

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)

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| ___+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 Oral Communication Requirement) |
| ___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 Applied Learning Requirement) |
| ___CSC 455 | Database Design and Implementation (3) Prereq: CSC 331 with a grade of “C” or better (Meets Applied Learning Requirement) |
| ___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 |
| ___*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)

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| ___+*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)

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| ___*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)

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| ___+*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
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- ___ **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
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- ___ **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.
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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
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- ___ **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.
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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.
- ___STT ___
- ___STT ___
- ___STT ___

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>