



Aims2UNC Curriculum Map*
Chemistry A.S. / Chemistry B.S. - Biochemistry
Concentration (ACS Certified)
2024-2025 Catalog
Degree Requirements – 120 Credits

*Curriculum Map for students transitioning from Aims Community College to the University of Northern Colorado for the purpose of completing a bachelor's degree. An AA/AS degree from Aims will result in a waiver of UNC's Liberal Arts Curriculum (general education) and the transfer of at least 60 credits depending on course grades from Aims. Courses with grades below a C- will not transfer to UNC, which could result in a transfer of fewer than 60 credits. Please note that course offerings are subject to availability and Curriculum Maps are subject to change. Please see Aims2UNC advisor for appropriate sequence of Aims courses and further information.

AIMS COMMUNITY COLLEGE – 65 Credits			
YEAR 1 – FALL: 18 credits		YEAR 1 – SPRING: 18 credits	
ENG 1021 English Composition I (GT-CO1) ** (UNC Equivalent: ENG 122 College Composition)	3 credits	ENG 1022 English Composition II (GT-CO2) ** (UNC Equivalent: ENG 123 College Research Paper)	3 credits
MAT 2410 Calculus I ² (GT-MA1) (UNC Equivalent: MATH 131 Calculus I)	5 credits	CHE 1112 Gen Coll Chem II w/ Lab (GT-SC1) (UNC Equivalent: CHEM 112/112L Principles of Chemistry II)	5 credits
CHE 1111 Gen Coll Chem I w/ Lab (GT-SC1) (UNC Equivalent: CHEM 111/111L Prin of Chemistry I)	5 credits	MAT 2420 Calculus II (GT-MA1) (UNC Equivalent: MATH 132 Calculus II)	3 credits
PHY 2111 Physics: Calculus-based I w/lab (GT-SC1) (UNC Equivalent: PHYS 240 General Physics I)	3 credits	PHY 2112 Physics: Calculus-based II w/lab (GT-SC1) (UNC Equivalent: PHYS 241 General Physics II)	5 credits
YEAR 2 – FALL: 15 credits		YEAR 2 – SPRING: 14 credits	
MAT 2430 Calculus III (GT-MA1) (UNC Equivalent: MATH 233 Calculus III)	4 credits	CHE 2112 Organic Chemistry II w/Lab (UNC Equivalent: CHEM 332/332L Organic Chemistry II)	5 credits
CHE 2111 Organic Chemistry w/Lab (UNC Equivalent: CHEM 331/331L Organic Chemistry I)	5 credits	Additional History, Arts & Humanities, or Social & Behavioral Sciences (GT-HI1, GT-AH*, or GT-SS*)	3 credits
Arts & Humanities (GT-AH*)	3 credits	Social & Behavioral Sciences (GT-SS*)	3 credits
History (GT-HI1)	3 credits	Arts & Humanities (GT-AH*)	3 credits
UNIVERSITY OF NORTHERN COLORADO – 59 Credits			
YEAR 3 – FALL: 15 credits		YEAR 3 – SPRING: 14 credits	
CHEM 321 Chemical Analysis (F)	4 credits	CHEM 421 Instrumental Analysis (S) ⁴ or elective	4 credits
CHEM 481 General Biochemistry I	3 credits	CHEM 482 General Biochemistry II (S)	3 credits
CHEM 481L General Biochemistry I Lab	1 credit	CHEM 482L General Biochemistry II Lab	1 credit
BIO 110 Biology: Atoms to Cells	3 credits	BIO 210 Cell Biology	3 credits
Biology Electives ⁴	4 credits	SCI 291 Scientific Writing	3 credits
YEAR 4 – FALL: 16 credits		YEAR 4 – SPRING: 14 credits	
CHEM 452 Physical Chemistry II ⁴ or elective	4 credits	CHEM 451 Physical Chemistry I	4 credits
CHEM 452L Physical Chemistry II Lab or elective	1 credit	CHEM 451L Physical Chemistry I Lab	1 credit
CHEM 499 Seminar & Research in Chemistry	1 credit	CHEM 499 Seminar & Research in Chemistry	1 credit
Biology Electives ⁵	4 credits	CHEM 442 Inorganic Chemistry II ⁴ or elective	3 credits
CHEM 441 Inorganic Chemistry I	3 credits	CHEM 443 Inorganic Chemistry Lab ⁴ or elective	1 credit

University Wide Electives	3 credits	University Wide Electives	4 credits
		Chemistry Assessment Exam ⁶	0 credits

**For a full listing of approved Guaranteed Transfer (GT) courses in these categories please refer to the [current catalog](#).

Contact Information –

Department: Department of Chemistry & Biochemistry

Website: www.unco.edu/nhs/chemistry

Phone: 970-351-2559

Email: chemistry@unco.edu

Program Admission Requirements –

Academic Good Standing.

For information about admission to the University of Northern Colorado, please visit <https://www.unco.edu/admissions/>.

Notes –

1. A total of 15 credits are required in Arts & Humanities (2 courses, minimum 3 credits each), History (1 course, minimum 3 credits), Social & Behavioral Sciences (1 course, minimum 3 credits), one additional course (minimum 3 credits) in Arts & Humanities or History or Social & Behavioral Sciences. You must also have U.S. Multicultural Studies (1 course, minimum 3 credits), International Studies (1 course, minimum 3 credits). Six total credits must be double counted.
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. Take two of these four (lecture + lab) combinations (CHEM 421, CHEM 442/443, CHEM 451/451L, and CHEM 452/452L) as in-depth courses.
5. Recommended Electives:
Take two of the following courses:
 - a. BIO 220 Genetics (3)
 - b. BIO 351 Microbiology (4)
 - c. BIO 450 Cell Physiology (4)
6. All students must take a chemistry major assessment exam prior to graduation.

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. This transfer guide 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 481/481L are taught in the Fall and CHEM 482/482L are taught in the Spring.
- 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.