

# B.S.C.S. in Computer Science

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## Description

The goal of the B.S.C.S. program is to give each student a thorough professional education in contemporary computer science while allowing sufficient flexibility for the student to pursue individual interests in related technical fields.

**Minimum Total Credit Hours: 127**

## Goals/Mission Statement

### Mission Statement

The Department of Computer and Information Science at the University of Mississippi seeks to provide high-quality programs of instruction, research, and service and to refine them continuously to meet the evolving needs of its students and society. Toward this end, the Department shall:

- enable its undergraduate students to master the fundamental principles of computing and to develop the skills needed to solve practical problems using contemporary computer-based technologies and practices;
- empower its graduate students to understand advanced concepts, develop new technologies and methods, and expand the base of fundamental knowledge;
- cultivate a community of professionals that encourages scholarship and facilitates both applied and theoretical research;
- serve its constituents in government, industry, and the public as a resource on state-of-the-art computing science and information technology.

## BSCS Program Educational Objectives

As effective members of the Computer Science profession:

1. Graduates demonstrate the ability to solve computing problems commensurate with their levels of professional experience
2. Graduates demonstrate the ability to contribute effectively to the benefit of teams
3. Graduates continue to update their professional knowledge and skills to adapt to changes in technology and the evolving needs of society and the workplace

## BSCS Program Outcomes

In keeping with the accreditation of the BSCS program by ABET, Inc., the Department helps students achieve:

- a. An ability to apply knowledge of computing and mathematics that are appropriate to the discipline;
- b. An ability to analyze a problem and to identify and define the computing requirements appropriate to its solution;
- c. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet requirements;
- d. An ability to function effectively on teams to accomplish a common goal;
- e. An understanding of professional, ethical, legal, security, and social issues and responsibilities;
- f. An ability to communicate effectively with a range of audiences;
- g. An ability to analyze the local and global impact of computing on individuals, organizations, and society;
- h. Recognition of the need for, as well as an ability to engage in, continuing professional development;
- i. An ability to use current techniques, skills, and tools necessary for computing practice;
- j. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design decisions;
- k. An ability to apply design and development principles in the construction of software systems of varying complexity.

## General Education Requirements

Candidates for the B.S.C.S. degree must successfully complete the following general education requirements:

- 6 hours from Writ 100, Writ 101, or Hon 101; Writ 102, Liba 102, or Hon 102;
- 3 hours of literature chosen from Engl 221-226;
- 8 hours of laboratory science chosen from Chem 105, 106, 115, 116 or Phys 211, 212, 221, 222 or Bisc 160, 161, 162, 163;
- 6 hours from Math 261 and 262;
- 3 hours from Spch 102 or Spch 105;
- 6 hours of social science chosen from anthropology, economics, political science, psychology, and sociology;
- 3 hours of humanities chosen from classics, English, history, modern languages, philosophy, religion, and African American studies, gender studies, or southern studies;
- 3 hours of fine arts chosen from courses in the history, appreciation, and criticism of art, dance, music, and theatre arts (Courses emphasizing the enhancement of skills and performance are not acceptable.);
- 3 additional hours of fine arts or humanities.

## Course Requirements

Candidates for the B.S.C.S. degree must successfully complete the following requirements in addition to the general education requirements:

- 12 hours from Math 301, 302, 375, and either 263 or 319;
- 6 additional hours of science electives chosen from the laboratory science courses listed above or from Astr 103, 104, Chem 221, 222, Geol 101, 102, 103, 104, 105 (except not both Geol 101 and 104), and biology, chemistry, physics, and geology courses at the 300-level and above; (If a science course has a



separate, but coordinated laboratory course, the student is strongly encouraged to enroll for the laboratory section as well as the lecture section.)

- 4 hours from EI E 235, 236;
- 31 hours from Csci 111, 112, 211, 223, 300, 311, 387, 423, 433, 450, and 487;
- 15 hours of computer science electives chosen from 300 level and above or other approved electives; 18 hours of course work for an approved minor or other technical electives chosen in consultation with the academic advisor.

