



**DEGREE WORKSHEET FOR:**  
**BS Chemistry, Biochemistry Emphasis (ACS Certified)**  
**2017-2018 Catalog**  
**Degree Requirements – 120 credits**

YEAR 1- FALL (16 credits)	YEAR 1- SPRING (15 credits)
CHEM 111/111L Principles of Chemistry I (LAC Area 6) 4/1 credits	CHEM 112/112L Principles of Chemistry II 4/1 credits
ENG 122 College Composition (LAC Area 1a) 3 credits	MATH 132 Calculus II (LAC Area 2) 4 credits
BIO 110 Principles of Biology (LAC Area 6) 4 credits	Liberal Arts Core <sup>1</sup> 3 credits
MATH 131 <sup>2</sup> Calculus I (LAC Area 2) 4 credits	Electives 3 credits
YEAR 2- FALL (14 credits)	YEAR 2-SPRING (16 credits)
CHEM 331/331L Organic Chemistry I (F) 4/1 credits	CHEM 332/332L Organic Chemistry II (S) 4/1 credits
PHYS 240 General Physics I (LAC Area 6) 5 credits	PHYS 241 General Physics II 5 credits
MATH 233 Calculus III 4 credits	SCI 291 <sup>3</sup> Scientific Writing (LAC Area 1b) 3 credits
	BIO 210 Cell Biology 3 credits
YEAR 3- FALL (15 credits)	YEAR 3- SPRING (15 credits)
CHEM 321 Chemical Analysis (F) 4 credits	CHEM 421 Instrumental Analysis (S) 4 credits
CHEM 481 General Biochemistry I (F) 3 credits	CHEM 482/482L General Biochemistry II (S) 3/1 credit
Liberal Arts Core <sup>1</sup> 3 credits	CHEM 481L General Biochemistry I Lab 1 credit
Biology Electives <sup>4</sup> 3-4 credits	Liberal Arts Core <sup>1</sup> 6 credits
Electives 1-2 credits	
YEAR 4- FALL (16 credits)	YEAR 4- SPRING (13 credits)
CHEM 452/452L Physical Chemistry I (F) 4/1 credits	CHEM 451/451L Physical Chemistry II (S) 4/1 credits
CHEM 499 Seminar & Research in Chemistry 1 credit	CHEM 499 Seminar & Research in Chemistry 1 credit
Biology Electives <sup>4</sup> 4 credits	CHEM 442 Inorganic Chemistry II (S) 3 credits
CHEM 441 Inorganic Chemistry I (F) 3 credits	CHEM 443 Inorganic Chemistry Lab (S) 1 credits
Liberal Arts Core <sup>1</sup> 3 credits	Electives 3 credits
	Chemistry Assessment Exam <sup>5</sup> 0 credits

**Admission Requirement – No separate admission requirement.**

**Minor Required – No Minor required.**

**Contact Information – Department of Chemistry & Biochemistry**

**Ross Hall Room 3480, 970-351-2559**

**Department Web Page: <http://www.unco.edu/nhs/chemistry-biochemistry/>**

**Notes - See page 2**

This worksheet is a recommended schedule to complete your bachelor's degree in 4 years. Every UNC student must meet the following requirements in order to graduate with a bachelor's degree: earn a minimum of 120 semester credit hours; possess a minimum of a 2.00 cumulative grade point average; have at least 40 credit hours in courses designated as Liberal Arts Core; meet all degree requirements in the student's major field of study. Each major and/or emphasis may have additional requirements necessary for graduation. **Students must consult with their major advisor to receive information on any additional graduation requirements.**

## Notes

- 1 Students should select courses from LAC areas 7 and 8 that also count for areas 3, 4, and/or 5.
- 2 Students who lack sufficient preparation in mathematics may need to start in MATH 124 College Algebra (4), MATH 125 Plane Trigonometry (3), or MATH 127 Elementary Functions (4). Consult your advisor.
- 3 With advisor approval, students can substitute ENG 123 for SCI 291 (3)—Scientific Writing.
- 4 Recommended Electives:  
Take two of the following courses:
  - BIO 220 Genetics (3)
  - BIO 351 Microbiology (4)
  - BIO 450 Cell Physiology (4)
- 5 All students must take a chemistry major assessment exam prior to graduation.

A minor in Biology may be declared and earned by completing BIO 110, BIO 111, and nine additional hours of appropriate BIO courses. See your advisor for suggested coursework to complete this minor.

Students receiving this degree, designed to give students a broad background in chemistry and biology, will be certified by the American Chemical Society. Students will work with a faculty member on an independent research project in chemistry.

Students graduating with this emphasis will be prepared to pursue graduate study in chemistry, biochemistry, molecular biology, environmental health, professional schools (e.g., medicine, dentistry, veterinary medicine and other health related areas) or obtain an entry-level position within the chemical or biotechnological industry.

- A. The four-year plan described on the other side of this sheet is a suggested track for completing this major. You must meet with your advisor each semester to determine an appropriate plan.
- B. Upper-level courses are generally taught only one semester per year and are marked on the sheet as F (Fall) or S (Spring). In this plan, courses are listed in order of required prerequisites first.
- C. Some upper-level courses are separate from laboratory; e.g., CHEM 481/CHEM 481L General Biochemistry I and Experimental Biochemistry I and CHEM 482/CHEM 482L General Biochemistry II and Experimental Biochemistry II. In these cases, CHEM 481 is taught by itself in the Fall and CHEM 482 and the two laboratories are taught in the Spring, CHEM 481L meets in two 3-hour blocks/week the first half of the semester and CHEM 482L the same schedule the second half of the semester.
- D. All students in the program must take an assessment examination before graduation.
- E. Graduate level CHEM courses are recommended for juniors and seniors. Other recommended electives include MATH 221, MATH 335, STAT 150, PHYS 321, and PHYS 343.
- F. Students majoring in chemistry must earn a grade of "C" or better (C- is not acceptable) in all courses having a CHEM prefix which count toward the major.
- G. It is recommended that students have a fundamental background in computers.