Computer Science B.S.

Degree Requirements: 124 Credit Hours

See Core Curriculum for required courses in Area A1 through Area E.

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>General Requirements (Core Areas A-E)</th>
<th>42</th>
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</thead>
<tbody>
<tr>
<td>Credit Hours</td>
<td>Additional Requirements</td>
<td>4</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>Area F - Courses Appropriate to Major</td>
<td>4</td>
</tr>
</tbody>
</table>

CSCI 1301 Programming Principles I 4
CSCI 1302 Programming Principles II 3
CSCI 2120 Computers, Ethics and Society 2
MATH 2130 Discrete Mathematics 3
MATH 2160 Elementary Linear Algebra 3
MATH 2242 Calculus II 1

Specific Requirements

Foreign Language - 2001 or higher OR International Content Course 3
Select one of the following Second Lab Science sequence courses: (first course in sequence assumed taken in Area D) 4

BIOL 1108 Principles of Biology II
& 1108L Principles of Biology Laboratory II
CHEM 1212K Principles of Chemistry II
GEOL 1122 General Historical Geology
PHYS 1112K Introductory Physics II
PHYS 2212K Principles of Physics II

Major Requirements

CSCI 3230 Data Structures 3
CSCI 3232 Systems Software 3
& CSCI 3341 and Intro To Operating Systems
or CSCI 2490 C++ Programming 3
CSCI 3236 Theoretical Foundations 3
CSCI 3432 Database Systems 3
CSCI 5330 Algorithm Design and Analysis 3
CSCI 5331 Computer Architecture 3
CSCI 5332 Data Communications and Networking 3
CSCI 5335 Object-Oriented Design 3
CSCI 5431 Computer Security 3
CSCI 5436 Distributed Web Systems Design 3
CSCI 5530 Software Engineering 3

Select three of the following elective courses: 9

CSCI 3231 Logic Circuits and Microprocessors (OR other approved 3000-level electives)
& ENGR 2332 Introduction to Computer Engineering
CSCI 3330 Comparative Languages
CSCI 4132 Data Warehouse Design
CSCI 4210 High Performance Computing
CSCI 4439 Game Programming
CSCI 4520 Machine Learning
CSCI 4610 Numerical Analysis
CSCI 4534 Software Testing and Quality Assurance
CSCI 4537 Broadband Networks
CSCI 4539 Optical Networks
CSCI 5090 Selected Topics in Computer Science

Electives

Carryover from Area A2 and Area F 1
Select 6-9 credit hours of Electives 6-9

Total Credit Hours 124

1 While Calculus II (MATH 2242) is 4 credit hours, only 3 credit hours will count toward fulfilling Area F. The remaining credit hour will be applied toward Electives.

2 Students enrolled at the Armstrong Campus are required to take CSCI 2490 (3) and CSCI 3341 (3).

Certificates

Students can earn certificates in one or more of the following areas by completing the course requirements shown below:

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<tr>
<th>Credit Hours</th>
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Broadband and Mobile Systems Certificate
Select three of the following: 9

CSCI 4537 Broadband Networks
CSCI 4539 Optical Networks
CSCI 5090 Selected Topics in Computer Science (Requires approval by the CS Chair)
CSCI 5532 Network Management Systems
CSCI 5538 Wireless and Mobile Systems

Network and Computer Security Certificate
(Complete any three courses) 9

CSCI 4534 Software Testing and Quality Assurance
CSCI 5090 Selected Topics in Computer Science (Requires approval by CS Chair)
CSCI 5531 Systems and Software Assurance
CSCI 5532 Network Management Systems

Game Programming Certificate
CSCI 4439 Game Programming 3

Select two of the following: 6

CSCI 4235 Human Computer Interaction
CSCI 5090 Selected Topics in Computer Science (Requires approval by the CS Chair)
CSCI 5437 Computer Graphics
CSCI 5438 Animation

Software Engineering Certificate
(Complete any three courses) 9

CSCI 4235 Human Computer Interaction
CSCI 4534 Software Testing and Quality Assurance
CSCI 5090 Selected Topics in Computer Science ((Requires approval of the CS Chair))
CSCI 5436 Distributed Web Systems Design
CSCI 5531 Systems and Software Assurance

In addition to completing the course requirements for a certificate, in order to receive a certificate, it is necessary to complete the B.S in Computer Sciences degree program.
Other Program Requirements
A minimum grade of “C” is required for each CSCI course taken in the major. This applies to all courses (lower and upper division).

Advisement
CEC Office of Student Services, Room 1208, Allen E. Paulson College of Engineering and Computing, Telephone: (912) 478-4877.