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ENVIRONMENTAL CHEMISTRY (CH34)

Major Requirements for the **ENVIRONMENTAL CHEMISTRY B.S.** Degree
Starting Fall 2022 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 intend to apply to graduate school in Chemistry. 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:

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

Upper Division Requirements:

- ☐ 1. **Physical Chemistry** (CHEM 130, 131 & 132 recommended; CHEM 126A & 126B acceptable*)
- ☐ **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 40C)
  - b. Biochemical Structure and Function (CHEM 114A)
  - c. Inorganic Chemistry I (CHEM 120A)
  - d. Advanced Organic Chemistry Lab (CHEM143C)
  - e. The Cell (BILD 1) **
  - f. Multicellular Life (BILD 2) **
  - g. Organismic and Evolutionary Biology (BILD 3) **
  - h. Ecology Lab (BIEB 121)
  - i. Biodiversity (BIEB 140)
  - j. Conservation & Human Predicament (BIEB 176)
  - k. Environmental Biology (ESYS 101)
  - l. Intro to Earth & Environmental Sciences (SIO 50)
  - m. California Coastal Oceanography (SIO 101)
  - n. Introduction to Geochemistry (SIO 102)
  - o. Introduction to Geophysics (SIO 103)
  - p. Introduction to Isotope Geochemistry (SIO 144)
  - q. Statistical Methods (Math 183)
  - r. CHEM 197/199 may be considered by petition.

**If CHEM 126AB, plan to enroll in an extra UD CHEM course to meet 48-unit requirement.*
***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:

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

Majors' sheets for students who entered prior to Fall 2017 can be found on our website:
http://chem-web.ucsd.edu/undergraduate/majors-minor/

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 – 1ST YEAR TRANSFER		
CHEM 171	CHEM 172	CHEM 173
MATH 20C	CHEM 126A	CHEM 126B
PHYS 2C or 2D	MATH 20D	CHEM 100A
PHYS 2BL or 2CL or 2DL		
FOURTH YEAR – 2ND YEAR TRANSFER		
CHEM 105A	CHEM 100B	CHEM 174
CHEM Elective	CHEM Elective	CHEM Elective
CHEM Elective		

This plan assumes completion of **ALL** lower division requirements prior to transferring to UCSD.

FALL	WINTER	SPRING
THIRD YEAR – 1ST YEAR TRASNFER		
CHEM 171	CHEM 172	CHEM 173
CHEM Elective	CHEM 126A	CHEM 126B
	CHEM 100A	CHEM 100B
FOURTH YEAR – 2ND YEAR TRANSFER		
CHEM Elective	CHEM 105A	CHEM 174
CHEM Elective	CHEM Elective	

IMPORTANT NOTES:

- We do not recommend taking a chemistry lab your first quarter at UCSD and taking more than one lab per quarter starting your second quarter.
- The plans above do not include GE/University requirements. Check in with your college advisor.
- The plan above does not include courses required for ACS certification.
- A minimum 2.0 major GPA is required for graduation.
- **No more than one "D" grade** is allowed in **upper-division** coursework. A “C-“ grade is considered passing.

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