

Chemistry Honours Program

First Year

Course	Short Title	Semester	Units	Pre-Reqs
Chem 101	Fund. Chemistry from Atoms to Molecules		1.5	Chem 11 + Pre-calculus 12
Chem 102	Fund. Of Chemical Reactivity with Environmental Applications		1.5	Chem 12 (or Chem 091) + 101 or 150
Math 100	Calculus I		1.5	Pre-calculus 12
Math 101	Calculus II		1.5	Math 100 or 109
Phys 110	Intro Physics I		1.5	Co- or prerequisite: Math 100 or 102 or 109
Phys 111	Intro Physics II		1.5	Phys 110
Biol 186	Physiology and Cell Biology		1.5	Biol 11 or 12
Engl 135, 146 or 147	Academic Writing Requirement		1.5	
Electives			3.0	

Second Year

Course	Short Title	Semester	Units	Pre-Reqs
Chem 212	Intro to Quantitative Analysis		1.5	Chem 102
Chem 231	Intro to Organic Chemistry		1.5	Chem 101 or 150
Chem 245	Intro to Thermodynamics		1.5	Chem 102 and Math 100 or 102 or 109
Chem 225	Intro to Inorganic Chemistry		1.5	Chem 102
Chem 234	Organic Chemistry with Biological Applications		1.5	Chem 102 and 231
Chem 260	Synthetic Chemistry Laboratory		1.5	Chem 102 and 231
Math 200 or 202	Calculus III		1.5	Math 101
Stat 260 or 255	Intro to Probability and Statistics I or Statistics for Life Sciences		1.5	Math 101
Electives			3.0	

Third and Fourth Year

Course	Short Title	Semester	Units	Pre-Reqs
Chem 318	Instrumental Techniques of Analysis		1.5	Chem 212
Chem 324	Transition Metal Chemistry		1.5	Chem 225 and 260 or Chem 222
Chem 347	Quantum Chemistry		1.5	Chem 245 and Math 101
Chem 361*	Analytical Chemistry Laboratory		1.5	Chem 212
Chem 362*	Inorganic Chemistry Laboratory		1.5	Chem 225 and 260 or Chem 222 and 213
Chem 363*	Organic Chemistry Laboratory		1.5	Chem 234 and 260 or Chem 232 and 213
Chem 364*	Physical Chemistry Laboratory		1.5	Chem 245 and 212
Chem 405	Professional Development and Societal Engagement for Chemists		1.5	Minimum 3rd year standing for Chemistry students
Chem 3/400 Electives	Four courses chosen from a list of 8 topics		6.0	Dependent on choices: see course listings
Chem 499A/B	Honours Thesis		3.0	Admission to the Chemistry Honours program
Bioc 299 (or 300A)	Biochemistry for Non-majors OR General Biochemistry		1.5	Chem 231 [Chem 231 + Chem 234 + BIOL 225 or BME 200]
Electives	Non-Chemistry Science		3.0	
Electives	Any level		4.5	

* Chem 361-364 may be taken in any order

Please see all chemistry courses, including elective ones [here](#)

A recommended elective is CSC 371: Data Management and Visualization.

This is a course specifically designed for non-computer science students who are interested in data management, analysis and visualization.