Chemistry (Professional) Option

Freshman Year	Credits	
	Fall	Spring
Take one of the following:	4	
CHMY 141 - College Chemistry I or CHMY 151 - Honors College Chemistry I		
CHMY 142 - College Chemistry I Lab or CHMY 152 - Honors College Chemistry I Lab		
CHMY 194 - Seminar/Workshop	1	
Take one of the following:	4	
M 171Q - Calculus I or M 181Q - Honors Calculus I		
University Core and Electives	6	
Take one of the following:		4
CHMY 143 - College Chemistry II or CHMY 153 - Honors College Chemistry II		
CHMY 144 - College Chemistry II Lab or CHMY 154 - Honors College Chemistry II Lab		
CHMY 294 - Seminar/Workshop		1
Take one of the following:		4
M 172 - Calculus II or M 182 - Honors Calculus II		
Take one of the following:		
PHSX 220 - Physics I with Calculus or PHSX 240 - Honors Gen & Mod Phys I		
University Core and Electives		3
Year Total:	15	12

Sophomore Year	Credits	
	Fall	Spring
Take one of the following:	4	
CHMY 321 - Organic Chemistry I or CHMY 331 - Honors Organic Chemistry I		
CHMY 322 - Organic Chemistry I Lab or CHMY 332 - Honors Organic Chemistry I Lab		
M 273 - Multivariable Calculus	4	
Take one of the following:	4	
PHSX 222 - Physics II with Calculus or PHSX 242 - Honors Gen & Mod Phys II		
University Core and Electives	3	
Take one of the following:		4
BIOB 160 - Principles of Living Systems or BIOB 260 - Cellular and Molecular Biology		
CHMY 311 - Fundamental Analytical Chem		4
Take one of the following:		4
CHMY 323 - Organic Chemistry II or CHMY 333 - Honors Organic Chemistry II		
CHMY 324 - Organic Chemistry II Lab or CHMY 334 - Honors Organic Chemistry II Lab		
University Core and Electives		3
Year Total:	15	15

Junior Year	Credits	
	Fall	Spring
CHMY 371 - Physical Chemistry-Quantum Chemistry and Spectroscopy I	3	
CHMY 372 - Physical Chemistry Laboratory I	1	
CHMY 394 - Seminar/Workshop	1	
CHMY 490R - Undergraduate Research[2]	3	
University and Core Electives	3	
Chemistry Professional Elective	3	
CHMY 373 - Physical Chemistry - Kinetics and Thermodynamics		3
CHMY 374 - Physical Chemistry Lab II		2
CHMY 490R - Undergraduate Research[2]		3
University Core and Electives		7
Year Total:	14	15

Senior Year	Credits	
	Fall	Spring
BCH 441 - Biochemistry of Macromolecules	3	
CHMY 401 - Advanced Inorganic Chemistry	3	
BCH 381 - Biochemistry Lab	1	
Physical Science Electives[4]	6	
University Core and Electives	3	
CHMY 494 - Seminar/Workshop		1
Physical Science Electives[4]		3
CHMY 499 - Senior Thesis/Capstone		1
University Core and Electives		7-8
Chemistry Professional Elective		3
Year Total:	16	15-16
Total Program Credits:		**117-118**

1 CHMY 421 is only offered during the spring semester of odd numbered years (2019, 2021, etc)

2 Six (6) credits of CHMY 490R are tabulated. Students are encouraged to fulfill additional credits of research up to a maximum of 12 credits of 490R research whether it be in CHMY, BCH, or another department.

3 CHMY 499 (Senior year) is required for majors who are writing a thesis for Departmental Honors consideration.

4 A minimum of 9 credits of physical science electives are required.

A computer science (CS) course is highly recommended. A minimum of 120 credits is required for graduation; 42 of these credits must be in courses numbered 300 and above. All students are encouraged to take a 200 level English writing course. Please note that this course would be in addition to the core requirement.

Chemistry Professional Electives (Must take 2 of the following)

CHMY 340	Environmental Chemistry	3
CHMY 404	Advanced Inorganic Techniques	3
CHMY 415	Structure and Bonding in Inorganic Chemistry	3
CHMY 417	Synthetic Chemistry	3
CHMY 421	Advanced Instrument Analysis	3
BCH 442	Metabolic Regulation	3

Acceptable Physical Science Electives Include

BCH 442	Metabolic Regulation	3
BCH 444R	Biochemistry & Molecular Biology Methods	3
BIOH 445	Introduction to Pharmacology	3
CHMY 340	Environmental Chemistry	3
CHMY 415	Structure and Bonding in Inorganic Chemistry	3
CHMY 515	Structure and Bonding in Inorganic Chemistry	3
CHMY 516	Mechanisms and Dynamics in Inorganic Chemistry	3
CHMY 523	Organic Reaction Mechanisms	3
CHMY 524	Mass Spectrometry	3
CHMY 526	Solution NMR Spectroscopy:Practical Applications to the Structural Determination of Small Molecules	3
CHMY 533	Physical Organic Chemistry	3
CHMY 535	Reagent Chemistry	3
CHMY 540	Organic Synthesis	3
CHMY 551	Organic Structure Elucidation	3
CHMY 554	Organometallic Chemistry	3
CHMY 557	Quantum Mechanics	3
CHMY 558	Classical & Stat Thermodynamic	3
CHMY 559	Kinetics & Dynamics	3
ERTH 505	Geomicrobiology	3
M 221	Introduction to Linear Algebra	3
M 274	Introduction to Differential Equation	4
M 333	Linear Algebra	3
M 454	Introduction of Dynamical Systems I	3
NEUR 409	Human Neuroanatomy	4
PHSX 224	Physics III	4
PHSX 301	Mathematical Methods in the Physical Sciences	3
PHSX 320	Classical Mechanics	3
PHSX 343	Modern Physics	3
PHSX 423	Electricity and Magnetism I	3