

BA/BS MAJOR IN CHEMISTRY

Requirements for a Bachelor of Arts or Bachelor of Science Degree With a Major in Chemistry

Additional Graduation Requirements (<https://catalog.una.edu/undergraduate/academic-procedures-requirements/graduation-requirements>)

Code	Title	Hours
General Education Component (https://catalog.una.edu/undergraduate/academic-procedures-requirements/general-education-component)		
Area I (Written Composition)		6
Area II (Humanities and Fine Arts) ¹		12
Area III (Natural Science and Mathematics) ²		11
Area IV (History, Social and Behavioral Science)		12
Area V (https://www.una.edu/areav)		
Major Core Requirements in Chemistry		
CH 111 & 111L	General Chemistry and General Chemistry Laboratory	4
CH 112 & 112L	General Chemistry and General Chemistry Laboratory	4
CH 311 & 311L	Organic Chemistry and Organic Chemistry Laboratory	5
CH 312 & 312L	Organic Chemistry and Organic Chemistry Laboratory	5
CH 321 & 321LW	Quantitative Analysis and Quantitative Analysis Laboratory	5
Major Concentration Requirements		
Select one from the following options:		21-28
Professional Biochemistry (p. 2)		
Professional Chemistry (p. 1)		
General Chemistry (p. 1)		
Minor		
Option I or III: Professional Chemistry and Professional Biochemistry		
A minor is not required for Option I or III		
Option II: General Chemistry		
A minor, second major or second degree is required for Option II (https://catalog.una.edu/undergraduate/colleges-programs/arts-sciences/chemistry-industrial-hygiene/#programsofferedtext)		
General Electives		
General Elective hours, if required, to bring total to 120		
Total Hours		85

¹ For BA degree, select 6 hours of a required foreign language at the introductory level.

² The eleven (11) hours of Natural Science and Mathematics requirement (Area III) of the General Education component will be completed within the major.

Concentration Options

Option I: Professional Chemistry

(Approved by the American Chemical Society)

Code	Title	Hours
CH 381 & 381L	Physical Chemistry and Physical Chemistry Laboratory	5
CH 382 & 382L	Physical Chemistry and Physical Chemistry Laboratory	6
CH 432 & 432LW	Chemical Instrumentation and Chemical Instrumentation Laboratory	5
CH 434	Advanced Organic Chemistry	3
CH 435L	Advanced Synthesis Laboratory	2
CH 437	Advanced Organic Chemistry	3
CH 441	Biochemistry	3
Total Hours		27

Area V: Additional Requirements

Code	Title	Hours
Select one of the following: ¹		3
CIS 125	Business Applications of Microcomputer Software	
CS 135	Computer Skills for Problem-Solving	
CS 155	Computer Science I	
MA 125	Calculus I	4
MA 126	Calculus II	4
MA 227	Calculus III	4
MA 238 or MA 355	Applied Differential Equations I or Differential Equations	3
PH 251 & PH 252	Technical Physics I and Technical Physics II	10
Total Hours		28

¹ Fulfills computer literacy requirement

Option II: General Chemistry

Code	Title	Hours
CH 322 & 322LW	Instrumental Analysis and Instrumental Analysis Laboratory	5
CH 341 & 341L	Applied Physical Chemistry and Applied Physical Chemistry Laboratory	4
Total Hours		9

Area V: Additional Requirements

Code	Title	Hours
Select one of the following: ¹		3
CIS 125	Business Applications of Microcomputer Software	
CS 135	Computer Skills for Problem-Solving	
CS 155	Computer Science I	
Select one of the following sequences:		8-9
MA 112 & MA 121 & MA 122	Pre-Calculus Algebra and Calculus for Business and Life Sciences I and Calculus for Business and Life Sciences II	
MA 125 & MA 126	Calculus I and Calculus II	

PH 251 & PH 252	Technical Physics I and Technical Physics II	10
Total Hours		21-22

¹ Fulfills computer literacy requirement

Option III: Professional Biochemistry

Code	Title	Hours
(Approved by the American Chemical Society)		
CH 381	Physical Chemistry	4
CH 381L	Physical Chemistry Laboratory	1
CH 382	Physical Chemistry	4
CH 382L	Physical Chemistry Laboratory	2
CH 434	Advanced Organic Chemistry	3
CH 437	Advanced Organic Chemistry	3
CH 441	Biochemistry	3
CH 442	Advanced Biochemistry	3
CH 442L	Advanced Biochemistry Laboratory	2

Area V: Additional Requirements

Select one of the following: ¹

CIS 125	Business Applications of Microcomputer Software	3
CS 155	Computer Science I	3
CS 135	Computer Skills for Problem-Solving	3
MA 125	Calculus I	4
MA 126	Calculus II	4
PH 251	Technical Physics I	5
PH 252	Technical Physics II	5
BI 111	Principles of Biology	4
BI 112	Principles of Biology	4

One course from the following:

BI 305	Cell Biology
BI 306	Genetics
BI 307	Microbiology