

## CHEMISTRY MAJOR (CH)

The Chemistry major provides a strong foundation in all core areas of the discipline, including organic, inorganic, physical, and analytical chemistry. Students completing this major will obtain a degree certified by the American Chemical Society. Some of our other majors also lead to ACS certification, depending on the electives chosen.

For simplicity, the recommended path through the major is presented below. See the advising worksheet for alternative paths that satisfy this major's requirements.

### Core Courses

1. General Chemistry with Quantitative Analysis (1 year)
  - Recommended: CH109 + CH110
  - **or** CH101 + CH102 + CH201(2 units) **or** CH101 + CH116 + CH201(2 units)
2. Organic Chemistry with Qualitative Analysis (1 year)
  - Recommended: CH211 + CH212
  - **or** CH203 + CH214 **or** CH203 + CH204 + CH220(2 units) **or** CH 218 + CH214 **or** CH218 + CH204 + CH220(2 units)
3. Inorganic Chemistry (1 semester)
  - CAS CH232 (spring)
4. Physical Chemistry (2 semesters)
  - CH351 – Physical Chemistry I: Quantum Mechanics (spring)
  - CH352 – Physical Chemistry II: Statistical Thermodynamics (fall)
5. Biochemistry (1 semester)
  - BB421 (fall)
6. Advanced Chemistry Lab Electives (choose 2)
  - CH301, CH303, CH354, CH524

### Required Related Courses

1. Calculus (2 semesters)
  - CAS MA123 + MA124
2. Mathematical Methods for Molecular Science (1 semester)
  - CAS CH225 (fall)
3. General Physics (2 semesters, calculus-based)
  - Recommended: CAS PY211 + PY212 **or** PY251 + PY252

**Electives** Two versions of the major are available: Option A and Option B.

- **Option A:** Two advanced 4-unit CH courses at the 400-level or above, excluding CH525. CAS BB 422 can satisfy this requirement as can CAS CH courses numbered 600–999. One elective may be satisfied by:
  - One semester of Senior or Honors Research (CH401/CH402 or CH461/CH462)
  - Declared STEM major or minor in select disciplines
  - Participation in the MMEDIC program

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- **Option B:** One advanced 4-unit CH course at the 400-level or above (excluding CH525 and research courses) or BB422.

### Sample 4-Year Plan

Year	Fall Semester	Spring Semester	Notes
<b>First</b>	CH109*, MA123, Language 1, First-Year Writing	CH110*, MA124, Language 2, WR15x	CH225 may be taken in Fall of Year 1 if MA124 is complete. CH195 is not required, but it is a good way to get oriented in the major and meet other aspiring chemists.
	<b><u>Optional</u></b> CH195/FY101		
<b>Second</b>	CH211*, CH225, PY211*, Language 3	CH212*, Open, PY212*, Language 4	
<b>Third</b>	BB421*, CH352, Lab elective* #1, Open	CH351, CH232*, Lab elective* #2, Open	Advanced labs can be delayed to senior year for flexibility. Many premed students delay CH232 to senior year.
<b>Fourth</b>	CH401/461/Open, CHE elective #1, Open x2	CH402/462/Open, CHE elective #2, Open x2	CH401/402 = Honors Research CH461/462 = Senior Research
		<b><u>Optional</u></b> SY101	

\* = laboratory course