

# COMPUTER INFORMATION SYSTEMS, B.S.

## Accreditation

The BS Computer Information Systems program is accredited by the Computing Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Information Systems and Similarly Named Computing Programs Criteria.

## Learning Outcomes

1. Students will demonstrate an ability to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Students will demonstrate an ability to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Students will demonstrate an ability to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Students will demonstrate an ability to function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Students will demonstrate an ability to support the delivery, use, and management of information systems within an information systems environment.

## Academic Standards

### Program GPA

Program GPA requirement policies are described in the Molinaroli College of Engineering and Computing section of this bulletin. For the purpose of these policies, the following courses are used to determine the Program GPA for the Computer Information Systems B.S. program: all Lower Division Computing courses, Computer Information Systems Major courses, Computer Information Systems Electives, CSCE 145, CSCE 390, and MGSC 290.

## Admissions

### Entrance Requirements

Admission requirements and processes for freshman, transfer students, and former students seeking readmission are managed by the Office of Undergraduate Admissions ([http://sc.edu/about/offices\\_and\\_divisions/undergraduate\\_admissions/](http://sc.edu/about/offices_and_divisions/undergraduate_admissions/)).

Transfer applicants from regionally accredited colleges and universities must have a cumulative 2.75 GPA on a 4.00 scale to enter the College of Engineering and Computing. In addition, transfer applicants for the Aerospace Engineering, Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, or Mechanical Engineering majors must also have completed a four semester-hour calculus course equivalent to MATH 141 with a grade of "C" or better.

Current University of South Carolina students who wish to enter the College of Engineering and Computing, and former students seeking readmission, must have an institutional GPA of 2.50 or better on at least 15 hours earned at USC. In addition, such applicants for the Aerospace

Engineering, Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, or Mechanical Engineering majors must also have completed a four semester-hour calculus course equivalent to MATH 141 with a grade of "C" or better.

## Degree Requirements (120 hours)

See College of Engineering and Computing (<https://academicbulletins.sc.edu/undergraduate/engineering-computing/>) for progression requirements and special academic opportunities.

### Program of Study

Requirements	Credit Hours
1. Carolina Core	34-41
2. College Requirements	0
3. Program Requirements	48-59
4. Major Requirements	27-36

### Founding Documents Requirement

All undergraduate students must take a 3-credit course or its equivalent with a passing grade in the subject areas of History, Political Science, or African American Studies that covers the founding documents including the United State Constitution, the Declaration of Independence, the Emancipation Proclamation and one or more documents that are foundational to the African American Freedom struggle, and a minimum of five essays from the Federalist papers. This course may count as a requirement in any part of the program of study including the Carolina Core, the major, minor or cognate, or as a general elective. Courses that meet this requirement are listed here (<https://academicbulletins.sc.edu/undergraduate/founding-document-courses/>).

## 1. Carolina Core Requirements (34-41 hours)

### CMW – Effective, Engaged, and Persuasive Communication: Written (6 hours)

*Must be passed with a grade of C or higher.*

- ENGL 101
- ENGL 102

### ARP – Analytical Reasoning and Problem Solving (7-8 hours)

*Must be passed with a grade of C or higher.*

- CSCE 145
- MATH 122 or MATH 141

### SCI – Scientific Literacy (8 hours)

- Two 4-credit hour CC-SCI (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>) laboratory science courses

### GFL – Global Citizenship and Multicultural Understanding: Foreign Language (0-6 hours)

Score two or better on foreign language placement test; or complete the 109 and 110 courses in FREN, GERM, LATN or SPAN; or complete the 121 course in another foreign language.

- CC-GFL courses (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

## GHS – Global Citizenship and Multicultural Understanding: Historical Thinking (3 hours)

- any CC-GHS course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

## GSS – Global Citizenship and Multicultural Understanding: Social Sciences (3 hours)

- any CC-GSS course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

## AIU – Aesthetic and Interpretive Understanding (3 hours)

- any CC-AIU course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

## CMS – Effective, Engaged, and Persuasive Communication: Spoken Component <sup>1</sup> (3 hours)

- any CC-CMS course (<https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/>)

## INF – Information Literacy <sup>1</sup> (0 hours)

- ENGL 102

## VSR – Values, Ethics, and Social Responsibility <sup>1</sup> (1 hour)

- CSCE 390 - *must be passed with a grade of C or higher*

<sup>1</sup> **Carolina Core Stand Alone or Overlay Eligible Requirements** — Overlay-approved courses offer students the option of meeting two Carolina Core components in a single course. A maximum of two overlays is allowed. The total Carolina Core credit hours for this program must add up to a minimum of 34 hours.

## 2. College Requirements (0 hours)

*No college-required courses for this program.*

## 3. Program Requirements (48-59 hours)

### Supporting Courses (30 hours)

#### Foundational Courses (12 hours)

Course	Title	Credits
ENGL 462 or ENGL 463	Technical Writing Business Writing	3
MATH 174 or MATH 374	Discrete Mathematics for Computer Science <sup>1</sup> Discrete Structures	3
STAT 509 or STAT 515	Statistics for Engineers Statistical Methods I	3
STAT 516	Statistical Methods II	3
<b>Total Credit Hours</b>		<b>12</b>

<sup>1</sup> MATH 174 and MATH 374 must be passed with a grade of C or higher

### Lower Division Computing (18 hours)

*Must be passed with a grade of C or higher.*

Course	Title	Credits
CSCE 146	Algorithmic Design II	4
CSCE 190	Computing in the Modern World	1
CSCE 201	Introduction to Computer Security	3
CSCE 210	Computer Hardware Foundations	3
CSCE 215	UNIX/Linux Fundamentals	1
CSCE 240	Advanced Programming Techniques	3
CSCE 247	Software Engineering	3
<b>Total Credit Hours</b>		<b>18</b>

### Minor in Business Information Management (18 hours)

Course	Title	Credits
ECON 224	Introduction to Economics	3
ACCT 222	Survey of Accounting	3
MGMT 371	Principles of Management	3
MGSC 290	Computer Information Systems in Business	3

#### Electives

Select two of the following:		6
ACCT 324	Survey of Commercial Law	
ECON 311	Issues in Economics	
ECON 379	Government Policy Toward Business	
FINA 333	Finance and Markets	
IBUS 301	Introduction to International Business	
MKTG 350	Principles of Marketing	
MGMT 373	Entrepreneurship and New Venture Opportunities	
MKTG 351	Consumer Behavior	
MGSC 395	Operations Management	

**Total Credit Hours** **18**

### Electives (0-11 hours)

At least 120 degree applicable credits are required to complete the BS in Computer Information Systems. The CIS curriculum includes 0-11 hours of electives depending on how students fulfill the Carolina Core requirements and their choice of Concentration. Any course in the university can be used to satisfy the elective requirement, including additional electives in the major.

## 4. Major Requirements (27-36 hours)

*Must be passed with a grade of C or higher.*

### Major Courses (24 hours)

Course	Title	Credits
CSCE 205 or CSCE 242	Business Applications Programming Web Applications	3
CSCE 350	Data Structures and Algorithms	3
CSCE 416	Introduction to Computer Networks	3
CSCE 490	Capstone Computing Project I	3
CSCE 492	Capstone Computing Project II	3
CSCE 520	Database System Design	3
CSCE 522	Information Security Principles	3
CSCE 594	Strategic Management of Information Systems	3
<b>Total Credit Hours</b>		<b>24</b>

## Major Elective (3 hours)

Students must complete 3 hours of Major Electives below. Students may choose to complete a concentration in Artificial Intelligence or Cybersecurity in place of the Major Electives.

Course	Title	Credits
Select one of the following:		3
ITEC 447	Management of Information Technology	
ITEC 560	Project Management Methods	
Select an approved CSCE course, 510 and higher		
<b>Total Credit Hours</b>		<b>3</b>

## Concentrations

Students may choose to complete a concentration below in place of the 3 hours of Major Electives.

### Artificial Intelligence Concentration (12 hours)

Course	Title	Credits
CSCE 580	Artificial Intelligence	3
Select any three courses from the following:		9
CSCE 555	Algorithms in Bioinformatics	
CSCE 567	Visualization Tools	
CSCE 574	Robotics	
CSCE 578	Text Processing	
CSCE 582	Bayesian Networks and Decision Graphs	
CSCE 585	Machine Learning Systems	
CSCE 587	Big Data Analytics	
<b>Total Credit Hours</b>		<b>12</b>

### Cybersecurity Concentration (6 hours)

Course	Title	Credits
Select any two courses from the following:		6
CSCE 311	Operating Systems	
CSCE 548	Building Secure Software	
CSCE 557	Introduction to Cryptography	
<b>Total Credit Hours</b>		<b>6</b>

## Major Map

A major map is a layout of required courses in a given program of study, including critical courses and suggested course sequences to ensure a clear path to graduation.

Major maps are only a suggested or recommended sequence of courses required in a program of study. Please contact your academic advisor for assistance in the application of specific coursework to a program of study and course selection and planning for upcoming semesters.

**Computer Information Systems, B.S.**