



**DEGREE WORKSHEET FOR:**  
**BS Chemistry, Biochemistry Emphasis (ACS Certified)**  
**2012-2013 Catalog**  
**Degree Requirements – 120 credits**

<b>YEAR 1- FALL (16 credits)</b>		<b>YEAR 1- SPRING (15 credits)</b>	
BIO 110 Principles of Biology (LAC Area 6)	4 credits	CHEM 112 Prin. of Chemistry II	5 credits
ENG 122 College Composition (LAC Area 1a)	3 credits	MATH 132 Calculus II (LAC Area 2)	4 credits
CHEM 111 Prin. of Chemistry I (LAC Area 6)	5 credits	Liberal Arts Core <sup>1</sup>	3 credits
MATH 131 <sup>2</sup> Calculus I (LAC Area 2)	4 credits	Electives	3 credits
<b>YEAR 2- FALL (14 credits)</b>		<b>YEAR 2-SPRING (16 credits)</b>	
CHEM 331 Organic Chemistry I (F)	5 credits	CHEM 332 Organic Chemistry II (S)	5 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
<b>YEAR 3- FALL (16 credits)</b>		<b>YEAR 3- SPRING (14 credits)</b>	
CHEM 321 Chemical Analysis (F)	4 credits	CHEM 421 Instrumental Analysis (S)	4 credits
CHEM 481 General Biochemistry I (F)	3 credits	CHEM 441 Inorganic Chemistry I (S)	2 credits
Liberal Arts Core <sup>1</sup>	3 credits	CHEM 442 Inorganic Chemistry II (S)	2 credits
Biology Electives <sup>4</sup>	6 credits	CHEM 443 Inorganic Chemistry Lab (S)	1 credit
		CHEM 482 General Biochemistry II (S)	3 credits
		CHEM 483 Experimental Biochemistry I (S)	1 credit
		CHEM 484 Experimental Biochemistry II (S)	1 credit
<b>YEAR 4- FALL (14 credits)</b>		<b>YEAR 4- SPRING (15 credits)</b>	
CHEM 451 Physical Chemistry I (F)	4 credits	CHEM 452 Physical Chemistry II (S)	4 credits
CHEM 453 Physical Chemistry I Lab (F)	1 credit	CHEM 454 Physical Chemistry II Lab (S)	1 credit
CHEM 499 Seminar & Research in Chemistry	1 credit	CHEM 499 Seminary & Research in Chemistry	1 credit
Biology Electives <sup>4</sup>	5 credits	Liberal Arts Core <sup>1</sup>	9 credits
Liberal Arts Core <sup>1</sup>	3 credits		

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

**Minor Required – No Minor required.**

**Notes – see page 2.**

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

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

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

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

- <sup>1</sup>Students need to select courses from LAC areas 7 and 8 that also count for areas 3, 4, or 5
- <sup>2</sup>Students who lack sufficient preparation in mathematics may need to start in MATH 124 (4) -- College Algebra, MATH 125 (3)--Plane Trigonometry, or MATH 127 (4)--Elementary Functions. Consult your advisor.
- <sup>3</sup>With advisor approval, students can substitute ENG 123 for SCI 291 (3)—Scientific Writing.
- <sup>4</sup>Recommended Electives: Take Two
  - BIO 220 Genetics (3)
  - BIO 351 Microbiology (4)
  - BIO 450 Cell Physiology (4)

A minor in Biology may be earned with BIO 110, BIO 111, and nine additional hours of appropriate BIO courses: however, you must declare a minor in Biological Sciences before you will receive credit for it.

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.

- 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.
- 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.
- Some upper-level courses are separate from laboratory; e.g., CHEM 481/CHEM 483—General Biochemistry I and Experimental Biochemistry I and CHEM 482/CHEM 484—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 483 meeting in two 3-hour blocks/week the first half of the semester and CHEM 484 the same schedule the second half of the semester.
- All students in the program must take an assessment examination before graduation.
- 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.
- 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.
- It is recommended that students have a fundamental background in computers.