

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. (125 credits)

First Year

Fall

Course	Credit
CH 1150 University Chemistry I AND	3
CH 1151 University Chemistry Lab 1 AND	1
CH 1153 University Chemistry I Recitation	1
CH 1130 PFDC 1: Orientation	1
CS 1121 Introduction to Programming I	3
MA 1160 Calculus with Technology I	4
UN 1015 Composition (OR UN 1025 Global Issues)	3
Total	16

Spring

Course	Credit
CH 1160 University Chemistry II AND	3
CH 1161 University Chemistry Lab II. AND	1
CH 1163 University Chemistry II Recitation OR	1
CS 1122 Introduction to Programming II	3
MA 2160 Calculus with Technology II	4
PH 1100 Physics by Inquiry	1
UN 1025 Global Issues (OR UN 1015 Composition)	3
Total	16

Second Year

Fall

Course	Credit
CH 2130 PDFC 2: Career Planning	2
CH 2430 Mechanistic Organic Chemistry	3
CH 2411 Organic Chemistry Lab I	1
CH 2990 Exploring Undergraduate Chemistry Research	1
PH 2100 University Physics I – Mechanics	3
CS 2311 Discrete Structures	3
General Education Goal 4: Critical & Creative Thinking (or Goal 8)	3
Total	16

Spring

Course	Credit
CH 2440 Synthetic Organic Chemistry	3
CH 2421 Organic Chemistry Lab II	2
CH 2510 Introduction to Computational Chemistry and Informatics	3
CH 2210 Quantitative Analysis and CH 2211 Quantitative Analysis Lab OR MA 2720 Statistical Methods	4-5
CH 2990 Exploring Undergraduate Chemistry Research	1
CS 2321 Data Structures	3
PH 1200 Physics by Inquiry II	1
Total	17-18

Third Year

Fall

Course	Credit
CH 3510 Physical Chemistry I	3
MA 3160 Multivariable Calculus with Technology	4
MA 2321 or MA2320 Elementary Linear Algebra	2
MA 3521 or MA 3520 Elementary Differential Equation	2
PH 2200 University Physics II – E & M	3
Total	14

Spring

Course	Credit
CH 3130 PDFC 3: Communication	1
CH 3520 Physical Chemistry II	3
CH 4990 Undergraduate Research in Chemistry	2
Major Approved Electives	3
General Education Goal 8: Social Responsibility & Ethical Reasoning (or Goal 4)	3
**Free Electives	3
Total	15

Fourth Year

Fall

Course	Credit
CH 4710 Biomolecular Chemistry I OR CH 4310 Inorganic Chemistry I ***	3
CH 4560 Computational Chemistry	3
CH 4990 Undergraduate Research in Chemistry	2
General Education HASS Distribution SBS	3
General Education HASS Distribution HUFA	3
CH 4990 Undergraduate Research in Chemistry	2
Total	16

Spring

Course	Credit
CH 4130 PDFC 4: Senior Seminar	2
Major Approved Electives	3
General Education HASS Distribution C&C	3
General Education HASS Distribution Upper Division	3
**Free Electives	4
Total	15

** CH4412 Spectroscopy of Organic Chemistry is recommended for 3 of these credits

*** Prerequisites for these courses are not the same, so there is flexibility with schedule based on course selected.

NOTE: 3 Units of co-curricular activities are required (P.E. courses are typically taught in 0.5-unit classes. Thus, 6 of these are needed for 3 units). It is highly recommended that students take at least one P.E. class during each semester of their first year, if possible.

For 2023-24

Update spring 2023