

B.S. Computational Chemistry and Chemical Informatics Degree

This is not an official list of degree requirements. Adjustments may be required due to curriculum changes.

First Year

Fall

Course	Prerequisite	Credit
CH 1134: Professional Development Seminar for Chemists		1
CH 1150: University Chemistry I		3
CH 1151: University Chemistry Lab I		1
CH 1153: University Chemistry I Recitation		1
PH 1100: Physics by Inquiry I		1
MA 1160: Calculus with Technology I	MA 1032	4
UN 1015: Composition		3
Essential Education: Activities for Well-being and Success		1
Total		15

Spring

Course	Prerequisite	Credit
CH 1160: University Chemistry II	CH 1150	3
CH 1161: University Chemistry Lab II	CH 1151	1
CH 1163: University Chemistry II Recitation		1
Essential Education: Foundations of the Human World		3
MA 2160: Calculus with Technology II	MA 2160	4
PH 1200: Physics by Inquiry II	PH 1100	1
PH 2100: University Physics I – Mechanics	MA 1160	3
Total		16

Second Year

Fall

Course	Prerequisite	Credit
CH 2430 Mechanistic Organic Chemistry	CH 1160	3
CH 2411 Organic Chemistry Lab I		1
Essential Education: Intercultural Competency		3
PH 2200: University Physics II – E & M	OH 2100	3
MA 2321: Elementary Linear Algebra and MA 3521: Elementary Differential Equations* OR MA 3160 Multivariable Calculus with Technology	MA 1160 OR MA 2160	4
Essential Education: Activities for Well-Being and Success		1
Total		15

Spring

Course	Prerequisite	Credit
CH 2440: Synthetic Organic Chemistry	CH 2430	3
CH 2421: Organic Chemistry Lab II	CH 2411	2
CH 2710: Computing in Chemistry	CH 1160	3
MA 2321: Elementary Linear Algebra and MA 3521: Elementary Differential Equations* OR MA 3160 Multivariable Calculus with Technology	MA 1160 OR MA 2160	4
CS 1121: Introduction to Programming I		3
Essential Education: Activities for Well-being and Success		1
Total		16

Third Year

Fall

Course	Prerequisite	Credit
CH 3124: Communication for the Chemical Sciences	UN 1015	3
CH 3310: Analytical Chemistry I	CH 1160	3
CH 3311: Analytical Chemistry Lab		2
CH 3510: Physical Chemistry I	MA 2160, PH 2200, CH 1160	3
CS 1122: Introduction to Programming II	CS 1121	3
Total		14

Spring

Course	Prerequisite	Credit
Essential Education: Arts & Culture		3
CH 3520 Physical Chemistry II	CH 3510	3
CS 2321 Data Structures	CS 1122	3
Essential Education: Experience		3
Essential Education: SHAPE		3
Total		15

Fourth Year

Fall

Course	Prerequisite	Credit
CH 4310: Inorganic Chemistry I OR CH 4710: Biomolecular Chemistry I	CH 3520 or CH 2440	3
CH 4440: Molecular Modeling	CH 3510 and CH 2710	3
CH 4560: Computational Chemistry	CH 3520	3
CH 4990: Undergraduate Research in Chemistry***		3
CS 2311: Discrete Structures	CS 1122 and MA 1160	3
Total		15

Spring

Course	Prerequisite	Credit
CH 4990: Undergraduate Research in Chemistry***		3
Major Approved Electives**		9
Free Electives		2
Total		14

Grand Total = 120 Credits

* This is the accelerated version of Elementary Linear Algebra and Elementary Differential Equations. They can also be completed as full semester courses.

**Major Approved Electives must be selected from the approved Major Approved Electives list.

*** Two research credits may be completed in a student's first or second year as CH 2990.