

B. A. Chemistry (CHM)

With** or Without Teacher Licensure or Science Certification Option

*College: Arts & Sciences***DEGREE REQUIREMENTS**

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

(1) BASIC STUDIES (45 semester hours)

See Basic Studies sheet and/or information on the WEB at <http://www.uncw.edu/uc/basicstudies.htm>

(2) MAJOR REQUIREMENTS - CHM (Minimum 60 hours)

Check when complete:

- _____ +*CHM 101 General Chemistry (4) (With CHM 102, meets **Computer Competency Requirement**)
 _____ +*CHM 102 General Chemistry (4) Prerequisite: CHM 101. (With CHM 101, meets **Computer Competency Requirement**)
 _____ *CHM 211 Organic Chemistry I (3) CHML 211. Lab (1) Prerequisite: CHM 102
 _____ *CHM 212 Organic Chemistry II (3) CHML 212. Lab (1) Prerequisite: CHM and CHML 211
 _____ *CHM 235 Quantitative Analysis (2) CHML 235. Lab (2) Prerequisite: CHM 102
 _____ *CHM 312 Advanced Techniques of Organic Chemistry (2) CHML 312. Lab (2) Prerequisite: CHM 212
 [Note: Lab not required for degree but may be taken to fulfill advanced lab requirement for major]
 _____ *CHM 321 Fundamentals of Physical Chemistry (4) CHML 321. Lab (1) Prerequisite: CHM 102, 255 or equivalent, PHY 202
 _____ CHM 445 Inorganic Chemistry (3) CHML 445. Inorganic Synthesis (1) Prerequisite: CHM 321
 _____ CHM 495 Senior Seminar (1-3) Prerequisite: CHM 255 and 25 semester hours of CHM courses
 (Meets **Oral Communication Competency Requirement**)
 _____ +*BIO 204 Principles of Biology: Cells (4)
 _____ +#MAT 161 Calculus with Analytic Geometry I (4) Prerequisite: MAT 112 or 115 or equivalent preparation in algebra and trigonometry
 _____ +MAT 162 Calculus with Analytic Geometry II (4) Prerequisite: MAT 161
 _____ +*PHY 101-102 or +*PHY 201-202 Elementary College Physics (4-4) Prerequisite: MAT 111 or General Physics (4-4)
 Corequisite: MAT 161-162
 _____ Choose 7 hrs from the following including one advanced lab (*): CHML 312*, 321*, 377*, 420*, 445*, CHM 365, 377, 380*, 415, 417, 420, 425, 435*, 466, 467*, 475, 478, 490, 491*, 498, and 499* (if 491, 498 or 499 is used, student must take a total of 3 hrs in 491 or 498 and may count only 3 of the 6 credit hrs taken as 499 for credit toward the major.)

Recommended electives for particular areas of interest:

Environmental Chemistry: BIO *205 or *206; *CHM 377; EVS 195, 495; GLY 120; +STT 215Marine Chemistry: BIO *205 or *206, 362, CHM 475, GLY 150Industrial Chemistry: CHM 365, *435 and L445; *ACG 201 and either QMM 280 or +STT 215Pre-Medical Science: *BIO 206, CHM 365, 417, 466, 467

*Students planning to enter the Teacher Education Program should take EDN 200, EDN 203 and PSY 223 in their third and/or fourth semester. For Secondary Teacher Licensure in General Science as well as CHM, an additional BIO course, PHY 260, and 2 courses from GLY 101, 120, 150 are required. Teacher Licensure requirements are established at the state level and may be changed at any time (see Watson School of Education section of the catalogue or the Watson School of EDN WEB site: http://www.uncw.edu/catalogue/wse.htm#CURRICULAR_STUDIES.)

An overall grade point average of "C" (2.00) is required in all CHM courses counted toward the major.

#Students interested in the degree program in CHM are encouraged to begin w/ MAT 161. Initial placement is based on high school background and the MAT Placement Test. Students not prepared for MAT 161 should begin w/ MAT 115 or 111-112, as appropriate.

*These courses require a lab

+May also be used to satisfy Basic Studies requirements

(3) ELECTIVES

_____ Elective hours to equal a minimum of 124 hours

Requirements to declare CHM: Completion of 24 hours

For further information see the CHM WEB site: <http://www.uncw.edu/chem/> and <http://www.uncw.edu/catalogue/COURSES/Chm.htm>

CHEMISTRY COURSES

- CHM 101. General Chemistry (4)**
CHM 102. General Chemistry (4) Prerequisite: CHM 101.
CHM 105. Basic Concepts of Chemistry (3)
CHM 211-212. Organic Chemistry (3-3) CHML 211-212. Lab (1-1) Prerequisite: CHM 102
CHM 235. Quantitative Analysis (2) CHML 235. Lab (2) Prerequisite: CHM 101 and CHM 102.
CHM 250. Introduction to Chemical Research (1)
CHM 291. Introductory Research (1-3) Prerequisite: Freshman or sophomore standing, and consent of instructor and department chair
CHM 312. Advanced Techniques of Organic Chemistry (2) CHML 312. Lab (2)
Prerequisite: CHM 212
CHM 321. Fundamentals of Physical Chemistry (4) CHML 321. Lab (1) Prerequisite: CHM 102, 250, PHY 201, and MAT 161
CHM 365. Biochemistry I (3) Prerequisite: BIO 204, CHM 212 and CHM 321
CHM 377. Environmental Chemistry (3) CHML 377. Lab (1) Prerequisite: CHM 102
CHM 380. Forensic Chemistry (4) Prerequisite: CHM 211 w/ lab, CHM 235 w/ lab
CHM 415. Physical Organic Chemistry (3) Prerequisite: CHM 212; prerequisite or corequisite: CHM 321 or permission of instructor
CHM 417. Medicinal Chemistry (3) Prerequisite: CHM 212
CHM 420. Quantum Mechanics (3) CHML 420. Lab (1) Prerequisite: CHM 321
CHM 425. (525) Computational Chemistry (3) Prerequisite: CHM 321
CHM 435. Analytical Chemistry (4) Prerequisite: CHM 235 and CHML 235, CHM 312, and CHM 321 and CHML 321
CHM 445. Inorganic Chemistry (3) CHML 445. Inorganic Synthesis (1) Prerequisite: CHM 321
CHM 466. Biochemistry II. (3) Prerequisite: CHM 365
CHM 467. (567) Biochemical Techniques and Instrumentation (2) Prerequisite: CHM 365 or permission of instructor
CHM 475. Introduction to Chemical Oceanography (3) Prerequisite: CHM 235 and CHML 235 or permission of instructor
CHM 478. (578) Marine Ecotoxicology (2) Prerequisite: CHM 212
CHM 485. (585) Industrial and Polymer Chemistry (3) Prerequisites: CHM 321 and CHM 211-212
CHM 490. (590) Special Topics in Chemistry (1-3) Prerequisite: Junior or senior standing and consent of instructor
CHM 491. Directed Individual Study (1-3) Prerequisite: Overall GPA of at least 2.00, junior or senior standing, and consent of instructor, department chair and dean
CHM 495. Senior Seminar (1-3) Prerequisite: CHM 255 and 25 semester hours of CHM courses
CHM 498. Internship in Chemistry (3-12) Prerequisite: CHM 212 w/ lab and 235 w/ lab; junior or senior standing in CHM; consent of instructor; and GPA of at least 2.80 in CHM
CHM 499. Honors Work in Chemistry (2-3) Prerequisite: Second semester junior or senior standing