

Organic Chemistry2

Course Name	Course type (credit/hours)	Required course(3/3)	Course code	G012
	Target students Division/major/grade	Chemistry/Sophomore	Opening semester	2021 2ND SEMESTER
	Class time and classroom	Wed B(WH534-2)Fri B(WH534-2)	English Grade	A(100%English)
Reference to this course	Prerequisite courses	Organic Chemistry 1		
	Related basic courses	General Chemistry 1, General Chemistry 2		
	Recommended concurrent courses			
	Related advanced courses	Intermediate Organic Chemistry, Organic Synthetic Chemistry, Organic Metallic Chemistry, Organic Chemistry		

Instructor	Name (title/division)		In-Hwan Lee(Assistant Professor, Chemistry)		
	Office Room Number	Woncheon 215-1	Office phone Number	2690	e-mail
	Office hours	Email		Homepage address	https://in-hwan.wixsite.com/in-hwan
Teaching Assistant	Name (title/division)				
	Office Room Number		Office phone Number		e-mail

1. Introduction

In this course, students are expected to learn the synthesis and reactions of various functional groups. In particular, spectroscopic tools and analysis for confirmation of organic compound structure will be offered. As functional groups, aromatic compounds, alkene, and alkynes, etc will be introduced. Students need to learn the physical properties and chemical properties of each reaction. This course is a pre-requisite class for taking advanced organic chemistry, organic synthesis, and special topics in organic chemistry.

2. Course Objectives

Over the semester, this course offers how to analyze the structure of organic compounds by spectroscopic tools. Based on spectroscopic technique, the synthesis and reactions of aromatic compounds, alkenes, and alkynes will be a main content of this course.

3. Class types and activities

Mainly proceeded by lecture and problem set solving.

Online lecture will be provided as the format of the recorded lecture and the real-time Q&A.

4. Teaching Method

- | | |
|--|---|
| <input checked="" type="checkbox"/> lecture | <input type="checkbox"/> discussion and debate |
| <input type="checkbox"/> team project(presentation and case studies) | <input type="checkbox"/> experiments(role-playing,etc) |
| <input type="checkbox"/> designing and production | <input type="checkbox"/> on-site learning(on-site training) |
| <input type="checkbox"/> others | |

5. Support Systems in Use

- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> AjouBb | <input type="checkbox"/> automatic recording system | <input type="checkbox"/> web-based assignment |
| <input checked="" type="checkbox"/> cyber lecture | <input checked="" type="checkbox"/> online content | |
| <input type="checkbox"/> class behavior analyzing system | <input checked="" type="checkbox"/> others (온라인 강의 시스템 활용) | |

6. Teaching Tools

- | | | |
|--|---|---|
| <input type="checkbox"/> PBL(Problem Based Learning) | <input type="checkbox"/> CBL(Case Based Learning) | <input type="checkbox"/> TBL(Team Based Learning) |
| <input type="checkbox"/> UR(Undergraduate Research) | <input type="checkbox"/> FL(Flipped Learning) | <input type="checkbox"/> DSAL(Data Science Active Learning) |
| <input type="checkbox"/> others | | |

7. Knowledge and ability required for taking this course

Lewis Structure
Resonance structure
Curved arrow notation
Acid and Base
Nucleophilic Substitution Reactions
Elimination Reactions
Alcohol, Ether, Epoxide, Thiol

8. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance		10	
midterm exam	1	40	
final exam	1	40	
quiz			
presentation			
discussion			
homework		10	Submit explanation for each chapter
etc			
study hours			

9. Textbook and supplementary material

Main/Sub	Title (Web-site)	Writer	Publisher	Publication year
Main	Organic Chemistry, Sixth ed.	Smith	McGrawHill	

10. Class system and Class shedule

Mass spectroscopy, infrared spectroscopy, nuclear magnetic resonance spectroscopy, ultraviolet spectroscopy ----> structural determination of organic compounds.

Directivity, Whickkel's Law --> reactivity of benzene-based compounds ----> pro-electrolytic substitution.

Reactive <----> Synthesis <----> spectroscopy of alcohol-based compounds

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
1	Orientation & Ch 10 Alkenes		In-Hwan Lee	Lecture		
2	Ch 10 Alkenes		In-Hwan Lee	Lecture		
3	Ch 11 Alkynes		In-Hwan Lee	Lecture		
4	Ch 12 Oxidation/Reduction		In-Hwan Lee	Lecture		

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
5	Ch 12 Oxidation/Reduction		In-Hwan Lee	Lecture		
6	Ch 13 MS/IR		In-Hwan Lee	Lecture		
7	Ch 14 NMR		In-Hwan Lee	Lecture		
8	중간고사		In-Hwan Lee			
9	Ch 15 Radicals		In-Hwan Lee	Lecture		
10	Ch 16 Conjugation		In-Hwan Lee	Lecture		
11	Ch 17 Aromatic compounds		In-Hwan Lee	Lecture		
12	Ch 17 Aromatic compounds		In-Hwan Lee	Lecture		
13	Ch 18 Reactions of aromatic compounds		In-Hwan Lee	Lecture		
14	Ch 18 Reactions of aromatic compounds		In-Hwan Lee	Lecture		
15	Ch 19 Carboxylic acid		In-Hwan Lee	Lecture		
16	기말고사		In-Hwan Lee			

11. Other items of notification