

CHEMISTRY (PLEASE SEE NOTE BELOW)

Please Note: Admission to this program was discontinued effective October 5, 2021 and a teach-out plan is in place for current students.

Home Department: Natural Sciences

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Chemistry Program Curriculum Requirements

Code	Title	Credit Hours
First Year Experience		
CILE-101	First Year Foundations	1
General Education		
COMM-101	Rhetoric & Writing	4
ECON-201	Economic Principles	4
LA-201	Sophomore Seminar: Exploring the Human Condition	4
LA-489	Sr. Seminar: Leadership, Ethics	4
Advanced Humanities Electives ¹		8
Advanced Social Science Electives ¹		8
Total Credit Hours		33

¹ Humanities and Social Science advanced electives must be selected from approved 300 and 400 level courses.

Code	Title	Credit Hours
Mathematics		
MATH-101	Calculus I	4
or MATH-101X	Calculus I	
Select one of the following:		4
MATH-102	Calculus II	
MATH-102X	Calculus II	
MATH-102H	Calculus II - Honors	
MATH-203	Multivariate Calculus	4
or MATH-203H	Multivariate Calculus - Honors	
MATH-204	Differential Equations & Laplace Transforms	4
or MATH-204H	Differential Equations and Laplace Transforms - Honors	
MATH-258	Probability and Statistics	4
Physics		
PHYS-114 & PHYS-115	Newtonian Mechanics and Newtonian Mechanics Laboratory	4

PHYS-224 & PHYS-225	Electricity and Magnetism and Electricity and Magnetism Laboratory	4
PHYS-362	Modern Physics and Lab	4
<i>Credit Hours Subtotal:</i>		32

Chemistry Core		
Select one of the following:		
CHEM-137 & CHEM-136	General Chemistry I and Principles of Chemistry Lab	4
CHEM-135 & CHEM-136	Principles of Chemistry and Principles of Chemistry Lab	
CHEM-237 & CHEM-238	General Chemistry II and General Chemistry II Lab	4
CHEM-345 & CHEM-346	Organic Chemistry I and Organic Chemistry I Lab ²	6
CHEM-347 & CHEM-348	Organic Chemistry II and Organic Chemistry II Lab ²	6
CHEM-351 & CHEM-352	Biochemistry I and Biochemistry Lab	7
CHEM-361 & CHEM-362	Physical Chemistry I and Physical Chemistry I Lab	7
CHEM-363 & CHEM-364	Physical Chemistry II and Physical Chemistry II Lab	7
CHEM-373 & CHEM-374	Analytical Chemistry and Analytical Chemistry Lab	7
CHEM-437 & CHEM-438	Inorganic Chemistry and Inorganic Chemistry Lab	7
Advanced Chemistry Electives/Labs		9
CHEM-494	Research Methods	4
<i>Credit Hours Subtotal:</i>		68

Electives		
Technical Electives ³		12
Free Electives		12
<i>Credit Hours Subtotal:</i>		24

Undergraduate Thesis		
CILE-400	Culminating Undergraduate Experience: Thesis ⁴	4
Total Credit Hours		128

(Minimum) Total Credits Required for Program: 161⁵

² Alternatively an extended (X) section of this lecture course may be taken. Extended versions of courses offer additional hours with the instructor.

³ A technical elective may be any 300 or 400 level courses in BIOL, CE, CHEM, CHME, CS, EE, IME, ISYS, MATH, MECH, or PHYS that is not used to complete core degree requirements. MATH-204 and PHYS-224/PHYS-225 can also count as a technical elective. All other courses must be approved by the department head.

⁴ Students are automatically registered for CILE-400 in a co-op term when they reach Junior II status.

⁵ The minimum total number of credit hours required for graduation is 161; however, the total number of credit hours taken may exceed 161. All Applied Biology majors must meet the general educational requirements and their program's requirements for a minor or concentration.

Chemistry Major Representative Program

Course	Title	Credit Hours
Freshman I		
CILE-101	First Year Foundations	1
CHEM-137 or CHEM-135	General Chemistry I or Principles of Chemistry	3
CHEM-136	Principles of Chemistry Lab	1
MATH-101	Calculus I	4
COMM-101	Rhetoric & Writing	4
ECON-201	Economic Principles	4
Credit Hours		17
Freshman II		
CHEM-237	General Chemistry II	3
CHEM-238	General Chemistry II Lab	1
MATH-102	Calculus II	4
PHYS-114	Newtonian Mechanics	3
PHYS-115	Newtonian Mechanics Laboratory	1
Free Elective		4
Credit Hours		16
Sophomore I		
CHEM-345	Organic Chemistry I *	4
CHEM-346	Organic Chemistry I Lab	2
MATH-203	Multivariate Calculus	4
PHYS-224	Electricity and Magnetism	3
PHYS-225	Electricity and Magnetism Laboratory	1
LS-201	Sophomore Seminar: Exploring the Human Condition	4
Credit Hours		18
Sophomore II		
CHEM-347	Organic Chemistry II *	4
CHEM-348	Organic Chemistry II Lab	2
MATH-204	Differential Equations & Laplace Transforms	4
Adv. COMM, HUMN, or SSCI Elective		4
Technical Elective		4
Credit Hours		18
Junior I		
CHEM-351	Biochemistry I	4
CHEM-352	Biochemistry Lab	3
CHEM-361	Physical Chemistry I	4
CHEM-362	Physical Chemistry I Lab	3
MATH-258	Probability and Statistics	4
Credit Hours		18
Junior II		
CHEM-373	Analytical Chemistry	4
CHEM-374	Analytical Chemistry Lab	3
CHEM-363	Physical Chemistry II	4
CHEM-364	Physical Chemistry II Lab	3
PHYS-362	Modern Physics and Lab	4
Credit Hours		18

Senior I

CHEM-437	Inorganic Chemistry	4
CHEM-438	Inorganic Chemistry Lab	3
Advanced Chemistry Elective and Lab		7
Advanced Humanities or Advanced Social Science Elective ¹		4
Credit Hours		18

Senior II

Advanced Chemistry Elective		2
Advanced Humanities, Advanced Social Science, or Advanced Communications Elective ¹		4
Technical Electives		8
Free Elective		4
Credit Hours		18

Senior III

CHEM-494	Research Methods	4
Adv. COMM, HUMN, or SSCI Elective		4
LS-489	Senior Seminar: Leadership, Ethics, and Contemporary Issues	4
Free Elective		4
Credit Hours		16

Any Term

CILE-400	Culminating Undergraduate Experience: Thesis	4
Credit Hours		4
Total Credit Hours		161

(Minimum) Total Credits Required for Program: 161⁴

¹ Humanities, Social Science, and Communications advanced electives must be selected from approved 300 and 400 level courses, including one Humanities course and one Social Science Course. Additionally, two of the three advanced electives must be writing intensive.

² Alternatively an extended (X) section of this lecture course may be taken. Extended versions of courses offer additional hours with the instructor.

³ A technical elective may be any 300 or 400 level courses in BIOL, CE, CHEM, CHME, CS, EE, IME, ISYS, MATH, MECH, or PHYS that is not used to complete core degree requirements. MATH-204 and PHYS-224/PHYS-225 can also count as a technical elective. All other courses must be approved by the department head.

⁴ The minimum total number of credit hours required for graduation is 161; however, the total number of credit hours taken may exceed 161. All Applied Biology majors must meet the general educational requirements and their program's requirements for a minor or concentration.