UNIVERSITY OF COLORADO AT COLORADO SPRINGS

COLLEGE OF LETTERS, ARTS AND SCIENCES

Department of Chemistry

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Objectives:

- Chemistry is concerned with the properties of matter, the interactions between substances, chemical reactions and the energy changes that accompany chemical reactions.
- CU-Colorado Springs offers a Bachelor of Arts, Bachelor of Science and minor in chemistry.
- The Bachelor of Arts degree prepares students for advanced training in such areas as medicine, law, or the life sciences.
- Many graduates of the chemistry program have obtained employment in the semiconductor industry or with local governmental agencies. Some graduates have taken employment in the chemical industry while others have continued their education in chemistry, medicine, or dentistry.
- Get more involved on campus! Join Gamma Sigma Epsilon, the Pre-Med Society, SAACS, the Forensic Science Club or the Homebrew Club to meet other students also interested in this field. Contact the ROAR office at roar@uccs.edu or 262-3470 for information.

Chemistry Major, B.A.-Pre-Health Professional Option - 36 credits, 24 upper division

(NOTE: CHEM 100, 101, 102, 108, 110, 111, 115, 121, 124, 151 and 153 cannot be counted toward this major)
(Grade of 'C' or higher must be attained in ***all*** required courses.)

	Credits
CHEM 103 General Chemistry I	5
CHEM 106 General Chemistry II	5
CHEM 331 Organic Chemistry I	3
CHEM 332 Organic Chemistry II	3
CHEM 333 **OR** 337 Organic Chemistry Lab I **OR** Practical Organic Chemistry I	2
CHEM 334 **OR** 338 Organic Chemistry Lab I **OR** Practical Organic Chemistry II	2
CHEM 401 Modern Inorganic Chemistry	3
CHEM 417 Analytical Chemistry I	4
CHEM 450 Biophysical Chemistry	3
CHEM 454 Experimental Physical Chemistry	1
CHEM 483 Biochemistry Principles	3
CHEM 486 Biochemistry Principles	3
CHEM 495 Chemistry Seminar I	1

Auxiliary Requirements

BIOL 120 *(formerly 115/116)* General Biology I + Lab	4
BIOL 121 *(formerly 110/111)* General Biology II + Lab	4
PES 101, 115, 102, 215 Physics for the Life Sciences + Lab I/II	10
MATH 135, 136 Calculus I and II	8
ENGL 150 Introduction to Literature	3

(*CHEM 454, 495 and 496 may be taken in lieu of CHEM 452)

General Education Requirements**

****Students are required as part of their general education requirements to complete courses in Oral Communication, Cultural Diversity, and Global Awareness. These courses are identified in the LAS section of the schedule of courses and in the bulletin.**

Composition Requirement	6
Humanities Area Requirement	
General	6
Core	3
Social Science Area Requirement	12
General electives	+26
Total Credits- 45 upper division (300-400) level	**120**

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MODEL DEGREE PROGRAM

CHEMISTRY, B.A. (CHEM)

Pre-Health Professional Option

The following four-year plan lists all the specific course requirements for the Bachelor of Arts in Chemistry-Pre-Health Professional degree. The order in which these courses are taken may vary with course availability. **Students are responsible for completing all course prerequisites.** Please note that this is a *suggested* degree program; your program may vary.

Suggested First Year

FALL	**SPRING**
_____ ENGL 131 Rhetoric & Writing I *(Prer. of ENGL 099 or ACT 19+ or SAT 450+)**	_____ ENGL 141 Rhetoric & Writing II *(Prer. of ENGL 131 or ACT 29+ or SAT 650+)**
_____ MATH 135 Calculus I-4 cr *(Prer. MATH 105 or score of 10+ on Calc. Readiness Exam)*	_____ MATH 136 Calculus II-4 cr *(Prer. MATH 135)*
_____ CHEM 103 General Chemistry I-5 cr *(Prer. 1 yr high school chemistry and 2 years high school math)*	_____ CHEM 106 General Chemistry II-5 cr *(Prer. CHEM 103 with grade of 'C' or higher)*
_____ BIOL 120 Gen. Biology I + Lab-4 cr **(FALL ONLY)** *(Prer. high school chemistry or coreq. CHEM 103)*	_____ BIOL 121 Gen. Bio II + Lab-4 cr **(SPRING ONLY)** *(Prer. BIOL 120)*
TOTAL=16 credits	**TOTAL=16 credits**

Suggested Second Year

FALL	**SPRING**
_____ ENGL 150 Intro to Literature *(Prer. ENGL131)*	_____ PES 102/215 Physics for Life Science II + Lab-5 cr *(Prer. PES 101)*
_____ PES 101/115 Physics for Life Science I + Lab-5 cr	
_____ CHEM 331 Organic Chemistry I (*Prer. CHEM 106 with grade of 'B' or higher)*	_____ CHEM 332 Organic Chemistry II *(Prer. CHEM 331 and CHEM337 with grades of 'C' or higher)*
_____ CHEM 333 Organic Chem I Lab-2 cr **OR** CHEM 337 Practical Organic Chemistry I-2 cr **(FALL ONLY)** *(Prer. CHEM 106 with grade of 'C' or higher)*	_____ CHEM 334 Org Chem Lab II-2 cr **OR** CHEM 338 Practical Organic Chemistry II-2 cr **(SPRING ONLY)** *(Prer. CHEM 331 and CHEM 337 with grades of 'C' or higher)*
	_____ General Humanities Elective
	_____ Social Science Elective (G)
TOTAL=13 credits	**TOTAL=16 credits**

Suggested Third Year

FALL	**SPRING**
_____ CHEM 417 Analytical Chemistry I-4 cr **(FALL ONLY)** *(Prer. CHEM 106 with grade of 'C' or higher)*	_____ General Humanities Elective
_____ CHEM 483 Biochemistry Principles *(Prer. BIOL 120 and CHEM 332)*	_____ CHEM 454 Experimental Physical Chemistry-1 cr. **(SPRING ONLY)**
_____ Social Science Elective (C)	_____ General Elective
_____ General Elective	_____ General Elective
_____ CHEM 450 Biophysical Chemistry **(FALL ONLY)** *(Prer. BIOL 120, CHEM 332, 334, MATH 135, PES 102 or 112)*	_____ General Elective
	_____ General Elective-2 cr.
TOTAL=16 credits	**TOTAL=15 credits**

Suggested Fourth Year

FALL	**SPRING**
_____ CHEM 401 Modern Inorganic Chem **(FALL ONLY)** *(Prer. CHEM 331 and CHEM 332 with grades of 'C' or higher)*	_____ Social Science Elective
_____ HUM 300+ Core Humanities *(Prer. of junior status)*	_____ UD General Elective
_____ Social Science Elective	_____ UD General Elective
_____ CHEM 486 Biochemistry Lab **(FALL ONLY)**	_____ UD General Elective
_____ CHEM 495 Chemistry Seminar I-1 cr **(FALL ONLY)** *(Prer. CHEM 332, 417)*	_____ UD General Elective
TOTAL=13 credits	**TOTAL=15 credits**

All courses are 3 credits unless otherwise stated.

*ACT/SAT placement scores are based on the English section of the exam only.

Courses fulfilling General Humanities and Social Sciences, as well as the Global Awareness (G), Cultural Diversity (D) and Oral Communication (O) requirements, may be found in the Bulletin or the current schedule.

Electives may be used toward a minor, a 2nd major, prerequisites, additional courses in Chemistry (up to 54 credits maximum) or just for fun!