

Examples of Four-Year Plans for Chemistry Majors at Lewis & Clark

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1. Standard plans:

(a) Early start in Science

Year	Fall Semester	Spring Semester
1	General Chemistry (Chem 110) ¹ Calculus I (Math 131) Exploration & Discovery Elective	General Chemistry (Chem 120) ¹ Calculus II (Math 132) Exploration & Discovery Elective
2	Organic Chemistry (Chem 210) ¹ General Physics (Phys 141 or 151) ^{1,2} Elective Elective	Organic Chemistry (Chem 220) ¹ General Physics (Phys 142) ¹ Elective Elective
3	Physical Chemistry (Chem 320) Inorganic Chemistry Laboratory (Chem 366) Elective Elective	Physical Chemistry (Chem 310) Physical Chemistry Laboratory (Chem 365) Elective Elective
4	Chemistry Seminar (Chem 405) Research (Chem 480 or 490; optional) Elective Elective	Advanced Inorganic Chemistry (Chem 420) Chemistry Elective ³ Research (Chem 480 or 490; optional) Elective

(b) Later start in Science

Year	Fall Semester	Spring Semester
1	Foundations in Quantitative Reasoning (QR 101) ⁴ Exploration & Discovery Elective Elective	Elementary Functions (Math 115) ⁴ Exploration & Discovery Elective Elective
2	General Chemistry (Chem 110) ¹ Calculus I (Math 131) Elective Elective	General Chemistry (Chem 120) ¹ Calculus II (Math 132) Elective Elective
3	Organic Chemistry (Chem 210) ¹ General Physics (Phys 141 or 151) ^{1,2} Elective Elective	Organic Chemistry (Chem 220) ¹ General Physics (Phys 142) ¹ Elective Elective
4	Inorganic Chemistry Laboratory (Chem 366) Physical Chemistry (Chem 320) Chemistry Seminar (Chem 405) Elective	Physical Chemistry (Chem 310) Physical Chemistry Laboratory (Chem 365) Advanced Inorganic Chemistry (Chem 420) Chemistry elective ³

¹ This course includes a laboratory that meets once a week.

² If taking the alternative Phys 151/152 sequence, then Phys 251, a Fall course, is also required.

³ Chemistry electives may be taken in the third or fourth years, either as a single four-credit course or as two two-credit courses. Please see the College Catalog for a list of eligible courses.

⁴ The sequence QR 101/Math 115 is needed if ALEKS scores are not sufficiently high for placement in Chem 110, Phys 141 (or 151), and Math 131.

2. Plans for pre-health students:

(a) Early start in Science

Year	Fall Semester	Spring Semester
1	General Chemistry (Chem 110) ¹ Calculus I (Math 131) Exploration & Discovery Elective	General Chemistry (Chem 120) ¹ Calculus II (Math 132) Genetics & Evolution (Bio 151) ¹ Exploration & Discovery
2	Organic Chemistry (Chem 210) ¹ General Physics (Phys 141 or 151) ^{1,2} Elective Elective	Organic Chemistry (Chem 220) ¹ General Physics (Phys 142) ¹ Cell & Molecular Biology (Bio 200) ¹ Elective
3	Physical Chemistry (Chem 320) Inorganic Chemistry Laboratory (Chem 366) Structural Biochemistry (Chem 330) ⁵ Elective	Physical Chemistry (Chem 310) Physical Chemistry Laboratory (Chem 365) Elective Elective
4	Chemistry Seminar (Chem 405) Research (Chem 480 or 490; optional) Elective Elective	Advanced Inorganic Chemistry (Chem 420) Research (Chem 480 or 490; optional) Elective Elective

(b) Later start in Science

Year	Fall Semester	Spring Semester
1	Foundations in Quantitative Reasoning (QR 101) ⁴ Exploration & Discovery Elective Elective	Genetics & Evolution (Bio 151) ¹ Elementary Functions (Math 115) ⁴ Exploration & Discovery Elective
2	General Chemistry (Chem 110) ¹ Calculus I (Math 131) Elective Elective	General Chemistry (Chem 120) ¹ Calculus II (Math 132) Cell & Molecular Biology (Bio 200) ¹ Elective
3	Organic Chemistry (Chem 210) ¹ General Physics (Phys 141 or 151) ^{1,2} Structural Biochemistry (Chem 330) ⁴ Elective	Organic Chemistry (Chem 220) ¹ General Physics (Phys 142) ¹ Elective Elective
4	Inorganic Chemistry Laboratory (Chem 366) Physical Chemistry (Chem 320) Chemistry Seminar (Chem 405) Elective	Physical Chemistry (Chem 310) Physical Chemistry Laboratory (Chem 365) Advanced Inorganic Chemistry (Chem 420) Elective

⁵ A Biochemistry course provides a good foundation for the MCAT. Metabolic Biochemistry (Chem 335), a Spring course, is also an option.

3. Plans with overseas programs:

(a) Spring overseas program

Year	Fall Semester	Spring Semester
1	General Chemistry (Chem 110) ¹ Calculus I (Math 131) Exploration & Discovery Elective	General Chemistry (Chem 120) ¹ Calculus II (Math 132) Exploration & Discovery Elective
2	Organic Chemistry (Chem 210) ¹ General Physics (Phys 141 or 151) ^{1,2} Elective Elective	Organic Chemistry (Chem 220) ¹ General Physics (Phys 142) ¹ Elective Elective
3	Physical Chemistry (Chem 320) Inorganic Chemistry Laboratory (Chem 366) Elective Elective	Overseas Program
4	Chemistry elective ³ Chemistry Seminar (Chem 405) Research (Chem 480 or 490; optional) Elective	Physical Chemistry (Chem 310) Physical Chemistry Laboratory (Chem 365) Advanced Inorganic Chemistry (Chem 420) Research (Chem 480 or 490; optional)

(b) Fall overseas program

Year	Fall Semester	Spring Semester
1	General Chemistry (Chem 110) ¹ Calculus I (Math 131) Exploration & Discovery Elective	General Chemistry (Chem 120) ¹ Calculus II (Math 132) Exploration & Discovery Elective
2	Organic Chemistry (Chem 210) ¹ General Physics (Phys 141 or 151) ^{1,2} Elective Elective	Organic Chemistry (Chem 220) ¹ General Physics (Phys 142 or 152) ¹ Elective Elective
3	Overseas Program	Physical Chemistry (Chem 310) Chemistry elective ³ Elective Elective
4	Physical Chemistry (Chem 320) Inorganic Chemistry Laboratory (Chem 366) Chemistry Seminar (Chem 405) Research (Chem 480 or 490; optional)	Physical Chemistry Laboratory (Chem 365) Advanced Inorganic Chemistry (Chem 420) Research (Chem 480 or 490; optional) Elective

4. Plan for an American Chemical Society certified major

Year	Fall Semester	Spring Semester
1	General Chemistry (Chem 110) ¹ Calculus I (Math 131) Exploration & Discovery Elective	General Chemistry (Chem 120) ¹ Calculus II (Math 132) Exploration & Discovery Elective
2	Organic Chemistry (Chem 210) ¹ General Physics (Phys 141 or 151) ^{1,2} Elective Elective	Organic Chemistry (Chem 220) ¹ General Physics (Phys 142) ¹ Elective Elective
3	Physical Chemistry (Chem 320) Inorganic Chemistry Laboratory (Chem 366) Elective Elective	Physical Chemistry (Chem 310) Physical Chemistry Laboratory (Chem 365) Experimental Methods (Chem 355) Elective
4	Chemistry Seminar (Chem 405) Structural Biochemistry (Chem 330) Research (Chem 480 or 490; optional) Elective	Advanced Inorganic Chemistry (Chem 420) Chemistry elective ³ Research (Chem 480 or 490; optional) Elective