

CHEMISTRY (B.S.) - RESIDENT

Important: This degree plan is effective for those starting this degree program in fall 2024 through summer 2025. This degree plan will remain in effect for students who do not break enrollment or who do not change degree programs, concentrations, or cognates.

General Education/Foundational Skills Requirements

Code	Title	Hours
Communication & Information Literacy ¹		
ENGL 101	Composition and Rhetoric	3
	Communications Elective	3
	Information Literacy Elective	3
	Information Literacy Elective	3
Technological Solutions & Quantitative Reasoning ¹		
UNIV 101	Foundational Skills	1
	Math Elective MATH 114 or higher	3
	Technology Competency ²	0-3
Critical Thinking ¹		
RLGN 105	Introduction to Biblical Worldview ³	2
	Critical Thinking Elective	3
Civic & Global Engagement ¹		
EVAN 101	Evangelism and the Christian Life ³	2
	Cultural Studies Elective	3
Social & Scientific Inquiry ¹		
	Natural Science Elective	3
	Social Science Elective	3
Christianity & Contexts ¹		
BIBL 105	Old Testament Survey	2
BIBL 110	New Testament Survey	2
THEO 201	Theology Survey I ³	2
THEO 202	Theology Survey II ³	2
Total Hours		40-43

¹ Refer to the list of approved general education electives before enrolling in foundational skill requirements

² All students must pass the Computer Assessment OR complete applicable INFT course

³ Students transferring in 45 or more UG credit hours will have the requirements of RLGN 105 and EVAN 101 waived; Students transferring in 60 or more UG credit hours will also have the requirements of THEO 201 and THEO 202 waived

Major Requirements

Code	Title	Hours
Major Foundational Courses		
BIOL 224	General Biology I ¹	4
CHEM 131	Advanced General Chemistry I ¹	3
CHEM 132	Advanced General Chemistry II ¹	3
CHEM 135	Advanced General Chemistry Lab ¹	1
CHEM 136	Advanced General Chemistry II Lab ¹	1
MATH 126	Elementary Calculus for Business and Science ^{1,2}	3-4

Code	Title	Hours
or MATH 131	Calculus and Analytic Geometry I	
MATH 201	Introduction to Probability and Statistics ^{1,2}	3
or MATH 211	Introduction to Statistical Analysis	
PHYS 201	General Physics I ^{1,2}	4
or PHYS 231	University Physics I	
PHYS 202	General Physics II ^{1,2}	4
or PHYS 232	University Physics II	
Total Hours		26-27

¹ Courses may also fulfill select general education requirements

² MATH 131 Calculus and Analytic Geometry I (4 c.h.), MATH 211 Introduction to Statistical Analysis (3 c.h.), PHYS 231 University Physics I (4 c.h.) and PHYS 232 University Physics II (4 c.h.) are strongly recommended

Code	Title	Hours
Major Core		
BCHM 451	Biochemistry I	4
BCHM 452	Biochemistry II	4
or CHEM 497	Special Topics in Chemistry	
CHEM 301	Organic Chemistry I	4
CHEM 302	Organic Chemistry II	4
CHEM 321	Analytical Chemistry	4
CHEM 322	Instrumental Analysis	4
CHEM 400	Chemistry Seminar	1
CHEM 461	Physical Chemistry I	3
CHEM 462	Physical Chemistry II	3
CHEM 465	Physical Chemistry I Lab	1
CHEM 466	Physical Chemistry II Lab	1
CHEM 471	Inorganic Chemistry	4
CHEM 497	Special Topics in Chemistry	3-4
CRST 290	History of Life	3
or CRST 390	Origins	
MATH 132	Calculus and Analytic Geometry II	4
Total Hours		47-48

Code	Title	Hours
Free Electives		
	Choose 0-10 credit hours of Free Electives	0-10
Total Hours		0-10

All applicable prerequisites must be met

Graduation Requirements

- 120 Total hours
- 2.0 Overall grade point average
- 30 Hours must be upper-level courses (300-400 level)
- **Grade of 'C'** Minimum required for all upper-level courses in the major
- 25% Of major taken through Liberty University
- 30 Hours must be completed through Liberty University
- **Grad App** Submission of Degree Completion Application must be completed within the last semester of a student's anticipated graduation date

- CSER All requirements must be satisfied before a degree will be awarded

Course Sequence

Course	Title	Hours
First Year		
First Semester		
CHEM 131	Advanced General Chemistry I	3
CHEM 135	Advanced General Chemistry Lab	1
ENGL 101	Composition and Rhetoric	3
INQR 101	Inquiry	1
MATH 126 or MATH 131	Elementary Calculus for Business and Science ² or Calculus and Analytic Geometry I	3-4
UNIV 101	Foundational Skills	1
Natural Science Elective (BIOL 224) ¹		4
CSER		0
Hours		16-17
Second Semester		
CHEM 132	Advanced General Chemistry II	3
CHEM 136	Advanced General Chemistry II Lab	1
EVAN 101	Evangelism and the Christian Life	2
RLGN 105	Introduction to Biblical Worldview	2
Information Literacy Elective ¹		3
Technology Competency ³		0-3
MATH 132	Calculus and Analytic Geometry II	4
CSER		0
Hours		15-18
Second Year		
First Semester		
BIBL 105	Old Testament Survey	2
PHYS 201 or PHYS 231	General Physics I ² or University Physics I	4
RSCH 201	Research	3
MATH Elective (MATH 201 or MATH 211) ² ¹		3
CHEM 301	Organic Chemistry I	4
CSER		0
Hours		16
Second Semester		
BIBL 110	New Testament Survey	2
PHYS 202 or PHYS 232	General Physics II ² or University Physics II	4
Communications Elective ¹		3
Critical Thinking Elective ¹		3
CHEM 302	Organic Chemistry II	4
CSER		0
Hours		16
Third Year		
First Semester		
THEO 201	Theology Survey I	2
Information Literacy Elective ¹		3
CHEM 321	Analytical Chemistry	4
CHEM 461	Physical Chemistry I ⁴	3

Course	Title	Hours
CHEM 465	Physical Chemistry I Lab ⁴	1
CSER		0
Hours		13
Second Semester		
THEO 202	Theology Survey II	2
CHEM 322	Instrumental Analysis ⁴	4
CHEM 462	Physical Chemistry II ⁴	3
CHEM 466	Physical Chemistry II Lab ⁴	1
CHEM 497	Special Topics in Chemistry	3-4
CSER		0
Hours		13-14
Fourth Year		
First Semester		
Cultural Studies Elective ¹		3
BCHM 451	Biochemistry I	4
CRST 290 or CRST 390	History of Life or Origins	3
Elective		3
Elective		3
CSER		0
Hours		16
Second Semester		
Social Sciences Elective ¹		3
BCHM 452 or CHEM 497	Biochemistry II or Special Topics in Chemistry	4
CHEM 400	Chemistry Seminar	1
CHEM 471	Inorganic Chemistry ⁴	4
Elective		3
CSER		0
Hours		15
Total Hours		120-125

¹ Refer to the list of approved general education electives at www.liberty.edu/gened before enrolling in foundational skills requirements

² MATH 131, 211, PHYS 231 and 232 are strongly recommended

³ All students must pass the Computer Assessment OR complete applicable INFT course; refer to www.liberty.edu/computerassessment for more information

⁴ CHEM 461/465 and CHEM 462/466 will be offered each year, dependent on sufficient student enrollment. CHEM 322 will be offered in alternating spring semesters with CHEM 471. Students should take whichever course is offered in their Junior year and take the other course the following year.