

# Computer Science (Csc)

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## Program Overview

Computer science applies the power of the computer to solve some of the most perplexing problems of science, engineering, and business. The program focuses on the scientific and engineering aspects of the field and trains students to develop highly complex programs from initial concept to final product. Computer scientists work in all types of industries and organizations: aeronautical sciences, biomedical research, business, astronomy, geology, and others.

## Labs and Facilities

Computer science is a rapidly changing field, and the department makes certain that our equipment and curriculum keep pace with changing technology. Resources include an extensive PC network, a Linux lab, a Tablet PC lab, and Robotics Lab. The Linux lab is fully equipped with quad-core desktops. Other computing resources may be accessed via the Internet. The institution encourages its students to use the computer facilities in the creative and efficient solution of scientific and engineering problems.

## Curriculum

The primary goal of the program is to prepare graduates to enter a dynamic and rapidly changing field as competent computer scientists. Graduates will be capable in all phases of software development including design, development, and testing, and they will have a firm understanding of hardware technologies.

## Curriculum Listing

### Freshman Year

#### First Semester

ENGL 101	Composition I	3
Science Elective <sup>1</sup>		3
Science Elective Lab <sup>1</sup>		1
MATH 123	Calculus I	4
CSC 150	Computer Science I	3
Humanities or Social Sciences Elective(s)		3
<b>TOTAL</b>		<b>17</b>

#### Second Semester

MATH 125	Calculus II	4
Humanities or Social Sciences Elective(s)		3
CSC 250	Computer Science II	4
CSC 251	Finite Structures	4
PE	Physical Education	1
<b>TOTAL</b>		<b>16</b>

### Sophomore Year

#### First Semester

CSC 300	Data Structures	4
MATH 225	Calculus III	4
CENG 244	Intro to Digital Systems	4
PE	Physical Education	1
Humanities or Social Sciences Elective(s)		3
<b>TOTAL</b>		<b>16</b>

#### Second Semester

ENGL 279	Technical Comm	3
CSC 314	Assembly Language	4
Humanities or Social Sciences Elective(s)		3
Science Elective		3
Science Elective Lab		1
Free Elective		2
<b>TOTAL</b>		<b>16</b>

### Junior Year

#### First Semester

ENGL 289	Technical Comm II	3
MATH 321	Differential Equations	4
PHYS 211	University Physics I	3
CSC 372	Analysis of Algorithms	3
Elective or CSC Elective		3
<b>TOTAL</b>		<b>16</b>

#### Second Semester

CSC 317	Computer Organization and Architecture	4
MATH 315	Linear Algebra	3
CSC 461	Programming Languages	3
CSC 470	Software Engineering	3
CSC Elective <sup>1</sup>		3
<b>TOTAL</b>		<b>16</b>

### Senior Year

#### First Semester

CSC 465	Senior Design I	2
CSC 484	Database Mgmt Systems	3
CSC 421	Graphical User Interfaces With Object Oriented Programming	3
Humanities or Social Sciences Elective(s)		5
Free Elective		3
<b>TOTAL</b>		<b>16</b>

#### Second Semester

CSC 456	Operating Systems	4
CSC 467	Senior Design II	2
HUM 375	Computers in Society	3
CSC Electives		3
MATH 381	Intro to Probability and Statistics	3
<b>TOTAL</b>		<b>15</b>

### 128 credits required for graduation

Elective courses must be chosen to satisfy the following requirements:

Sixteen semester hours in humanities or social science. At least six hours must be in humanities and at least six hours must be in social sciences.

Six credit hours of humanities and six credit hours of social science must be completed within the first 64 hours. Refer to the general education requirements under bachelor of science graduation requirements for further information.

Thirty total hours in humanities, social science, or other nontechnical disciplines that serve to broaden the background of the student. This may include all English classes, two credits of physical education, and those courses used to meet requirement (1) above.

Eleven credits of science. The science requirement for this major consists of PHYS 211 and two more lecture courses from among BIOL 151, BIOL 153, CHEM 112, CHEM 114, GEOL 201, or PHYS 213; plus two labs that accompany the science courses taken, i.e., either BIOL 151L, BIOL 153L, CHEM 112L, CHEM 114L, GEOL 201L, or PHYS 213L. Students must complete science classes from at least two different disciplines.