COMPUTER SCIENCE, B.S.C.S.

Degree Requirements (125 hours)
See College of Engineering and Computing (https://academicbulletins.sc.edu/undergraduate/engineering-computing/) for progression requirements and special academic opportunities.

Program of Study

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1. Carolina Core Requirements (35-44 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 (8 hours)
Must be passed with a grade of C or higher.
- MATH 141
- MATH 142

SCI – Scientific Literacy (8 hours)
Select all of one of the following:

Either
- CHEM 111 & CHEM 111L - both must be passed with a grade of C or higher
- CHEM 112 & CHEM 112L (both not approved for CC-SCI)

or
- PHYS 211 & PHYS 211L - both must be passed with a grade of C or higher
- PHYS 212 & PHYS 212L

GFS – 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 ¹ (3 hours)
- SPCH 140 or SPCH 230

INF – Information Literacy ¹ (0-3 hours)
- any overlay or stand-alone CC-INF course (https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/)

VSR – Values, Ethics, and Social Responsibility ¹ (1 hour)
- CSCE 390 - must be passed with a grade of C or higher

¹ 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 35 hours.

2. College Requirements (0 hours)
No college-required courses for this program.

3. Program Requirements (60 hours)
Supporting Courses (60 hours)

| Foundational Courses (16 hours) |
|-------------------------------|----------------|
| Course | Title                      | Credits |
| MATH 241 | Vector Calculus            | 3      |
| MATH 344 | Applied Linear Algebra     | 3      |
| MATH 344L | Applied Linear Algebra Lab | 1      |
| MATH 374 | Discrete Structures (must be passed with a grade of C or higher) | 3 |
| STAT 509 | Statistics for Engineers   | 3      |
| ENGL 462 | Technical Writing          | 3      |
| or ENGL 463 | Business Writing         |        |

Total Credit Hours | 16

Laboratory Science Elective (4 hours)

| Select one of the following: |
|-------------------------------|----------------|
| Course | Title                      | Credits |
| ANTH 161 | Human Origins: An Introduction to Biological Anthropology | 4 |
| ASTR 101 | Introduction to Astronomy |        |
BIOL 101 & 101L Biological Principles I and Biological Principles I Laboratory
BIOL 110 General Biology
CHEM 111 & 111L General Chemistry I and General Chemistry I Lab
CHEM 141 Principles of Chemistry I
ENV 101 & 101L Introduction to the Environment and Introduction to the Environment Lab
ENVR 200 Natural History of South Carolina
GEOG 201 Landform Geography
GEOG 202 Weather and Climate
GEOL 101 Introduction to the Earth
GEOL 103 Environment of the Earth
GEOL 201 Observing the Earth
GEOL 215 & 215L Coastal Environments of the Southeastern U.S. and Coastal Environments of the Southeastern U.S. (Laboratory)
GEOL 302 Rocks and Minerals
MSCI 101 The Ocean Environment
MSCI 102 The Living Ocean
MSCI 210 & 210L Oceans and Society and Oceans and Society Laboratory
MSCI 215 & 215L Coastal Environments of the Southeastern US and Coastal Environments of the Southeastern US (Laboratory)
PHYS 211 Essentials of Physics I
& 211L and Essentials of Physics I Lab
PHIL 101-PHI 109, PHIL 112-PHI 598
POLI 101-POLI 499
PORT 121-PORT 615
PSYC 101-PSYC 499
RELG 101-RELG 552
RUSS 121-RUSS 616
SOCI 101-SOCI 499
SOST 101-SOST 500
SPAN 109-SPAN 615
THEA 170-THEA 565
WGST 112-WGST 555

Lower Division Computing (22 hours)
Course Title Credits
CSCE 145 Algorithmic Design I 4
CSCE 146 Algorithmic Design II 4
CSCE 190 Computing in the Modern World 1
CSCE 211 Digital Logic Design 3
CSCE 212 Introduction to Computer Architecture 3
CSCE 215 UNIX/Linux Fundamentals 1
CSCE 240 Advanced Programming Techniques 3
CSCE 247 Software Engineering 3
Total Credit Hours 22

Application Area (9 hours)
An application area consists of three courses (9 hours) that display a distinct curricular pattern that is different from computer science. Any three non-CSCE courses that are from one department or are a subset of a defined minor, and that are each 3 credit hours or more, may satisfy this requirement. Students may petition the department for approval of other sets of application area courses.

4. Major Requirements (30 hours)

Major Courses (21 hours)
Course Title Credits
CSCE 311 Operating Systems 3
CSCE 330 Programming Language Structures 3
CSCE 350 Data Structures and Algorithms 3
CSCE 355 Foundations of Computation 3
CSCE 416 Introduction to Computer Networks 3
CSCE 490 Capstone Computing Project I 3
CSCE 492 Capstone Computing Project II 3
Total Credit Hours 21

Major Electives (9 hours)
Course Title Credits
Select from the following:
CSCE 317 or any CSCE course 500 or higher
Select any approved CSCE courses, 500 and higher - a list of acceptable courses is also maintained in the department office and on its website
Total Credit Hours 9