CHEMISTRY (BA OR BS)

Programs in the Department of Chemistry may lead to either the Bachelor of Arts or the Bachelor of Science degree. In addition, the American Chemical Society (ACS) certifies two more rigorous Bachelor of Science options.

The B.A. degree is appropriate for students who are interested in chemistry but do not wish to pursue a career as a laboratory scientist. The B.S. degrees prepare students to pursue graduate study in Chemistry or to find employment in technologically oriented industries.

Prospective majors with a good high school chemistry background should take CHEM 1137Q Enhanced General Chemistry I and CHEM 1138Q Enhanced General Chemistry II in their first year. Other prospective majors should take CHEM 1127Q General Chemistry I-CHEM 1128Q General Chemistry II or CHEM 1124Q Fundamentals of General Chemistry I-CHEM 1125Q Fundamentals of General Chemistry II-CHEM 1126Q Fundamentals of General Chemistry III or CHEM 1147Q Honors General Chemistry I-CHEM 1148Q Honors General Chemistry II (Honors).

Requirements

Chemistry majors must complete the following mathematics and physics sequences:

Course	Title	Credits
Select one of the following options:		8-12
Option 1		
MATH 1131Q	Calculus I	
MATH 1132Q	Calculus II	
Option 2		
MATH 1125Q		
MATH 1126Q		
MATH 1132Q	Calculus II	
MATH 2110Q	Multivariable Calculus	4
or MATH 2130Q		
MATH 2410Q	Elementary Differential Equations	3
or MATH 2420Q		
Select one of the following options:		8-12
Option 1		
PHYS 1201Q	General Physics I	
PHYS 1202Q	General Physics II	
PHYS 1230	General Physics Problems	
Option 2		
PHYS 1401Q	General Physics with Calculus I	
PHYS 1402Q	General Physics with Calculus II	
Option 3		
PHYS 1501Q	Physics for Engineers I	
PHYS 1502Q	Physics for Engineers II	
Option 4		
PHYS 1601Q	Fundamentals of Physics I	
PHYS 1602Q	Fundamentals of Physics II	

Failure to complete these sequences by the end of the fourth semester may delay completion of the degree.

Requirements for the B.A. and B.S. Degrees

Requirements for the B.A. and B.S. degrees are as follows:

Bachelor of Science

At least 35 credits of Chemistry courses numbered 2000 and above must be successfully completed for the Bachelor of Science in Chemistry in addition to the College B.S. requirements.

Chemistry Option

The requirements include:

Course	Title	Credits
CHEM 2443	Organic Chemistry	3
CHEM 2444	Organic Chemistry	3
CHEM 2445	Organic Chemistry Laboratory	3
CHEM 3210	Descriptive Inorganic Chemistry	2
CHEM 3214	Intermediate Inorganic Chemistry	3
CHEM 3215	Inorganic Chemistry Laboratory	3
CHEM 3332	Quantitative Analytical Chemistry	4
CHEM 3334	Instrumental Analysis I	4
CHEM 3563	Physical Chemistry I	3
CHEM 3564	Physical Chemistry II	3
CHEM 3565W	Physical Chemistry Laboratory	2
Total Credits		**33**

Chemistry Option (ACS Certified)

American Chemical Society certification requires an additional course in biochemistry, and one advanced chemistry course:

Course	Title	Credits
CHEM 2443	Organic Chemistry	3
CHEM 2444	Organic Chemistry	3
CHEM 2445	Organic Chemistry Laboratory	3
CHEM 3210	Descriptive Inorganic Chemistry	2
CHEM 3214	Intermediate Inorganic Chemistry	3
CHEM 3215	Inorganic Chemistry Laboratory	3
CHEM 3332	Quantitative Analytical Chemistry	4
CHEM 3334	Instrumental Analysis I	4
CHEM 3563	Physical Chemistry I	3
CHEM 3564	Physical Chemistry II	3
CHEM 3565W	Physical Chemistry Laboratory	2
MCB 3010	Biochemistry	5
or MCB 2000	Introduction to Biochemistry	
Select one of the following advanced chemistry courses:		3
CHEM 3189	Undergraduate Research	
CHEM 3442W		
CHEM 3661	Polymeric Materials	
CHEM 4196W	Thesis for Undergraduate Chemistry Majors	
CHEM 4370	Environmental Chemistry - Atmosphere	
CHEM 4371	Environmental Chemistry - Hydrosphere	
CHEM 4551	Introduction to Quantum Chemistry	

CHEM 5000 level course		
Total Credits		**41**

Environmental Chemistry Option (ACS Certified)

The requirements include those listed above for the ACS certified B.S. degree in Chemistry with the exception of CHEM 3215 Inorganic Chemistry Laboratory. In addition, the sequence CHEM 4370 Environmental Chemistry - Atmosphere - CHEM 4371 Environmental Chemistry - Hydrosphere is required:

Course	Title	Credits
CHEM 2443	Organic Chemistry	3
CHEM 2444	Organic Chemistry	3
CHEM 2445	Organic Chemistry Laboratory	3
CHEM 3210	Descriptive Inorganic Chemistry	2
CHEM 3214	Intermediate Inorganic Chemistry	3
CHEM 3332	Quantitative Analytical Chemistry	4
CHEM 3334	Instrumental Analysis I	4
CHEM 3563	Physical Chemistry I	3
CHEM 3564	Physical Chemistry II	3
CHEM 3565W	Physical Chemistry Laboratory	2
MCB 3010	Biochemistry	5
or MCB 2000	Introduction to Biochemistry	
Select one of the following advanced chemistry courses:		3
CHEM 3189	Undergraduate Research	
CHEM 3442W		
CHEM 3661	Polymeric Materials	
CHEM 4196W	Thesis for Undergraduate Chemistry Majors	
CHEM 4370	Environmental Chemistry - Atmosphere	
CHEM 4371	Environmental Chemistry - Hydrosphere	
CHEM 4551	Introduction to Quantum Chemistry	
CHEM 5000 level course		
CHEM 4370 & CHEM 4371	Environmental Chemistry - Atmosphere and Environmental Chemistry - Hydrosphere	6
Total Credits		**44**

Bachelor of Arts

At least 28 credits of Chemistry courses numbered 2000 or above must be successfully completed for the Bachelor of Arts in Chemistry in addition to the College Bachelor of Arts requirements. The requirements include those listed above for the B.S. degree Chemistry option with the exception of CHEM 3215 Inorganic Chemistry Laboratory and CHEM 3334 Instrumental Analysis I.

Course	Title	Credits
CHEM 2443	Organic Chemistry	3
CHEM 2444	Organic Chemistry	3
CHEM 2445	Organic Chemistry Laboratory	3
CHEM 3210	Descriptive Inorganic Chemistry	2
CHEM 3214	Intermediate Inorganic Chemistry	3
CHEM 3332	Quantitative Analytical Chemistry	4
CHEM 3563	Physical Chemistry I	3
CHEM 3564	Physical Chemistry II	3
CHEM 3565W	Physical Chemistry Laboratory	2
Total Credits		**26**

Other Requirements

The grade point average in all of the required chemistry courses must be at least 2.3 for the ACS certified degree.

All B.S. students are strongly encouraged to participate in undergraduate research through one or more semesters of CHEM 3189 Undergraduate Research, preferably with a capstone thesis (CHEM 4196W Thesis for Undergraduate Chemistry Majors) in the final semester.

To satisfy the information literacy competency, all students must take CHEM 3565W Physical Chemistry Laboratory. Other courses that further enhance competency in information literacy include CHEM 3170W Technical Communications, CHEM 3189 Undergraduate Research, CHEM 3215 Inorganic Chemistry Laboratory, CHEM 3334 Instrumental Analysis I, CHEM 3442W , and CHEM 4196W Thesis for Undergraduate Chemistry Majors.

To satisfy the writing in the major requirement, all students must take CHEM 3565W Physical Chemistry Laboratory. Other courses that will further help students develop writing skills in chemistry include CHEM 3170W Technical Communications, CHEM 3442W , and CHEM 4196W Thesis for Undergraduate Chemistry Majors.

A minor in Chemistry is described in the “Minors” section.

University General Education Requirements

Every student must meet a set of core requirements to earn a baccalaureate degree, in addition to those required by the student's major course of study and other requirements set by the student's school or college. For more information about these requirements, please see General Education Requirements (https://catalog.uconn.edu/undergraduate/gen-ed-requirements/).

College of Liberal Arts and Sciences Degree Requirements

Students must meet a set of requirements established by the college in addition to the University's General Education requirements. For more information, see the College of Liberal Arts and Sciences (https://catalog.uconn.edu/undergraduate/liberal-arts-sciences/#requirementstext) section of this catalog.