Fall 2024 KAIST General Chemistry Courses

■ CH101 General Chemistry I, Chemistry Around Us

Time (Tuesdays and Thursdays)	Class	Lecturer
09:00~10:30	A	Professor Kiyoung Park
13:00~14:30	B	Professor Soon Hyeok Hong

A new foundational required chemistry course that deals with chemical understanding of our society's environmental, energy, and food issues, as well as food, nutrition, and health.

Target Students:

1. Students curious about the relationship between chemistry and our society and life.
2. Freshmen at KAIST who do not plan to major in a chemistry-related field.
3. Students who have sufficiently acquired knowledge of general chemistry and do not wish to take a redundant general chemistry course.

■ CH101 General Chemistry I, Chemical Principles

Time (Tuesdays and Thursdays)	Class	Lecturer
09:00~10:30	C	Professor Hyunwoo Kim
13:00~14:30	D	Professor David G. Churchill

A traditional foundational required chemistry course covering the basic chemical principles necessary for understanding compounds and chemical reactions.
(Essential content that students studying natural sciences and engineering must know.)

Target Students:

1. Students who have not studied chemistry in depth during high school.
2. Freshmen at KAIST who will major in chemistry / materials / life sciences.
3. Students who wish to enhance their understanding of chemistry through high-level chemistry lectures.

■ CH103 General Chemistry II

Time (Tuesdays and Thursdays)	Class	Topics	Lecturer
13:00~14:30	A	MetalloChemistry in Biology	Professor Mi Hee Lim
13:00~14:30	B	Chemistry of Plastic Age	Professor Sang Youl Kim

This is an elective introductory course in chemistry that introduces how existing chemical concepts are applied to the latest research findings.

Target Students:

1. Students who intend to major in chemistry / chemical engineering / materials / life sciences.
2. Students who want to study chemistry in more depth.
3. Students who wish to experience and understand the latest research findings in chemistry.

■ Notice for All General Chemistry Courses

1. **Grading: A-F**
2. There is a minimum score requirement for each subject based on a 100-point scale. If the minimum requirement is not met, an **F grade** will be given

2024 Fall Semester

Syllabus for General Chemistry II

***1.* Course**: **General Chemistry II (CH103)** [lecture: Experiment: Credit = 3:0:3]

***2.* Lecture Timetable**

Time (Tues/Thurs)	Class	Topics	Lecture Room (E11)	Professor
13:00~14:30	B	General Chemistry II: Chemistry of Plastic Age	Creative Learning B/D 202	Sang Youl Kim

3. Summary of Lecture

In this course, students will be introduced to fundamental concepts in chemical kinetics, inorganic and organic compounds, and polymeric materials. The course also will cover the current trends in chemistry of plastic materials.

4. Material for Teaching:

- o Petrucci's General Chemistry: Principles and Modern Applications. 12 ed, Petrucci / Herring / Madura / Bissonnette, Pearson Education (main textbook)
- o Principles of Modern Chemistry, 8th ed, Oxtoby/Gillis/Campion (Brooks/Cole)
- o Lecture materials will be provided through the KLMS website of each class (https://klms.kaist.ac.kr/).

5. General Guidelines

All basic lecture notes can be downloaded at the General Chemistry Website: http://www.gencheminkaist.pe.kr or a link be found at http://chem.kaist.ac.kr.

1) Practice Sessions led by TAs are scheduled from 8:00 to 8:50 p.m. on Mondays. These sessions are optional and provide an opportunity for students who seek additional discussion and problem-solving to participate.
2) The grading system will be determined based on the total scores achieved by students. The distribution of A grades (including A+, Ao, and A-) will be less than 50% of the total class. To earn credit for the course, students must obtain a minimum score of 50 points. If a student's score falls below 50 points, they will receive an F grade.

Grading Criteria and Points Distribution (Subject to modification at the beginning of the semester)

I. Mid-term Exam: 34 points II. Final Exam: 34 points

II. Homework: 14 points

- Chapter summary: 7 points (1 point for each chapter, maximum of 3 pages)
- Chapter problem: 7 points (1 point for each chapter)

III. Attendance & Attitude: 18 points

- Maximum of 18 points (1 point for each attendance of lectures and practice sessions)
- This course does not penalize absences, so there is no recognized attendance.

6. Waiver Examination

There is no waiver examination on General Chemistry II.

7. Lecture Schedule

Week (Tues, Thurs)	Chapters#	Topics	Due date for Homework (Chap. Summary & problem)	Practice session (Mon, 20:00 ~ 20:50)	Notes
1st (9/3, 9/5)	15	Chemical Kinetics: Molecular theories of elementary reactions			
2nd (9/10, 9/12)	15	Chemical Kinetics 9/12: Study day (No class)			
3rd (9/17, 9/19)		9/17, 9/19: Korean Thanksgiving Holiday (No class)	**Chap 15** (Fri, ~23:59)	O	
4th (9/24, 9/26)	21/22	Chemistry of the Main-Group Elements			
5th (10/1, 10/3)	22	Chemistry of the Main-Group Elements 10/3: National Foundation Day (Make-up class)	**Chap 21/22** (Fri, ~23:59)	O	
6th (10/8, 10/10)	23/24	The Transition Elements / Complex Ions and Coordination Compounds			
7th (10/15, 10/17)	24	Complex Ions and Coordination Compounds	**Chap 23/24** (Fri, ~23:59)	O	
8th (10/23)	Mid-term Exam	(Chapters 15, 21, 22, 23 and 24)			(19:00 ~ 21:00)

9th (10/29, 10/31)	26	Structures of Organic Compounds			10/29: Midterm Claim
10th (11/5, 11/7)	26/27	Structures of Organic Compounds / Reactions of Organic Compounds	**Chap 26** (Fri, ~23:59)	O	
11th (11/12, 11/14)	27	Reactions of Organic Compounds			
12th (11/19, 11/21)		Polymeric Materials and Soft Condensed Matter: Physical state	**Chap 27** (Fri, ~23:59)	O	
13th (11/26, 11/28)		Polymeric Materials and Soft Condensed Matter: Polymerization reactions			
14th (12/3, 12/5)		Polymeric Materials and Soft Condensed Matter: Molecular weight control			
15th (12/10, 12/12)		Study week (No class)			
16th (12/18)	Final Exam	(Chapters 26 and 27)			(19:00 ~ 21:00)

8. Chapter Problems (TBA)

Submission due (12:00 AM)	Chapters#	Topics	problems