

Possible Degree Pathways for earning a major in Chemistry

Pathways include both major and LSA requirements.

- 10 credits of Physics required for the major will fulfill all of the NS distribution requirements.
- Math prerequisites will fulfill QR1 and Mathematical and Symbolic Analysis requirements.
- Choose a HU, SS, or other course to fulfill the Race and Ethnicity requirement
- ULWR could be filled by CHEM 353, CHEM 482 or by a non-chemistry course

For graduate school and industrial careers, research experience is very important. Students are encouraged to earn 4 credits of undergraduate research (CHEM 399) to fulfill a degree requirement as well as 4 additional credits under CHEM 398.

Pre-health students: Elect CHEM 215, 216, and 351

Psych 111 and Soc 100 or 302 should be chosen for SS credits

Bio 171, Bio 172, Bio 173, an upper level biology course (lecture + lab) are needed

Stats 250 is highly recommended

Path A: Starting in Organic Chemistry Fall of first year (Pre-health)

Year 1 Fall	credit hours	Year 1 Winter	credit hours
FYWR	4	Language 1	4
CHEM 210 Organic I	3	Advanced Lec: CHEM 215 Organic II	3
CHEM 211 Organic I Lab	2	Advanced Lab: CHEM 216 Organic II	2
Math 115 Calc 1	4	Math 116 Calc 2	4
SS	3	HU	3
	16		16
Year 2 Fall		Year 2 Winter	
Language 2	4	Language 3	4
CHEM 230	3	CHEM 241 Analytical I	2
Phys 140 or 150	4	CHEM 242 Analytical Lab	2
Phys 141 or 151 Lab	1	Phys 240 or 250	4
Biology 172	4	Phys 241 or 251 Lab	1
		Bio 173 Lab	2
	16		15
Year 3 Fall		Year 3 Winter	
Language 4	4	CHEM 302 or 303	3
CHEM 262 Mathematical Methods	4	CHEM Advanced Lecture (447, 463) or Elective	3
CHEM 261	1	CHEM 399 Undergrad Research	1
CHEM Advanced Lecture (351)	4	HU	4
CHEM 399 Undergrad Research	1	Biology 171	4
	14		15
Year 4 Fall		Year 4 Winter	
Adv. Lec (461) or elective	3	Advanced Lec (402, 447, 463) or elective	3
Advanced lab 462	1	Advanced Lab (436 or 483) or Elective	3
CHEM 399 Undergrad Research	1	Chem 399 Undergrad Research	1
Advanced Lab (482) ULWR	3	HU/SS/CE/ID	3
SS	4	Bio 305 + 306	5
Stats 250	4		
	16		15 (total 123 credits)

Classes that count toward total 45 credits of chemistry.

Path B: Starting with CHEM 130 (and later Physics) Pre-Health

Year 1 Fall		credit hours	Year 1 Winter		credit hours
Math 115 Calc I	4		Math 116 Calc II	4	
FYWR	4		Language 1	4	
CHEM 125/126 General Chemistry Lab	2		CHEM 210 Organic I	3	
CHEM 130 General Chemistry	3		CHEM 211 Organic I Lab	2	
other credits	2		SS	3	
	15			16	
Year 2 Fall			Year 2 Winter		
Language 2	4		Language 3	4	
Adv Lec: CHEM 215 Organic II	3		CHEM 302 Inorganic I	3	
Adv Lab: CHEM 216 Organic II	2		CHEM 241 Analytical I	2	
CHEM 260 Chemical Principles	3		CHEM 242 Analytical Lab	2	
HU	4		Bio 172	4	
	16			15	
Year 3 Fall			Year 3 Winter		
Language 4	4		SS	4	
Phys 140	4		Physics 240	4	
Phys 141 Lab	1		Physics 241 Lab	1	
Biology 171	4		CHEM 399 Undergrad Research	1	
Biology 173	2		Adv Lec CHEM 351	4	
CHEM 399 Undergrad Research	1		Chem Elective or Adv. Lab (436)	3	
	16			16	
Year 4 Fall			Year 4 Winter		
CHEM 262 Mathematical Methods	4		Adv. lab course (436) or Elective	3	
Adv. lab course (482) ULWR	3		Adv. Lec (447, 402, 463)	3	
CHEM 399 Undergrad Research	2		HU/SS/CE/ID	3	
HU	3		Microbiol 405 + 350	5	
	12			14 (total 120)	

(No Stats 250)

Path C Late start (exploring first year) Environmental Chemistry

Year 1 Fall		Year 1 Winter	
	credit hours		credit hours
Math 115 Calc I	4	Language 1	4
FYWR	4	CHEM 125/126 General Chemistry Lab	2
other credits	4	CHEM 130 General Chemistry	3
HU	3	SS	3
		HU	4
	15		16
Year 2 Fall		Year 2 Winter	
Language 2	4	Language 3	4
CHEM 210 Organic I	3	Adv. Lec CHEM 215 Organic II	3
CHEM 211 Organic I Lab	2	Adv. Lab CHEM 216 Organic II Lab	2
Phys 140	4	Physics 240	4
Phys 141 Lab	1	Physics 241 Lab	1
Other credits	1	other credits	1
	15		15
Year 3 Fall		Year 3 Winter	
Language 4	4	CHEM 302 Inorganic I	3
Math 116 Calc II	4	CHEM 260 Chemical Principles	3
CHEM 241 Analytical I	2	CHEM 262 Mathematical Methods	4
CHEM 242 Analytical Lab	2	CHEM 399 Undergrad Research	2
SS	4	HU/SS/CE/ID	3
	16		15
Year 4 Fall		Year 4 Winter	
Adv. Lec. CHEM 461	3	Adv. Lec CHEM 447	3
Adv. Lab 462	1	Adv. Lab CHEM 483	3
CHEM Elective 474	3	Chem Elective 463	3
CHEM 399 Undergrad Research	1	CHEM 399 Undergrad Research	1
Other credits	6	Other credits	4
	14		14

Path D BioAnalytical

Year 1 Fall		credit hours	Year 1 Winter		credit hours
Math 115 Calc I	4		Math 116 Calc II	4	
FYWR	4		Language 1	4	
CHEM 125/126 General Chemistry Lab	2		CHEM 210 Organic I	3	
CHEM 130 General Chemistry	3		CHEM 211 Organic I Lab	2	
other credits	2		SS	3	
	15			16	
Year 2 Fall			Year 2 Winter		
Language 2	4		Language 3	4	
Adv Lec: CHEM 215 Organic II	3		CHEM 302 Inorganic I	3	
Adv Lab: CHEM 216 Organic II	2		CHEM 241 Analytical I	2	
CHEM 260 Chemical Principles	3		CHEM 242 Analytical Lab	2	
HU	3		Bio 172	4	
	15			15	
Year 3 Fall			Year 3 Winter		
Language 4	4		SS	4	
Phys 140	4		CHEM 262 Mathematical Methods	4	
Phys 141 Lab	1		Adv Lec CHEM 447	3	
Adv. Lec. CHEM 351	4		CHEM 399 Undergrad Research	1	
CHEM 399 Undergrad Research	1		Other credits	3	
	14			15	
Year 4 Fall			Year 4 Winter		
Physics 240	4		Adv. lab course (483)	3	
Physics 241 Lab	1		Chem Elective 436 or 451	3-4	
Chem Elective 461	3		HU/SS/CE/ID	3	
Adv. lab course (462)	1		Other credits	5-6	
CHEM 399 Undergrad Research	2				
HU	4				
	15			15 (total 120)	