

B. S. Biology (BIO)*College: Arts & Science*

**With or Without Teacher Licensure Option

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 requirements online: <http://uncw.edu/uc/advising/unistudies.html>.

(2) MAJOR REQUIREMENTS - BIO (66 – 77 hours)

This program is designed to meet the needs of BIO majors who may wish to pursue further education in graduate school in BIO or professional schools in the health sciences. The sequence of courses conforms to entrance requirements prescribed in publications of the Association of American Medical Colleges, the American Association of Dental Schools, and the Council on Optometric Education of the American Optometric Association.

Core Courses: (47 – 58 hours)

_____	+* BIO 201	Principles of Biology: Cells (4)
_____	+* BIO 202	Principles of Biology: Biodiversity (4)
_____	* BIO 335	Genetics (3), Lab (1) Prerequisites: BIO 201 and 202 (Meets Computer Requirement with BIO 366)
_____	* BIO 366	Ecology (3), Lab (1) Prerequisites: BIO 201 and 202 (Meets Computer Requirement with BIO 335)
_____	* BIO 325	Molecular Biology of the Cell (3), Lab (1) Prerequisites: BIO 201, 202, and CHM 211
or	* BIO 340	Plant Physiology (4) Prerequisites: BIO 201, 202, and CHM 102
or	* BIO 345	Animal Physiology (3), Lab (1) Prerequisites: BIO 201, 202, and CHM 102
or	* BIO 240 & *241	Human Anatomy and Physiology I, II (3, 3), Lab (1, 1) Prerequisites: BIO 201 and CHM 101
_____	BIO 495	Seminar (1-3) Prereqs: BIO 201, 202, 335, 366, and a physiology course, or consent of instructor
or	BIOL 495	Applied Learning Seminar (1) Prereqs: BIO 201, 202, 335, 366 & a physiology class, or consent of instructor (Meets Oral Communication and Applied Learning Requirements)
_____	+* CHM 101	General Chemistry I (4)
_____	* CHM 102	General Chemistry II (4) Prerequisite: CHM 101
_____	* CHM 211 & *212	Organic Chemistry I, II (3, 3), Lab (1, 1) Prerequisite: CHM 102
or	* BIO 465	Biochemistry (3), Lab (1) Prerequisites: BIO 201, 202, CHM 211 and junior standing
_____	+ MAT 151	Basic Calculus with Applications I (3) Prerequisite: MAT 111 or 115 or equivalent preparation
or	+ MAT 161	Calculus with Analytic Geometry I (4) Prerequisite: MAT 112 or 115 or equivalent preparation
_____	+* PHY 101-102	Elementary College Physics (4, 4) For 101: Corequisite: MAT 111; For 102: Prerequisite: PHY 101
_____	+ STT 215	Introduction to Statistics (3) Prerequisite: Satisfactory performance on UNCW math test or MAT 105

Electives: (19 hours chosen from BIO courses above 299-level)

_____	BIO _____	
_____	BIO _____	Note: No more than 10 hours from BIO 480, 491, 493, 498, and 499 can be counted toward the elective 19 hours. The department strongly recommends two out of BIO 240, 335, 340, 345, or 366 be completed before taking other BIO 300-400 level courses.
_____	BIO _____	
_____	BIO _____	
_____	BIO _____	
_____	BIO _____	Pre-Health Professional: BIO 315, 316, 320, 325, 371, 415, 425, 459, 465.

NOTE: Students planning to attend graduate school are also encouraged to take CHM *235, MAT 152 or 162, CSC 112, 121. Students interested in health professional schools should visit <http://www.uncw.edu/prehealth>.

**For teacher licensure, students must complete the requirements for a degree in BIO/MBY and the other requirements of the Teacher Education Program. In addition, the following courses are required for licensure: BIO 160 or *335, BIO 190 or 425, BIO 315, BIO *325 or 340 or *345, BIO *366; GLY 101 or 150, and PHY 101 or 105. Additionally, to earn Secondary Science Licensure, students must select at least 21 hours from 3 physical science areas. A minimum of 2 courses from each discipline, including PHY 260, is required. For information on the Teacher Education Program admissions criteria and the courses required for licensure in North Carolina, see the Watson School of Education section of the catalogue. Students planning to pursue licensure should apply to the WSE as soon as admissions requirements are met (typically in the sophomore year) and plan their programs in regular consultation with their advisors. Teacher licensure requirements are established at the state level and may be changed by the state.

A "C" (2.00) or better is required in all BIO courses above the 299-level.

*These courses require a lab

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

Highlighted courses may meet University Studies Cluster, Competency, Exploration and/or Capstone course requirements

(3) ELECTIVES

_____ Elective hours to equal a minimum of 124 hours

Requirements to declare PRE-BIO: Completion of 24 semester hours.

Requirements to declare BIO: Completion of BIO 201 and 202 or equivalent courses with a grade of "C" or better in both courses.

Requirements to declare BIO for Transfer Students: a) completion of 24 semester credit hours from an accredited four-year college or university and a 2.00 grade point average in two biology courses with labs, preferably BIO 201 and 202, or equivalents; or b) completion of an associate degree from an accredited two-year college and a 2.00 grade point average in two biology courses with labs.

For further information, see the BIO website: <http://www.uncw.edu/bio> and <http://catalogue.uncw.edu>.

MAJOR REQUIREMENTS WITHIN UNIVERSITY STUDIES

Note: **Highlighted courses** are within the major requirements/electives and also meet University Studies Cluster, Competency, Exploration and/or Capstone Course requirements.

THEMATIC TRANSDISCIPLINARY CLUSTERS

(At least 9 hours and 3 courses with at least 2 different prefixes – all eligible for multiple-counting.)

Students who complete a minor, a second major, or an approved concentration in their major are exempt from the requirement.)

Modeling: ANT 105, 207, **BIO 201, 366, CHM 101**, CSC 112, 121, EVS 195, MAT 101, **151**, 152, **161**, 162, PSY 105, 256.

Immigration: ANT 316, 327, ENG 344, **FRH 421, HON 210, HST 106, 340, INT 105, SPN 323, 490.**

Climate Change and Society: ANT 312, **GGY 140, 230, 333, 340, 436, GLY 250, 350, 420.**

Global Diversity: ENG 341, 359, **HEA 320, HST 104, 367, INT 105, PAR 230, 232, PED 206, 235, 350, REC 265, 351, 494.**

Foundations for Systems Thinking: **BIO 105, 201, 345, 366, ECN 221, 250, EXS 216, 217, RTH 468.**

Evolution: ANT 210, 320, 322, 324, 328, **BIO 105, 202, 430, 475, GLY 132, 135, 337, PSY 257.**

BUILDING COMPETENCIES

A. Writing Intensive: *(9 hours with at least one at the 300 – 400-level and at least one in the major)*

ACG 445, ANT 305, 308, 312, ARH 476, ART 476, ATR 445, **BIOL 345, 366, CHM 250, CHML 321, 420, CLA 209, 210, 330, COM 305, CRM 495, CRW 203, 496, CSC 385, 450, EBD 490, ECN 422, EDN 300, 352, ENG 110, 111, 202, 204, 205, 211, 223, 224, 225, 226, 227, 230, 232, 233, 290, 313, 495, 496, EVS 495, FIN 330, FRH 402, 411, 421, 470, 485, 491, 498, 499, FST 317, 367, 440, 445, 496, GER 495, 499, GGY 333, 382, 435, 436, 499, GLY 337, 390, 420, 499, HEA 305, HST 290, 408, 412, 414, 418, 440, 442, 444, 446, 448, 450, 454, 456, 477, 478, 480, 481, 483, 485, 487, 495, 496, 497, INT 490, MAT 346, 495, MGT 352, 458, MKT 343, MUS 351, 352, NSG 415, OCN 390, 490, 499, PAR 301, 371, 373, 374, PED 415, PLS 401, PSY 355, 410, 412, 417, 423, 425, 464, REC 375, SED 372, SOC 490, 496, SPN 497, SWK 320.**

B. Information Literacy: *(9 hours; First-Year Seminar and two additional courses with at least one in the major)*

ANT 308, 312, ARH 476, ART 476, ATR 445, **BIO 495, BIOL 495, CHM 250, COM 200, CRM 300, 495, CRW 204, CSC 385, ECN 422, ENG 103, 200, 201, 202, 204, 205, EVS 495, EXS 359, FRH 304, 311, 318, 404, FST 371, 372, 376, 377, 378, 379, GER 495, GGY 215, 222, GLY 350, 390, HEA 452, HON 110, HST 290, INT 490, MAT 495, NSG 415, OCN 350, 390, 490, PAR 300, 301, 400, PLS 201, PSY 355, 410, 412, 417, 423, 425, 464, SEC 430, 431, SOC 300, 390, 490, 496, SPN 497, SWK 321, UNI 101.**

C. Quantitative and Logical Reasoning: *(3 hours – may be taken as a major requirement)*

ANT 324, **BIOL 366, CHM 101, CSC 112, 121, 133, FST 445, GGY 215, 222, 235, GLY 226, 350, 390, 426, MAT 101, 102, 111, 112, 115, 141, 142, 151, 152, 161, 162, OCN 350, 390, OPS 370, PAR 110, 218, PHY 101, 102, 201, 202, PLS 201, PSY 225, STT 210, 215.**

EXPLORATIONS BEYOND THE CLASSROOM

(1 approved experience from the options below – may be integrated into the major or any other component)

Discovery (Directed Individual Study or Honors project), **Application** (Internships, Fieldwork Practicum, Student Teaching), **Regional Engagement** (Service Learning Projects), **Exploration Away** (Study Abroad)

ACG 491, 498, ANT 491, 498, ANTL 207, ART 491, **BIO 291, 480, 491, 493, 495, 498, BIOL 495, BLA 491, 498, CHM 495, COM 491, 498, CRM 490, CSC 450, 491, 498, EBD 491, 498, ECN 491, 498, EDN 318, 323, 335, 352, 338, 355, 409, 411, 465, 466, 467, EDNL 200, 300, 302, 332, 333, 388, 407, 450, 451, ENG 202, 204, 302, 498, EVS 431, 491, 497, 498, EVSL 195, EXS 347, FIN 491, 498, FRH 491, FST 498, GER 491, 498, GGY 424, 491, 498, GLY 390, 470, 491, 498, INT 294, 494, 491, 498, MAT 498, MIS 411, 413, 491, 498, MGT 491, 498, MKT 491, 498, OCN 390, 491, OPS 491, 498, PAR 400, PHY 315, 477, 481, PLS 294, 491, 494, 498, PSY 291, 451, 491, REC 498, RTH 498, SEC 220, 320, 421, 422, 431, SED 250, 350, 354, 355, 362, 367, 374, 375, 411, SEDL 368, 369, SOC 390, 496, SPN 490, 491, 498, STA 294, SWK 496, 497, WMS 498, 491, xxx 499.**

CAPSTONE COURSES

(1-4 hours – may be taken as a major requirement)

ANT 450, ARH 476, ART 476, **BIO 495, BIOL 495, CHM 491, CRM 495, CRW 496, CSC 450, 455, ECN 422, EDN 409, 411, 465, ENG 495, 496, EVS 495, EXS 347, FRH 404, 411, 421, 437, 448, 470, 485, FST 495, 496, GER 495, 499, GGY 495, GLY 470, 495, HEA 498, HST 408, 412, 414, 418, 440, 442, 444, 446, 448, 450, 454, 456, 477, 478, 480, 481, 483, 485, 487, 495, 496, 497, INT 490, MAT 495, MGT 455, MUS 493, 496, NSG 403, 405, PAR 400, PHY 497, PLS 401, PSY 410, 412, 417, 423, 425, 464, REC 498, SED 411, SOC 490, 496, SPN 497, STT 490, 498, SWK 496, 497.**