



# Syllabus (2021 Fall)

Course Title	Organic Chemistry II	Course No.	20570-03
Department/ Major	Dept. of Chemistry and Nanoscience	Credit/Hours	3/3
Class Time/ Classroom	Tue. 09:30 ~ 10:45, Fri. 11:00 ~ 12:15. / POSCO Building 452 (or Full Online)		
Instructor	Name: Hyunwoo Kim (김현우)	Department: Chemistry and Nanoscience	
	E-mail: khw7373@ewha.ac.kr	Telephone: 02-3277-4707	
Office Hours/ Office Location	By Appointment (사전약속) / Science Building D-410 (종합과학관 현대자동차동 D동 D-410)		

## I. Course Overview

### 1. Course Description

Organic Chemistry is a two semester sophomore level course in the study of organic compounds and reactions. The second semester, 20570, concentrates on the study of the reactions of organic chemistry. The study proceeds through the organic functional groups from alcohols to amino acids. Special attention is given to the classic synthesis reactions and named reactions.

### 2. Prerequisites

Organic Chemistry I (Recommended)

### 3. Course Format

Lecture	Discussion/Presentation	Experiment/Practicum	Field Study	Other
100%	%	%		%

– Lecture notes will be provided through Ewha CyberCampus.

### 4. Course Objectives



After studying all materials and resources presented in the course, the student will be able to:

1. Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
2. Predict the mechanism and outcome of aliphatic and aromatic substitution and elimination reactions, given the conditions and starting materials.
3. Describe reaction mechanisms in terms of energetics, reaction kinetics, and thermodynamics.
4. Use spectroscopic techniques to characterize organic molecules and subgroups.
5. Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
6. Predict the mechanism and outcome of aliphatic and aromatic substitution and elimination reactions, given the conditions and starting materials.
7. Predict the chirality of reaction products based on enantiomeric and diastereomeric relationships.
8. Describe reaction mechanisms in terms of energetics, reaction kinetics, and thermodynamics.
9. Use spectroscopic techniques to characterize organic molecules and subgroups.

## 5. Evaluation System

Midterm Exam	Final Exam	Quizzes	Presentation	Projects	Assignments	Attendance	Other
40%	45%	%	%	%	10%	5%	%

Total: 400 pts

Midterm Exam: 160 pts,

Final Exam: 180 pts,

Assignments: 40 pts,

Class Attendance: 20 pts (lateness: -1, absence: -2)

## II. Course Materials and Additional Readings

### 1. Required Materials

Leroy G. Wade, Jr. and Jan William Simek, "Organic Chemistry", 9th ed., 2017, Pearson.

### 2. Supplementary Materials

(1) John E. McMurry, "Organic Chemistry", 7th ed., 2007, Brooks Cole; (2) T. W. Graham Solomons and Graig B. Fryhle "Organic Chemistry", 9th ed., 2007, Wiley; (3) Janice Gorzynski Smith, "Organic Chemistry", 3rd ed., 2011, McGraw-Hill.

### 3. Optional Additional Readings



### III. Course Policies

- Homeworks will be assigned every two chapter.
- **If you don't take an exam, you will get Grade F regardless of your total score.**
- Feel free to come visit professor's office for counseling (content of course, career planning, ...) during the semester after making an appointment via email or phone.



## IV. Course Schedule (15 credit hours must be completed.)

Week	Date	Topics & Class Materials, Assignments	Remark
Week 1	9/3	Introduction & Chapter 12. Infrared Spectroscopy and Mass Spectroscopy	
	9/7	Chapter 12. Infrared Spectroscopy and Mass Spectroscopy	
Week 2	9/10	Chapter 13. Nuclear Magnetic Resonance Spectroscopy	
	9/14	Chapter 13. Nuclear Magnetic Resonance Spectroscopy	
Week 3	9/17	Chapter 14. Ethers, Epoxides, and Thioethers	
	9/21	Korean Thanksgiving - No Class	
Week 4	9/24	Chapter 14. Ethers, Epoxides, and Thioethers	
	9/28	Chapter 15. Conjugated Systems, Orbital Symmetry, and Ultraviolet Spectroscopy	
Week 5	10/1	Chapter 15. Conjugated Systems, Orbital Symmetry, and Ultraviolet Spectroscopy	
	10/5	Chapter 16. Aromatic Compounds	
Week 6	10/8	Chapter 16. Aromatic Compounds	
	10/12	Chapter 17. Reaction of Aromatic Compounds	
Week 7	10/15	Korean Chemical Society Meeting (대한화학회) - No Class	
	10/19	Chapter 17. Reaction of Aromatic Compounds	
Week 8	10/22	Q&A Session for Midterm- (realtime streaming if online)	Midterm exam: 10/23 (Sat.) 13:00-15:30 (Chapters 12-17) Open Book Test (in case of online)
	10/26	Chapter 18. Ketones and Aldehydes	
Week 9	10/29	Chapter 18. Ketones and Aldehydes	
	11/2	Chapter 19. Amines	
Week 10	11/5	Chapter 19. Amines	
	11/9	Chapter 19. Amines	
Week 11	11/12	Chapter 20. Carboxylic Acids	
	11/16	Chapter 20. & 21.	
Week 12	11/19	Chapter 21. Carboxylic Acid Derivatives	
	11/23	Chapter 21. & 22.	
Week 13	11/26	Chapter 22. Condensations and Alpha Substitutions of Carbonyl Compounds	
	11/30	Problem Solving (Ch 18 to 22)	
Week 14	12/3	No class	
	12/7	Q&A Session for Midterm- (realtime streaming if online)	Final exam: 12/8 (Sat.) 13:00-15:30 (Chapters 18-22) Open Book Test (in case of online)



Week	Date	Topics & Class Materials, Assignments	Remark
Makeup Classes 1	(10/23)	Midterm Exam (2.5 h)	13:00-15:30
Makeup Classes 2	(12/8)	Final Exam (2.5 h)	13:00-15:30

## V. Special Accommodations

\* According to the University regulation #57, students with disabilities can request special accommodation related to attendance, lectures, assignments, and/or tests by contacting the course professor at the beginning of semester. Based on the nature of the students' requests, students can receive support for such accommodations from the course professor and/or from the Support Center for Students with Disabilities (SCSD).

\* The course can be switched into complete on-line class (전면 비대면 수업) depending on the COVID19 situation.

\* The contents of this syllabus are not final—they may be updated.