

CHEMISTRY, B.S.

FOUR-YEAR PLAN

SAMPLE FOUR-YEAR PLAN

This Sample Four-Year Plan is a tool to assist students and their advisor(s). Students should use it—along with their DARS report, the Degree Planner, and Course Search & Enroll tools—to make their own four-year plan based on their placement scores, credit for transferred courses and approved examinations, and individual interests. As students become involved in athletics, honors, research, student organizations, study abroad, volunteer experiences, and/or work, they might adjust the order of their courses to accommodate these experiences. Students will likely revise their own four-year plan several times during college.

First Year

Fall	Credits	Spring	Credits
CHEM 109 or 103 ¹	4-5	300-level Chemistry course OR	3-5
MATH 221	5	CHEM 104 (if needed) ²	
Communications A (complete during first year)	3	MATH 222	4
Foreign Language (if required)	4	Ethnic Studies	3
		L&S Breadth	3
	16		15

Second Year

Fall	Credits	Spring	Credits
CHEM 343 ³	3	CHEM 345	3
PHYSICS 207	5	CHEM 344	2
L&S Breadth	3	PHYSICS 208	5
Communications B (consult with advisor about timing) ⁴	3-4	Research (optional) ⁵	1-3
		L&S Breadth	3
	15		15

Third Year

Fall	Credits	Spring	Credits
CHEM 329 ⁶	4	Physical Chemistry Part I ⁷	3-4
MATH 234 (recommended, but not required)	4	CHEM 311	4
Research (optional) ⁵	1-3	Advanced Non-laboratory Coursework ⁸	3
L&S Breadth	3	Research (optional) ⁵	1-3
INTER-LS 210 (optional)	1	L&S Breadth	3
	14		15

Fourth Year

Fall	Credits	Spring	Credits
CHEM 562	3	CHEM 564	1

CHEM 563	1 Research or other Additional Lab Work ¹⁰	1-3
Research or other Additional Lab Work ⁹	1-3 Advanced Non-laboratory Coursework (if needed)	3
Advanced Non-laboratory Coursework	3 L&S Breadth	3
L&S Breadth	3 L&S Breadth	3
L&S Breadth	3 Elective ¹¹	3
	15	15

Total Credits 120

1

CHEM 103 General Chemistry I/CHEM 104 General Chemistry II is a two-semester sequence in General Chemistry. Students with a strong high school chemistry background (usually two years) and placement into at least first semester calculus are eligible for CHEM 109 Advanced General Chemistry. CHEM 109 is an advanced, fast-paced option that covers General Chemistry in one semester. CHEM 109 is offered only in the fall semesters and an honors level section is available. An additional option is the CHEM 115 Chemical Principles I/CHEM 116 Chemical Principles II sequence, which is a small honors sequence for exceptionally well-prepared students. Enrollment in this sequence is by invitation only, and the two courses cover both general and analytical chemistry.

2

Students who took CHEM 109 in their first semester will not need CHEM 104. Instead, they may proceed to the next level of chemistry courses sooner by taking CHEM 311 Chemistry Across the Periodic Table or CHEM 329 Fundamentals of Analytical Science or CHEM 343 Organic Chemistry I in the second semester of their first year. In this case, some subsequent chemistry courses may also be taken sooner than shown in this plan.

3

Students must declare a major by the time they reach 86 credits. Students interested in chemistry may declare the major after completing general chemistry (CHEM 104, CHEM 109, or CHEM 116).

4

Communications B can be satisfied later through a chemistry course, CHEM 346 Intermediate Organic Chemistry Laboratory, if taken for 2 credits. CHEM 346 will also count towards additional lab work needed for the chemistry major.

5

Research can be taken for credit by enrolling in CHEM 299 Directed Study (for students with less than 54 earned credits) or CHEM 699 Directed Study (for students with 54 or more earned credits). CHEM 299 does not satisfy additional lab credits required for the major, while CHEM 699 does. Alternatively, research may be conducted as a volunteer or for pay. Students must search for and be accepted into a research group before beginning research.

6

According to L&S policy, students must complete at least 60 credits at the intermediate or advanced level.

7

Options include CHEM 561 Physical Chemistry, CHEM 565 Biophysical Chemistry, and CBE 310 Chemical Process Thermodynamics (only for students also majoring in Chemical & Biological Engineering).

8

Five advanced non-laboratory credits are required for the major. Please see the Requirements tab in the Guide for a list of courses that count towards this requirement.

9

Three credits of additional lab work are required for the major. These credits can be satisfied by research (CHEM 699, for example) or by courses. Please see the Requirements tab in the Guide for a complete list of options. CHEM 346 is one option, and when taken for 2 credits also satisfies Comm-B. CHEM 346 is ONLY offered in FALL semester, with most students taking it in their fourth year. Students not planning to take CHEM 346 should plan to take their Comm-B earlier through one of their other required breadth courses.

10

CHEM 524 Chemical Instrumentation and CHEM 512 Advanced Synthesis and Laboratory Techniques are options that are only offered in the spring semesters. CHEM 524 (3 credits) satisfies 1 additional lab work credit and 2 advanced non-laboratory credits.

11

Please refer to the Requirements tab in Guide for additional College of Letters & Science Breadth and Degree requirements as well as Residence and Quality of Work requirements for the major.