

**B. S. Computer Science (CSC)***College of Arts & Sciences*Option 2: *With Selected Concentrations*

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 120 hours.

**MAJOR REQUIREMENTS – CSC Option 2** (Minimum 73 - 79 hours)**Core Courses:** (55 hours)

___+CSC 131	Introduction to Computer Science (4) Prereq: MAT 111 or 115, or equivalent, or sufficient math placement
___+CSC 133	Discrete Mathematical Structures (3) Prereq: MAT 111 or 115, or equivalent, or sufficient math placement
___CSC 231	Introduction to Data Structures (4) Prereq: CSC 131 with grade of “C” or better; Coreq CSC 133
___CSC 242	Computer Organization (3) Prereq: CSC 131 with a grade of “C” or better and 133
___CSC 331	Object-Oriented Programming and Design (3) Prereq: CSC 231 with a grade of “C” or better
___CSC 344	Computer Networks (3) Prereq: CSC 231 with a grade of “C” or better and CSC 242
___CSC 360	Formal Languages and Computability (3) Prereq: CSC 231 with a grade of “C” or better and 242
___CSC 380	Design and Analysis of Algorithms (3) Prereq: CSC 133, 231 with a grade of “C” or better, and MAT 161
___CSC 385	Professional and Ethical Issues in Computer Science (3) Prereq: ENG 101 or equivalent and junior/senior standing in computer science or information technology (Meets <b>Oral Communication Requirement</b> )
___CSC 434	Programming Languages (3) Prereq: CSC 331 with a grade of “C” or better and 360
___CSC 450	Software Engineering (3) Prereq: CSC 331 with a grade of “C” or better and senior standing (Meets <b>Applied Learning Requirement</b> )
___CSC 455	Database Design and Implementation (3) Prereq: CSC 331 with a grade of “C” or better (Meets <b>Applied Learning Requirement</b> )
___CSC ___	Choose 6 additional hours in CSC at the 300-400 level; must be approved by advisor.
___CSC ___	
___+*MAT 161	Calculus with Analytical Geometry I (4) Prereq: MAT 112 or 115 or equivalent preparation
___and ___*MAT 162	Calculus with Analytical Geometry II (4) Prereq: MAT 161
___+BAN 280	Statistical Analysis for Business and Economics (3) Prereq: MAT 111
___or ___+STT 215	Introduction to Statistics (3) Prereq: Satisfactory performance on the UNCW math test or MAT 105

**Concentration Courses:** (18 – 21 hours)**Biology Concentration:** (21 hours)

___+*BIO 201	Principles of Biology: Cells (4)
___+*BIO 202	Principles of Biology: Biodiversity (4)
___BIO ___	**Additional 13 hours in BIO above the 200 level.
___BIO ___	
___BIO ___	
___BIO ___	

**Business Concentration:** (22 hours)

___*ACG 201	Financial Accounting (3), Lab (1) Pre/Corequisite: MAT 111, Corequisite: ACGL 201
___ACG 203	Managerial Accounting (3) Prerequisite: ACG *201 and ACGL 201
___+ECN 221	Principles of Economics – Micro (3) Prerequisite: MAT 111
___+ECN 222	Principles of Economics – Macro (3) Prerequisite: ECN 221
___FIN 335	Principles of Financial Management (3) Prerequisites: ACG 201, ECN 222, and BAN 280
___MKT 340	Principles of Marketing (3) Prerequisite: Junior standing or admission to CSB
___MGT 350	Principles of Management (3) Prerequisite: Junior standing or admission to CSB

**Chemistry Concentration:** (22 hours)

___+*CHM 101	General Chemistry I (4)
___*CHM 102	General Chemistry II (4) Prereq: CHM 101
___CHM 211	Organic Chemistry I (3), Lab (1) Prerequisite: CHM 102 with a grade of “C” or better
___*CHM 212	Organic Chemistry II (3), Lab (1) Prereq: CHM 211
___or ___*CHM 235	Quantitative Analysis (3), Lab (1) Prereq: CHM 101 & 102 with a grade of “C” or better
___CHM ___	**Choose 6 additional hours in CHM at the 300-400 level
___CHM ___	

**Digital Arts Concentration: (24 hours)**

- \_\_\_+ARH 202 Renaissance Through Early Twentieth Century (3)
- \_\_\_ART 101 Two-Dimensional Design (3) Studio Art and Digital Arts minors only or instructor consent
- \_\_\_ART 260 Introduction to Graphic Design (3) Prerequisite: ART 101 or consent of instructor
- \_\_\_MIS 310 Web and Device Development Languages (3) Prerequisite: CIT 110 or CSC 131 or MIS 213.
- \_\_\_CSC 112 Introduction to Computer Programming (3) Prereq: MAT 111 or 115
- or CSC 131 Introduction to Computer Science (4) Prereq: MAT 111 or 115
- or MIS 216 Introduction to Business Application Development (3)
- or MIS 316 Business Application Development (3) Prerequisite: MIS 216 or CSC 112 or CSC 131
- \_\_\_CSC 220/ART220/FST 220 3-D Computer Graphics (3) Prereq: CSC 105,131 or instructor consent Coreq: ART 260
- \_\_\_ \*\*6 hours electives – at least 3 hours at the 300-400 level, and at least 3 hours outside major. Choose from
- \_\_\_ CSC 315, 320, 368, 370, 421, 430, 475, 491; ARH 202, 206, 308, 386, ART 280, 282, 311, 312, 320, 341, 343, 360, 365, 380,382, 411, 412, 475, 491, 495, CIT 410, COM +160, +211, 280, 380,480,491, CRW 210, 301, 302, 318, 320, 330, 331, 332, 333, 368, 392, 393, 394, 397, 398, 430, 491, 495, 497, MUS 110, 210, 310, 491, THR,211, 305, 306, 411, 491.

**GIS Concentration: (21 hours)**

- \_\_\_+GGY 215 The Digital Globe (3)
- or GGY 220 Cartography (3) Prerequisite: GGY 130 or GGY 140
- \_\_\_GGY 281 Intro to Geographic Information Systems (3) Prereq: GGY 130, 140, EVS 195 or instructor consent
- \_\_\_GGY 322 Introduction to Remote Sensing (3) Prereq: GGY 130 or GLY 120 or GGY 215
- \_\_\_ \*\*Choose 12 additional hours of electives, 6 credit hours at 300-level, and at least 9 hours outside
- \_\_\_ major, selected from the following: ANT 311, \*BIO 366, 466, BIOL 366, CSC 370, 415, 455,
- \_\_\_ GGY 220, 222, 328, 333,424, 426, 428, 433, GLY 390, 470, 471, MIS 315, OCN 390 or 471.

**Neuroscience Concentration: (23 hours)**

- \_\_\_BIO 201 Principles of Biology: Cells (0-4)
- \_\_\_PSY 105 General Psychology (3)
- \_\_\_PSY 256 Brain and Behavior (3) Prerequisite: BIO 105 and PSY 105 or higher
- \_\_\_BIO 443 Neurobiology (3) Prerequisite: BIO 240, BIO 345, or PSY 256
- or PSY 456 Advanced Biological Psychology (3) Prereq: PSY 256 and BIO 105 or 201, or instructor consent
- \_\_\_BIO 495 Seminar (1-3) Prerequisite: Senior standing
- or PSY 495 Topical Seminar (1-3) Prerequisite: PSY 105
- \_\_\_ \*\*Choose at least 9 hours of the following with at least 3 hours at 400 level or higher, and at least
- \_\_\_ 9 hours outside the major: BIO 240, 335, 368, 415, 440, 443, 459, 484, 491, 499, CHM 101, 102,
- \_\_\_ CSC 415, PAR 320, PSY 245, 356, 456, 457, 491 or 499.

**Security Concentration: (18 hours)**

- \_\_\_CYBR 201 Fundamentals of Cybersecurity (3)
- \_\_\_CSC 324 Cyber Operations (3). Prereq: CYBR 201 and CSC 242.
- \_\_\_CSC 342 Operating Systems (3) Prereq: CSC 231 and CSC 242.
- \_\_\_CSC 424 Computer Security (3) Prereq: CSC 331
- \_\_\_CSC 350 Secure Programming (3) Prereq: CSC 331 or
- \_\_\_CSC 354 Computer and Mobile Forensics (3) Prerequisite: CSC 242.
- \_\_\_CSC \_\_\_ \*\*Choose 3 hours from CSC 350, 354, 365, 465, 475, 491, 498. *May double count with core electives.*

**Statistics Concentration: (18 hours)**

- \_\_\_+STT 215 Introduction to Statistics (3) Prereq: Satisfactory math placement or MAT 105
- \_\_\_STT 305 Statistical Programming (3) Prerequisite: STT 215 or equivalent
- \_\_\_STT \_\_\_ \*\*Choose 12 additional hours in STT at the 300-400 level.
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An combined overall GPA of “C” (2.00) or better is required for all courses used to fulfill the requirements of the major.

*\*These courses require a lab*

*+May also be used to satisfy University Studies Foundations & Approaches and Perspectives requirements*

**Requirements to declare CSC:** Completion of 24 hours  
 For further information, see the CSC website: <http://www.uncw.edu/csc>