UCLA GENERAL CHEMISTRY MAJOR 2026-2027

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GENERAL CHEMISTRY MAJOR (B.S.): The General Chemistry major is intended for students who wish to acquire considerable chemical background in preparation for careers in secondary school chemistry teaching. The major may also be appropriate for some students who plan to enter other chemistry-related careers involving teaching chemistry to non-chemists. This major cannot be taken as a part of a double major or with the Science Education minor. Refer to the UCLA General Catalog (http://catalog.registrar.ucla.edu/) for course descriptions and requisites.

Preparation for the Major	
Connections in Chemistry and Biochemistry (CHEM)	Chem 1*
General Chemistry (CHEM)	Chem 20A(H), 20B(H), 20L, 30AL
Organic Chemistry (CHEM)	Chem 30A, 30B, 30BL, 30C, 30CL
Math (MATH)	Math 31A, 31B, 32A, 33A
Physics (PHYSICS)	Physics [5A, 5B, 5C] or [1A(H), 1B(H), 1C(H), 4BL]
Life Science (LIFESCI)	Life Science 7A

*First-year departmental majors only
(H) indicates that an Honors section may be available
[ ] Choose one series enclosed in brackets.

Upper Division Major Requirements	
Chemistry (CHEM)	110A, 153A, 153L, 171, [192A OR 192B] AND Two additional Chemistry electives + one additional Chemistry laboratory (see courses on back)
One Science Education	100SL, or Environmental Health Science C152D or C164
One Course from AOS OR EPSS	AOS: 101, 102, 103, 104 OR EPSS: 101, C113
Three Courses from Education	M102, M108, C111, 127, 106A, 197A, 132, 133, 107B, 126, M131A

Important Notes

- Students MUST declare the General Chemistry major before reaching senior status (135 units, not including AP credit)
- Students must complete the preparation courses with at least a 2.0 grade-point average.
- Individual study courses and research courses (e.g. 196, 199) may not be used to satisfy the requirements for the General Chemistry major. Seminars and workshop courses are usually not acceptable.
- You must maintain at least a 2.0 GPA in all upper division coursework taken to fulfill the major requirements.
- **All Prep for Major and UD Major courses must be taken for a letter grade.**
- Science Education 100SL is only offered once per year.

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Upper Division (UD) Chemistry Elective Courses

The program of upper division courses for the General Chemistry major should be planned with care. Particular attention should be paid to pre-requisites for advanced courses and to the quarter(s) in which courses are offered. Please use the following list as a guide to plan your Chemistry electives and make sure to consult the General Catalog for the most accurate prerequisite information.

Course	Course Title	Prerequisite(s)
101	Catalysis in Modern Drug Discovery	Chem 14D or 30B
103	Environmental Chemistry	Chem 30B, 30BL, 110A, 153A, 153L
C115A	Advanced Quantum Chemistry with Laboratory I	Chem 113A; Math 32B, 33A with grades of C- or better
C115B	Quantum Chemistry	Chem C115A with grade of C- or better
C123A	Advanced Thermodynamics and Statistical Mechanics with Laboratory I	Chem [110B or 156] (113A)
C123B	Classical and Statistical Thermodynamics	Chem [110B or 156] (113A)
125	Introduction to Python Programming and Machine Learning	Chem 14C or 30A
C126A	Computational Methods for Chemists	Chem 110A, 113A; Math 33B
136	Organic Structural Methods	Chem 30C, 30CL with grades of C- or better
C143A	Structure and Mechanism in Organic Chemistry	Chem 30C, 30CL*, 110B, 113A with grades of C- or better
C143B	Mechanism and Structure in Organic Chemistry	Chem C143A with grade of C- or better
144	Practical and Theoretical Introductory Organic Synthesis	Chem 30C, 30CL with grades of C- or better
C145	Theoretical and Computational Organic Chemistry	Chem 30C, 113A
153B	Biochemistry: DNA, RNA, and Protein Synthesis	Chem 153A; Life Sciences 2, 3, 7L
153C	Biochemistry: Biosynthetic and Energy Metabolism and Its Regulation	Chem 153A
154	Biochemical Methods II	Chem 153A, 153B, 153L with grades of C- or better (156)
156	Physical Biochemistry	Chem 110A, 153A
COM SCI C121	Intro to Bioinformatics	[Biostats 100A OR 110A OR Math 170A OR Stats 100A OR 110A]; [Comp Sci 180 OR PIC 60] with grades of C- or better.
COM SCI C122	Algorithms in Bioinformatics and Systems Biology	COM SCI C121 with grade of C- or better (PIC 60; Stats 100A, 110A)
C164	Free Radicals in Biology and Medicine	Chem 153A and [153B OR 153C] with grades of C- or better
C174	Inorganic and Metalorganic Lab Methods	Chem 30CL, C171 with grades of C- or better
C176	Group Theory and Applications to Inorganic Chemistry	Chem 113A, C172
C179	Biological Inorganic Chemistry	Chem 153A, 171
C180	Solid-State Chemistry	Chem C172
C181	Polymer Chemistry	Chem 30B, 110A
184	Chemical Instrumentation	Chem 30CL, 110A with grades of C- or better
C185	Materials Chemistry Lab	Chem 30AL, 110A, 113A, 171

* indicates may be taken concurrently with the course
( ) recommended courses
[ ] pick one course enclosed in brackets **bold** indicates courses that satisfy the lab requirement

College Requirements for the B.S. Degree

A total of at least 180 quarter units are required for the degree; 60 of these 180 units must be upper division (course numbers 100-199). Check your DPR to determine your allotted maximum number of quarter units. Note: The General Chemistry UD Requirements satisfy at least 52 UD units.