

ESG 198: Fundamentals of Engineering Chemistry

Textbook: Chemistry by S. S. Zumdahl and S. A. Zumdahl (Brooks/Cole, Cengage Learning)

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Office hours: Any time on Tuesday and Thursday

Week	Date	Chapter	Topics
1	2025/2/25	1, 2	Overview (Chemical Foundation, Atoms and Molecules)
	2025/2/27	3, 4	Stoichiometry, Types of Chemical Reactions
2	2025/3/4	5	Gases
	2025/3/6	5	Gases
3	2025/3/11	6	First law of thermodynamics
	2025/3/13	6	Thermochemistry, Enthalpy, First law of thermodynamics
4	2025/3/18	6	Thermochemistry, Enthalpy, First law of thermodynamics
	2025/3/20	17	Spontaneity, Entropy, Second law of thermodynamics
5	2025/3/25	17	Spontaneity, Entropy, Second law of thermodynamics
	2025/3/27	17	Free energy, Second law of thermodynamics
6	2025/4/1	17	Free energy, Second law of thermodynamics
	2025/4/3	13	Chemical Equilibrium
7	2025/4/8	13	Chemical Equilibrium
	2025/4/10	Midterm exam I	
8	2025/4/15	18	Electrochemistry
	2025/4/17	18	Electrochemistry
9	2025/4/22	18	Electrochemistry
	2025/4/24	18	Electrochemistry
10	2025/4/29	12	Chemical Kinetics
	2025/5/1	12	Chemical Kinetics
11	2025/5/8	Midterm exam II	
	2025/5/13	7	Atomic Structure and Periodicity
12	2025/5/15	7	Atomic Structure and Periodicity
	2025/5/20	8	Chemical Bonding: General Concepts
13	2025/5/22	8	Chemical Bonding: General Concepts
	2025/5/27	8	Chemical Bonding: General Concepts
14	2025/5/29	9	Covalent Bonding, Molecular Orbitals
	2025/6/3	10,11	Liquids and Solids, Properties of Solutions
15	2025/6/9-12	Final exam	

Grading

- Absolute, not relative, grading
- Written test: 70%
 - 1st mid-term: 20%
 - 2nd mid-term: 20%
 - Final: 30%
- Non-written: 30%
 - Presentation: 15%
 - Inquisitiveness: 15%

Roughly speaking:

You will get “A” grade if your total point is >80 out of 100.

You will get “B” if your total falls between 60~80.

You will get “C” or “D” if your total falls below 60.

You get automatic “F” if you do not meet the school’s attendance requirement