of Science (B.S.) and the Bachelor of Arts (B.A.) degrees in computer science. The B.S. provides additional depth in the field, while the B.A. provides more flexibility, including opportunities for double majors with a wide variety of other disciplines, The computer science minor provides a useful addition to many areas of study, including mathematics, science, business, and mass communications.

Program Mission

The mission of the Computer Science Program is to provide students with the necessary tools to enter a career in their field with a broad, robust knowledge of computer science. In addition, our students acquire the conceptual knowledge and procedural skills needed to analyze and solve problems as computer scientists in our world.

Program Outcomes

1. Graduates will have a solid understanding of the concepts fundamental to the discipline of computer science within the framework of a liberal arts education.
2. Graduates will have teamwork skills, including collaboration and oral and written communication.
3. Graduates will have good analytical, design, and implementation skills necessary to formulate and solve computing problems.
4. Graduates will be prepared for graduate study or employment in the computer industry by demonstrating the need to take multiple perspectives, backgrounds, and traits into account for success in this inherently diverse industry.

Program Requirements

Code	Title	Hours
CSCI-1140	Introduction to Computer Science I	4
CSCI-2150	Introduction to Computer Science II	4
MATH-2550	Discrete Mathematical Structures I	3
CSCI-2560	Discrete Mathematical Structures II	3
CSCI-3100	Database Systems	4
CSCI-3500	Algorithm Design & Analysis	4
CSCI-4200	Computer Architecture	4
CSCI-4400	Operating Systems & Networking	4
CSCI-4920	Software Engineering	3
CSCI-4930	Computer Science Senior Capstone	2
CSCI-COMP	Senior Comprehensive Exam	0
MATH-1220	Introductory Statistics	4
or MATH-1300	Calculus I	
Total Hours		**39**

Transfer students majoring in Computer Science must take a minimum of 40% of the coursework required for the major at Benedictine College.

Recommendations: A student should not attempt a computer science course unless he or she received at least a 'C' in its prerequisite.

Suggested Sequence of Courses for a Bachelor of Arts Degree in Computer Science

Course	Title	Hours
Freshman Year		
First Semester		
CSCI-1010	Computer Science Fundamentals (suggested)	3
Select one of the following:		4
MATH-1300	Calculus I (optional)	
Natural World Foundation (with lab)		
Foreign Language		4
ENGL-1010	English Composition	3
EXSC-1115	Wellness for Life	1
EXSC Fitness Course		1
GNST-1000	BC Experience	1
	Hours	**17**
Second Semester		
CSCI-1050	Web Programming (optional)	3
Select one of the following:		4
MATH-1220	Introductory Statistics (optional)	
Natural World Foundation (with lab)		
Foreign Language		4
THEO-1100	Introduction to Theology	3
PHIL-1750	Principles of Nature	3
	Hours	**17**
Sophomore Year		
First Semester		
CSCI-1140	Introduction to Computer Science I	4
MATH-2550	Discrete Mathematical Structures I	3
Historical Foundation		3
Philosophical Inquiry Foundation		3
Natural World Foundation		4
	Hours	**17**
Second Semester		
CSCI-2150	Introduction to Computer Science II	4
CSCI-2560	Discrete Mathematical Structures II	3
Aesthetic Foundation		3
Faith Foundation		3
Historical Foundation		3
	Hours	**16**
Junior Year		
First Semester		
CSCI-3100	Database Systems	4
or CSCI-4200	or Computer Architecture	
Elective		3
Aesthetic Foundation		3

Faith Foundation		3
Philosophical Inquiry Foundation		3
	Hours	**16**
Second Semester		
CSCI-3500 or CSCI-4400	Algorithm Design & Analysis or Operating Systems & Networking	4
Person and Community Foundation		3
Electives		9
	Hours	**16**
Senior Year		
First Semester		
CSCI-4200 or CSCI-3100	Computer Architecture or Database Systems	4
CSCI-4920	Software Engineering	3
Electives		9
	Hours	**16**
Second Semester		
CSCI-4400 or CSCI-3500	Operating Systems & Networking or Algorithm Design & Analysis	4
CSCI-4930	Computer Science Senior Capstone	2
CSCI-COMP	Senior Comprehensive Exam	0
Electives		9
	Hours	**15**
	Total Hours	**130**