

**B.S. Computer Science (CSC)***College: Arts & Sciences*

Option 2: Biology Concentration

**DEGREE REQUIREMENTS**

Course requirements for all UNCW degrees include: (1) University Studies, (2) specific major requirements, and (3) sufficient elective hours for a combined total of a minimum of 124 hours.

**(1) UNIVERSITY STUDIES**

See University Studies sheet and/or information on the web at <http://www.uncw.edu/uc/basic/basic.html>

**(2) MAJOR REQUIREMENTS – CSC Option 2 – Biology**

(69-75 hours: Core plus Concentration)

**Core Courses:** (49 hours)

_____	CSC 100	Orientation to Computer Science (1)
_____	+CSC 121	Computer Science I (3) Prereq: MAT 111 or 115 (Meets <b>Computer Competency Requirement</b> )
_____	+CSC 133	Discrete Mathematical Structures (4) Prereq: MAT 111 or 115, or equivalent, Corequisite: CSC 121
_____	CSC 221	Computer Science II (4) Prerequisite: CSC 121
_____	CSC 242	Digital Logic, Computer Organization and Assembly Language (4) Prereqs: CSC 121 and CSC 133
_____	CSC 332	Data Structures (3) Prerequisite: CSC 221, Pre/Corequisite: MAT 161
_____	CSC 344	Computer Networks (3) Prerequisite: CSC 242
_____	CSC 360	Formal Languages and Computability (3) Prerequisites: CSC 242 and 332
_____	CSC 385	Professional and Ethical Issues in Computer Science (3) Prerequisites: ENG 101 or equivalent, junior or senior standing in computer science (Meets <b>Oral Communication Competency Requirement</b> )
_____	CSC 434	Programming Languages (3) Prerequisites: CSC 332 and CSC 360
_____	CSC 450	Software Engineering (3) Prerequisites: CSC 332 and senior standing (Meets <b>Applied Learning Requirement</b> )
_____	CSC 455	Database Design and Implementation (3) Corequisite: CSC 332
_____	+MAT 161	Calculus with Analytic Geometry (4) Prerequisite: MAT 112 or 115 or equivalent preparation
_____	MAT 162	Calculus with Analytic Geometry (4) Prerequisite: MAT 161
_____	QMM 280	Statistical Analysis for Business and Economics (3) Prerequisite: MAT 111
_____	or +STT 215	Introduction to Statistics (3) Prerequisite: Satisfactory on the UNCW math test or MAT 105
_____	CSC _____	Choose 6 additional hours in computer science at the 300-400 level; must be approved by advisor
_____	CSC _____	

**Biology Concentration:** (21 Hours)

_____	+*BIO 201	Principles of Biology: Cells (4)
_____	+*BIO 202	Principles of Biology: Biodiversity (4)
_____	BIO _____	Select 2 courses (with or without lab) from the following: BIO 335 or 366, or 1 course from BIO 325, 340, or 345
_____	BIO _____	Choose 7 additional hours in biology at the 300-400 level, one of which must be a lab course
_____	BIO _____	

A grade point average of "C" (2.00) or better computed over the CSC courses and all the courses used to fulfill the requirements of the major are required.

*\*These courses require a lab*

*+May also be used to satisfy University Studies requirements*

**(3) ELECTIVES**

\_\_\_\_\_ Elective hours to equal a minimum of 124 hours

**Requirements to declare PRE-CSC:** Completion of 24 hours

**Requirements to declare CSC:** CSC 100, CSC 121, 133, and 221 with a GPA of at least 2.5 on these four courses.

For further information, see the CSC website: <http://www.uncw.edu/csc> and <http://uncw.edu/catalogue/undergraduate%2011-12/Undergraduate%20Catalogue%20Master%20Word.pdf#page=127>.

## COMPUTER SCIENCE COURSES

<b>CSC 100</b>	<b>Orientation to Computer Science (1)</b>
<b>CSC 105</b>	<b>Introduction to Computing and Computer Applications (3)</b> [For non-CSC majors]
<b>CSC 110</b>	<b>Fluency in Information Technology (3)</b>
<b>CSC 112</b>	<b>Introduction to Computer Programming (3)</b> Prerequisite: MAT 111 or 115
<b>CSC 121</b>	<b>Computer Science I (3)</b> Prerequisite: MAT 111 or 115
<b>CSC 133</b>	<b>Discrete Mathematical Structures (4)</b> Prerequisite: MAT 111 or 115 or equivalent, Coreq: CSC 121
<b>CSC 204</b>	<b>Multimedia Systems (3)</b> Prerequisite: CSC 105 or 110 or equivalent
<b>CSC 220</b>	<b>(ART 220) (FST 220) 3-D Computer Graphics Tools and Literacy (3)</b> Prerequisites: CSC 105, 121 or consent of instructor
<b>CSC 221</b>	<b>Computer Science II (4)</b> Prerequisite: CSC 121
<b>CSC 242</b>	<b>Digital Logic, Computer Organization and Assembly Language (4)</b> Prerequisites: CSC 121 and 133
<b>CSC 255</b>	<b>Introduction to Databases: Techniques and Technologies (3)</b>
<b>CSC 275</b>	<b>Topics in Computer Science and Technology (3)</b> Prerequisite: Consent of instructor
<b>CSC 320</b>	<b>(ART 320) (FST 320) Computer Animation (3)</b> Prerequisite: CSC 220 (ART 220) (FST 220) or consent of instructor
<b>CSC 332</b>	<b>Data Structures (3)</b> Prerequisite: CSC 221, Pre/Corequisite: MAT 161
<b>CSC 340</b>	<b>Scientific Computing (3)</b> Prerequisites: MAT 162 and CSC 221
<b>CSC 342</b>	<b>Operating Systems (3)</b> Prerequisites: CSC 242 and 332
<b>CSC 344</b>	<b>Computer Networks (3)</b> Prerequisite: CSC 242
<b>CSC 360</b>	<b>Formal Languages and Computability (3)</b> Prerequisites: CSC 242 and 332
<b>CSC 370</b>	<b>Computer Graphics (3)</b> Prerequisites: CSC 332 and MAT 162
<b>CSC 385</b>	<b>Professional and Ethical Issues in Computer Science (3)</b> Prerequisites: ENG 101 or equivalent and junior or senior standing in computer science
<b>CSC 415</b>	<b>(515) Artificial Intelligence (3)</b> Prerequisite: CSC 332
<b>CSC 421</b>	<b>Computer Gaming (3)</b> Prerequisites: CSC 320 (ART 320) (FST 320), 340, and 370
<b>CSC 430</b>	<b>(FST 430) Digital Special Effects (3)</b> Prerequisites: CSC 332 and 220, or FST 220 and 302
<b>CSC 434</b>	<b>Programming Languages (3)</b> Prerequisites: CSC 332 and 360
<b>CSC 437</b>	<b>(CSC 537) Parallel Computing (3)</b> Prerequisite: CSC 340
<b>CSC 442</b>	<b>Computer System Architecture (3)</b> Prerequisite: CSC 242
<b>CSC 446</b>	<b>(CSC 546) Grid Computing (3)</b> Prerequisite: CSC 344 or 332
<b>CSC 450</b>	<b>Software Engineering (3)</b> Prerequisites: CSC 332 and senior standing
<b>CSC 455</b>	<b>Database Design and Implementation (3)</b> Corequisite: CSC 332
<b>CSC 457</b>	<b>Compiler Construction (3)</b> Prerequisites: CSC 434 and senior standing
<b>CSC 475</b>	<b>Topics in Computer Science (3)</b> Prerequisites: Senior standing and consent of instructor
<b>CSC 491</b>	<b>Directed Individual Study (1-3)</b> Prerequisites: Overall GPA of at least 2.50 and a GPA in CSC courses of at least 2.80, junior or senior standing, and consent of instructor, department chair and dean
<b>CSC 495</b>	<b>Seminar in Computer Science (1)</b> Prerequisites: Junior or senior standing and consent of instructor
<b>CSC 498</b>	<b>Internship in Computer Science (1-3)</b> Prerequisites: Overall GPA of at least 2.50 and a GPA in CSC of at least a 2.80
<b>CSC 499</b>	<b>Honors Work in Computer Science (2-3)</b> Prerequisite: Eligibility for honors program