## Chemistry Minor

## Program Requirements

- Total units required: 41 (27 in chemistry; 14 in math and physics)


## Required Courses

| Code | Title | Units |
| :---: | :---: | :---: |
| Chem 111A | General Chemistry I | 3 |
| Chem 112A | General Chemistry II | 3 |
| Chem 151 | General Chemistry Laboratory I | 2 |
| Chem 152 | General Chemistry Laboratory II | 2 |
| Chem 261 | Organic Chemistry I with Lab | 4 |
| Chem 262 | Organic Chemistry II with Lab | 4 |
| Math 131 | Calculus I* | 3 |
| Math 132 | Calculus II* | 3 |
| Physics 191 | Physics ${ }^{* *}$ | 3 |
| Physics 191L | Physics I Laboratory** | 1 |
| Physics 192 | Physics II** | 3 |
| Physics 192L | Physics II Laboratory ** | 1 |
| Total Units |  | 32 |

* Math 203 Honors Mathematics I may replace both Math 131 Calculus I and Math 132 Calculus II.
**Physics 193 Focused Physics I may replace Physics 191 Physics I, Physics 194 Focused Physics II may replace Physics 192 Physics II, Physics 193L Focused Physics I Laboratory may replace Physics 191L Physics I Laboratory, and Physics 194L Physics II Laboratory may replace Physics 192L Physics II Laboratory.

Note: In certain instances, students may substitute Chem 105 Principles of General Chemistry I and Chem 106 Principles of General Chemistry II for Chem 111A General Chemistry I and Chem 112A General Chemistry II. Please consult with the department's director of undergraduate studies for details.

## Elective Courses

Student must complete 9 units of chemistry encompassing three courses in at least two subdisciplines. Biol 451 General Biochemistry may be used to satisfy one course of the three required (but not in combination with Chem 481 General Biochemistry I or Chem 482 General Biochemistry II). Courses must be at the 300 level or above, but Chem 490 Introduction to Research and Chem 495 Advanced Undergraduate Research in Chemistry are specifically excluded.

All chemistry course work must be taken in residence at Washington University to be applied toward the chemistry minor. A minimum grade of C - must be earned in each course to count toward the chemistry minor.

Note: Per the College of Arts \& Sciences guidelines, if a student has a major and a minor or has two minors, only introductory (100- and 200level) courses may be counted, when relevant, toward the requirements of both programs. All advanced (300- and 400-level) courses must be unique to each program. In other words, no advanced course may be "double-counted" for the course work needed to fulfill either program's minimal requirements. Should a student's major and minor programs require the same course, a departmentally sanctioned elective must be chosen to replace the course in one of the programs.

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