

CHEMISTRY MAJOR

Degree Requirements

All students are required to complete overall degree requirements in addition to their major. Please see Degree Completion Requirements (<https://catalog.hiram.edu/undergraduate/student-academic-responsibilities-performance/degree-completion-requirements/>) for full details for students entering in the 2022-2023 catalog year.

Those students who started at Hiram prior to the 2022-2023 academic year will follow the Degree Requirements outlined in your catalog of record.

Major Requirements

The chemistry major assumes knowledge of basic chemistry. For most persons this will be demonstrated by successful completion of the general chemistry course sequence, CHEM 12000 GEN I:STRUCTURE/BOND-W/LAB:SM/CHEM 12100 GEN II:INTR CHEM ANLS-W/LAB:SM. Students scoring 5 on the AP chemistry examination are deemed to have successfully completed the general chemistry requirement. Students scoring a 4 on the AP chemistry exam will receive credit for CHEM 12000 GEN I:STRUCTURE/BOND-W/LAB:SM, and may register for CHEM 12100 GEN II:INTR CHEM ANLS-W/LAB:SM.

Code	Title	Hours
Required Core Courses		
CHEM 22000	INTRO TO ORGANIC CHEM-W/LAB	4
CHEM 23000	INTRO TO INORGANIC CHEM-W/LAB	4
CHEM 24000	QUANTITATIVE ANALYSIS-W/LAB	4
CHEM 32000	INTERMED ORGANIC CHEM-W/LAB	4
CHEM 35000	PHYSICAL CHEMISTRY I-W/LAB	4
CHEM 48000	SENIOR SEMINAR	1
Chemistry Elective		
Select one course from the 30000- or 40000-level ¹		1-4
ACS Requirement (p. 1)		
Required Correlative Courses		
MATH 19800	CALCULUS I:MM	4
MATH 19900	CALCULUS II:MM	4
PHYS 21300	FUNMNNTLS OF PHYSICS-W/LAB I:SM	4
PHYS 21400	FUNMNNTL OF PHYSICS-W/LAB II:SM	4
Total Hours		38-41

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Students who pursue the chemistry major will be advised to take additional courses for entrance to graduate programs.

ACS Requirement

The ACS (American Chemical Society) Certified Chemistry major requires the following additional courses:

Code	Title	Hours
PHYS 32000	FUNMNNTLS OF MRDN PHYSICS-W/LAB	4
or CHEM 35100	PHYSICAL CHEMISTRY II-W/LAB	
CHEM 48200	RESEARCH TECHNIQUES: CHEM	4
or BCHM 48300	RESEARCH TECHNIQUES BIOCHEM	

BCHM 36600	BASIC BIOCHEMISTRY-W/LAB	4
Total Hours		12

Pathways

Chemistry Pathway

Course	Title	Hours	Term
First Year			
Fall 12 Week			
CHEM 12000	GEN I:STRUCTURE/BOND-W/LAB:SM	4	_____
UCS 10101	FIRST-YEAR ENDURING QUESTIONS	4	_____
MATH 19800	CALCULUS I:MM	4	_____
Hours		12	
Fall 3 Week			
Hiram Core Requirement		3	_____
Hours		3	
Spring 12 Week			
CHEM 12100	GEN II:INTR CHEM ANLS-W/LAB:SM	4	_____
MATH 19900	CALCULUS II:MM	4	_____
UCS 20201	ADDRESSING URGENT QUESTIONS	4	_____
Hours		12	
Spring 3 Week			
Elective		4	_____
Hours		4	
Second Year			
Fall 12 Week			
CHEM 22000	INTRO TO ORGANIC CHEM-W/LAB	4	_____
PHYS 21300	FUNMNNTLS OF PHYSICS-W/LAB I:SM	4	_____
Hiram Core Requirement		4	_____
Hours		12	
Fall 3 Week			
Hiram Core Requirement		4	_____
Hours		4	
Spring 12 Week			
CHEM 32000	INTERMED ORGANIC CHEM-W/LAB	4	_____
PHYS 21400	FUNMNNTL OF PHYSICS-W/LAB II:SM	4	_____
Hiram Core Requirement		4	_____
Hours		12	
Spring 3 Week			
Hiram Core Requirement		3-4	_____
Hours		3-4	
Third Year			
Fall 12 Week			
UCS 30301	URGENT CHALLENGE SEMINAR:TT	4	_____
CHEM 35000	PHYSICAL CHEMISTRY I-W/LAB	4	_____

Elective		4	_____
Hours		12	
Fall 3 Week			
CHEM 38100	SPC TPC:	4	_____
Hours		4	
Spring 12 Week			
CHEM 23000	INTRO TO INORGANIC CHEM-W/ LAB ¹	4	_____
or			
CHEM 24000	or QUANTITATIVE ANALYSIS- W/LAB	4	_____
Hours		4	
Hiram Core Requirement		4	_____
Elective		4	_____
Hours		12	
Spring 3 Week			
Elective		3-4	_____
Hours		3-4	
Fourth Year			
Fall 12 Week			
Hiram Core Requirement		4	_____
Elective		4	_____
Elective		4	_____
Hours		12	
Fall 3 Week			
Hiram Core Requirement or Elective		3-4	_____
Hours		3-4	
Spring 12 Week			
CHEM 24000	QUANTITATIVE ANALYSIS-W/ LAB ¹	4	_____
or			
CHEM 23000	or INTRO TO INORGANIC CHEM-W/LAB	4	_____
Hours		4	
CHEM 48000	SENIOR SEMINAR	1	_____
Elective		4	_____
Hours		9	
Spring 3 Week			
Elective		3-4	_____
Hours		3-4	
Total Hours		120-124	

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CHEM 23000 and CHEM 24000 are both alternate year offerings.

Chemistry Pathway (American Chemical Society Certified)

Course	Title	Hours	Term
First Year			
Fall 12 Week			
CHEM 12000	GEN I:STRUCTURE/BOND-W/ LAB:SM	4	_____
MATH 19800	CALCULUS I:MM	4	_____
UCS 10101	FIRST-YEAR ENDURING QUESTIONS	4	_____
Hours		12	

Fall 3 Week			
Hiram Core Requirement		4	_____
Hours		4	
Spring 12 Week			
CHEM 12100	GEN II:INTR CHEM ANLS-W/ LAB:SM	4	_____
MATH 19900	CALCULUS II:MM	4	_____
UCS 20201	ADDRESSING URGENT QUESTIONS	4	_____
Hours		12	
Spring 3 Week			
Elective		4	_____
Hours		4	
Second Year			
Fall 12 Week			
CHEM 22000	INTRO TO ORGANIC CHEM-W/ LAB	4	_____
PHYS 21300	FUNMNTLS OF PHYSICS-W/LAB I:SM	4	_____
Hiram Core Requirement		4	_____
Hours		12	
Fall 3 Week			
Elective		3-4	_____
Hours		3-4	
Spring 12 Week			
CHEM 32000	INTERMED ORGANIC CHEM-W/ LAB	4	_____
PHYS 21400	FUNMNTL OF PHYSICS-W/LAB II:SM	4	_____
Hiram Core Requirement		4	_____
Hours		12	
Spring 3 Week			
Hiram Core Requirement		3-4	_____
Hours		3-4	
Third Year			
Fall 12 Week			
UCS 30301	URGENT CHALLENGE SEMINAR:TT	4	_____
CHEM 35000	PHYSICAL CHEMISTRY I-W/LAB	4	_____
Hiram Core Requirement		4	_____
Hours		12	
Fall 3 Week			
CHEM 38100	SPC TPC:	4	_____
Hours		4	
Spring 12 Week			
CHEM 23000	INTRO TO INORGANIC CHEM-W/ LAB ¹	4	_____
or			
CHEM 24000	or QUANTITATIVE ANALYSIS- W/LAB	4	_____
CHEM 35100	PHYSICAL CHEMISTRY II-W/ LAB	4	_____
Hiram Core Requirement		4	_____
Hours		12	

Spring 3 Week

CHEM 48200	RESEARCH TECHNIQUES: CHEM	4	_____
Hours		4	

Fourth Year**Fall 12 Week**

BCHM 36600	BASIC BIOCHEMISTRY-W/LAB	4	_____
Hiram Core Requirement		4	_____
Elective		4	_____
Hours		12	

Fall 3 Week

Hiram Core Requirement		3-4	_____
Hours		3-4	

Spring 12 Week

CHEM 24000 or CHEM 23000	QUANTITATIVE ANALYSIS-W/ LAB ¹ or INTRO TO INORGANIC CHEM-W/LAB	4	_____
CHEM 48000	SENIOR SEMINAR	1	_____
Hiram Core Requirement		3-4	_____
Hours		8-9	

Spring 3 Week

Elective		3-4	_____
Hours		3-4	
Total Hours		120-125	

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CHEM 23000 and CHEM 24000 are both alternate year offerings.