

BACHELOR OF SCIENCE IN CHEMISTRY***Pre-Health Emphasis***

(Pre-Medical, Pre-Dental, Pre-Optometry, Pre-Veterinary, Pre-Podiatry, and Pre-Pharmacy)

YEAR 1

CHEM 111 Prin of Chem I ^{LAC, Area 6}	5	CHEM 112 Prin of Chem II	5
BIO 110 Principles of Biology ^{LAC, Area 6}	4	BIO 111 Organismal Biology	4
MATH 131 ¹ Calculus I ^{LAC, Area 2}	4	LAC	<u>6</u>
LAC	<u>3</u>		15
	16		

YEAR 2

CHEM 331 (F) Organic Chemistry I	5	CHEM 332 (S) Organic Chemistry II	5
PHYS 220 Intro Physics I ^{LAC, Elective}	5	PHYS 221 Intro Physics II	5
Biology or Mathematics Elective ²	3	Biology or Mathematics Elective ²	3
LAC	<u>3</u>	LAC	<u>3</u>
	16		16

YEAR 3

CHEM 321 (F) Chemical Analysis	4	CHEM 441 (S) Inorganic Chemistry I	2
CHEM 481 (F) General Biochemistry I	3	CHEM 450 (S) Survey of Phys Chem	4
SCI 291 ³ Scientific Writing ^{LAC, Area 1b}	3	CHEM 482 (S) General Biochemistry II	3
LAC	<u>6</u>	CHEM 483 (S) Exp Biochemistry I	1
	16	CHEM 484 (S) Exp Biochemistry II	1
		LAC	<u>3</u>
			14

YEAR 4

Research and Electives	7	Research and Electives	<u>14</u>
Biology or Mathematics Elective ²	4		14
LAC	<u>3</u>		
	14		

¹ 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.

² Students are required to take 7-8 hours of biology electives and a CS or STAT course (3 hours).

Biology Electives--Select two of the following:

BIO 341 Human Anatomy (3)

BIO 350 Human Physiology (4)

BIO 351 Microbiology (4)

Consult advisor for computer science (CS) or statistics (STAT) course to fulfill mathematics elective.

³ With advisor approval, students can substitute ENG 123 or ENG 227 for SCI 291.

CHEMISTRY AND BIOCHEMISTRY**Pre-Health Emphasis**

Pre-Medical, Pre-Dental, Pre-Optometry, Pre-Veterinary, Pre-Podiatry and Pre-Pharmacy.

This program offers training in chemistry, mathematics and physics with a broad base in biological sciences and biochemistry. It provides a solid foundation in chemistry and biological sciences for those students planning to pursue professional studies in dentistry, medicine, optometry, podiatry, pharmacy or veterinary medicine.

Students completing this degree emphasis will meet the prerequisites to the professional schools listed above. Acceptance into these schools is competitive and students should register with and be advised by the pre-health committee in the School of Chemistry, Earth Sciences and Physics. Students completing this degree emphasis who wish to pursue graduate study in chemistry may be required to complete additional coursework in physical chemistry and/or mathematics depending on the entrance requirements of the specific graduate school.

- A. The four-year plan described on the other side of this sheet is only a suggested track in which to complete this major. The student must meet with his/her advisor 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), S (Spring) or I (Irregular). If they are taught once per year and are a two-semester series, the first semester will generally be taught in the Fall. In this plan courses are listed in order of required prerequisites first.
- C. This major requires 120 total credits prior to graduation.
- D. 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 three-hour blocks/week the first half of the semester and CHEM 484 the same schedule the second half of the semester—in any case, the lecture must be taken either concurrently or would be considered a prerequisite to the laboratory.

Contact Information:

Main Office Room Number: Ross 3480

Main Office Telephone Number: (970) 351-2559

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

**PREMEDICAL (Allopathic, Osteopathic, Podiatric),
DENTAL, and PREVETERINARY**

Medical, Dental and Veterinary Schools uniformly require the following courses:

- 1 year of General Biology (BIO 110, 111): 8 semester hours
- 1 year of Advanced Biology is required by schools of Veterinary Medicine and recommended by other professional schools: _____ semester hours
- 1 year of General Chemistry (CHEM 111, 112): 10 semester hours
- 1 year of Organic Chemistry (CHEM 331, 332): 10 semester hours
- 1 year of Physics (PHYS 220, 221 or 240, 241): 10 semester hours
- College Mathematics through Trigonometry--Calculus is often recommended (MATH 124, 125, 131, 132, 233): 4 semester hours
- English and Communication courses (ENG 122, SCI 291 or their equivalents): 6 semester hours
- LAC courses to provide a broad background--Literature courses are especially recommended (some depth in one area is encouraged)

A typical Freshman year course of study would appear as follows:

YEAR 1			
CHEM 111 Prin of Chem I	5	CHEM 112/115 Gen Chemistry II	5
BIO 110 Principles of Biology	4	BIO 111 Organismal Biology	4
MATH 124 College Algebra	3	MATH 125 Plane Trigonometry	3
LAC	<u>3</u>	ENG 122 Elementary Composition	<u>3</u>
	15		15

Although professional schools do not specify required majors for admission to their programs, most recommend that students work toward a degree during their undergraduate years and some will require an undergraduate degree. The preprofessional advisors strongly recommend that you decide on a major very early in your studies, certainly by the end of your freshman year. We can work best with you when we know your interests. If you choose a major outside Biology or Chemistry, very careful planning and coordination is required by your major advisor and your preprofessional advisor. If you declare *Biology* (e.g., *Emphasis Human Biology*) you should be advised in Biology or if you declare *Chemistry* (e.g., *Chemistry--Emphasis Pre-Health* or *Chemistry--Emphasis Biochemistry*), you should be advised in Chemistry. Each of these emphases includes the requirements listed above.

A suggested course of study for *Chemistry--Emphasis Pre-Health* majors is provided on the reverse side of this sheet. If you would like to major in *Chemistry--Emphasis Biochemistry* check in the Chemistry Office for a curriculum sheet.