

ENVIRONMENTAL CHEMISTRY (CH34)

Major Requirements for the ENVIRONMENTAL CHEMISTRY B.S. Degree

Starting Fall 2024 and After – Transfer Students

Students have an option of earning a B.S. in the Environmental Chemistry that is ACS-Certified or not. The ACS certified version is recommended for those who continue in Chemistry field. The non-certified program is designed to prepare students to enter the industrial, government, or legal workforce, or to continue studies in some of the environmental sciences.

The following courses must be taken for a letter grade:

Lower Division Requirements:

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| ☐ General Chemistry (CHEM 6A, 6B & 6C or 6AH, 6BH & 6CH) | ☐ Calculus (MATH 20A, 20B, 20C & 20D) |
| ☐ General Chemistry Lab (CHEM 7L or 7LM) | ☐ Linear Algebra (MATH 18) |
| ☐ Physics (PHYS 2A, 2B & 2C or 2D) | ☐ Organic Chemistry (CHEM 41A & 41B) |
| ☐ Physics Lab (PHYS 2BL or 2CL or 2DL) | ☐ Organic Chemistry Lab (CHEM 43A) |

Upper Division Requirements:

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| ☐ 1. Physical Chemistry (CHEM 126A and CHEM 126B*) | |
| ☐ 2. Required Lab Courses (must take all 3): | |
| a. Analytical Chemistry Lab (CHEM 100A) | |
| b. Instrumental Chemistry Lab (CHEM 100B) | |
| c. Physical Chemistry Lab (CHEM 105A) | |
| ☐ 3. Environmental Chemistry I & II (CHEM 171 and 172) | |
| ☐ 4. Atmospheric Chemistry (CHEM 173) | |
| ☐ 5. Marine Chemistry (CHEM 174) | |
| ☐ 6. Environmental Electives (select 4 of the following options) | |
| a. Organic Chemistry III (CHEM 41C) | j. Conservation & Human Predicament (BIEB 176) |
| b. Biochemical Structure and Function (CHEM 114A) | k. Environmental Biology (ESYS 101) |
| c. Inorganic Chemistry I (CHEM 120A) | l. Intro to Earth & Environmental Sciences (SIO 50) |
| d. Advanced Organic Chemistry Lab (CHEM 143C) | m. California Coastal Oceanography (SIO 101) |
| e. The Cell (BILD 1) ** | n. Introduction to Geochemistry (SIO 102) |
| f. Multicellular Life (BILD 2) ** | o. Introduction to Geophysics (SIO 103) |
| g. Organismic and Evolutionary Biology (BILD 3) ** | p. Introduction to Isotope Geochemistry (SIO 144) |
| h. Ecology Lab (BIEB 121) | q. Statistical Methods (Math 183) |
| i. Biodiversity (BIEB 140) | r. CHEM 197/199 may be considered by petition. |

*If planning CHEM 126AB, plan to enroll in at least 3 UD CHEM courses to meet 48-unit requirement. CHEM 130, 131, 132 are also acceptable.

**BILD 1, 2 & 3 must be satisfied with course work. Advanced placement (AP), A-Level, and International Baccalaureate (IB) credits will not be accepted toward the elective requirement.

For ACS Certification (Optional):

Replace the 4 electives listed above with 5 of the following courses:

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| ☐ 1. Organic Chemistry III (CHEM 41C) | b. Protein Biochemistry Lab (CHEM 108) |
| ☐ 2. Biochemical Structure & Function (CHEM 114A) | c. Recombinant DNA Lab (CHEM 109) |
| ☐ 3. Inorganic Chemistry I (CHEM 120A) | d. Advanced Inorganic Chemistry Lab (CHEM 123) |
| ☐ 4. ACS Laboratories (select 2 of the following): | e. Organic Chemistry Laboratory II (CHEM 143B) |
| a. Advanced Physical Chemistry Lab (CHEM 105B) | f. Advanced Organic Chemistry Lab (CHEM 143C) |
| | g. Molecular Design & Synthesis Lab (CHEM 143D) |

Sample 2-year Academic Plan for Environmental Chemistry B.S.

This plan assumes completion of Preparatory course requirements prior to transferring to UCSD.	FALL	WINTER	SPRING
	THIRD YEAR – 1 ST YEAR TRANSFER		
	MATH 20C	MATH 18	CHEM 100A
	CHEM 171	PHYS 2C or 2D	UD ENVIRONMENTAL CHEM Elective
	UD or LD ENVIRONMENTAL CHEM Elective	PHYS 2BL or 2CL	CHEM 173
		CHEM 172	MATH 20D
	FOURTH YEAR – 2 ND YEAR TRANSFER		
	CHEM 126A	CHEM 126B	CHEM 174
	UD ENVIRONMENTAL CHEM Elective	CHEM 100B	CHEM 105A
		UD ENVIRONMENTAL CHEM Elective	
This plan assumes completion of ALL lower division requirements prior to transferring to UCSD.	FALL	WINTER	SPRING
	THIRD YEAR – 1 ST YEAR TRANSFER		
	CHEM 171	CHEM 172	CHEM 173
	UD or LD ENVIRONMENTAL CHEM Elective	CHEM 100A	CHEM 100B
			UD ENVIRONMENTAL CHEM Elective
	FOURTH YEAR – 2 ND YEAR TRANSFER		
	CHEM 126A	CHEM 126B	CHEM 174
	UD ENVIRONMENTAL CHEM Elective	CHEM 105A	UD ENVIRONMENTAL CHEM Elective

IMPORTANT NOTES:

- We do not recommend taking a chemistry lab your first quarter at UCSD or taking more than one lab a quarter.
- The plans above do not include GE/University requirements.
- A minimum 2.0 major GPA is required for graduation.
- **No more than one "D" grade** is allowed in **upper-division** coursework.
- Many courses have enforced prerequisites or are only offered once per year. It is your responsibility to know which prerequisites are needed for each (course catalog).
- The quarter in which a course is offered is subject to change. Please check the department website (course offerings) each Spring quarter to see a projection of classes offered next AY.