Organic Chemistry2

Course Name	Course type (credit/hours)	Required course(3/3)	Course code	G047
	Target students Division/major/grade	Chemistry/Sophomore	Opening semester	2020 2ND SEMESTER
	Class time and classroom	Wed B(WH507)Fri B(WH507)	English Grade	
Reference to this course	Prerequisite courses	유기화학1		
	Related basic courses	일반화학1, 일반화학2		
	Recommended concurrent courses			
	Related advanced courses	중급유기화학, 유기합성화학, 유기금속화학, 유기화학특론		

Instructor	Name (title/division)	In-Hwan Lee(Assistant Professor, Chemistry)				
	Office Room Number	원천관215-1	Office phone Number	2690	e-mail	
	Office hours	이메일 신청	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 fucntional 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 sememster, 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

- [V] lecture
- [ ] discussion and debate
- [ ] team project(presentation and case studies)
- [ ] experiments(role-playing,etc)
- [ ] designing and production
- [ ] on-site learning(on-site training)
- [ ] others

5. Support Systems in Use

- [V] AjouBb
- [ ] automatic recording system
- [ ] web-based assignment
- [ ] cyber lecture
- [ ] online content
- [ ] class behavior analyazing system
- [V] others (온라인 강의 시스템 활용)

6. Teaching Tools

- [ ] PBL(Problem Based Learning)
- [ ] CBL(Case Based Learning)
- [ ] TBL(Team Based Learning)
- [ ] UR(Undergraduate Research)
- [ ] FL(Flipped Learning)
- [ ] DSAL(Data Science Active Learning)
- [ ] others

7. Knowledge and ability required for taking this course

유기화학1 에 대한 학습이 충분히 되어야 수강에 어려움이 없다.

예를 들어, 아래와 같은 개념을 충분히 숙지해야 한다.

Lewis Structure
Reseonace 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			
midterm exam	1	40	오프라인 시험 실시
final exam	1	50	오프라인 시험 실시
quiz			
presentation			
discussion			
homework		10	매 챕터 마다 연습문제 풀이 제출
etc			
study hours			

9. Textbook and supplementary material

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

10. Class system and Class shedule

질량분광법, 적외선 분광법, 핵자기 공명 분광법, 자외선 분광법 ---> 유기화합물의 구조 결정

방향성, 휙켈의 법칙 --> 벤젠 계열 화합물의 반응성 ---> 친전자성 치환반응

알코올 계열 화합물의 반응성 <-----> 합성 <-----> 분광법

< 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	강의/온라인	실시간 화상 수업 병행	
2	Ch 10 Alkenes		In-Hwan Lee	강의/온라인		
3	Ch 11 Alkynes		In-Hwan Lee	강의/온라인		
4	Ch 12 Oxidation/Reduction		In-Hwan Lee	강의/온라인		
5	Ch 12 Oxidation/Reduction		In-Hwan Lee	강의/온라인		
6	Ch 13 MS/IR		In-Hwan Lee	강의/온라인		

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
7	Ch 14 NMR		In-Hwan Lee	강의/온라인	실시간 화상 수업 병행	
8	중간고사		In-Hwan Lee	시험/오프라인		
9	Ch 15 Radicals		In-Hwan Lee	강의/온라인	실시간 화상 수업 병행	
10	Ch 16 Conjugation		In-Hwan Lee	강의/온라인		
11	Ch 17 Aromatic compounds		In-Hwan Lee	강의/온라인		
12	Ch 17 Aromatic compounds		In-Hwan Lee	강의/온라인		
13	Ch 18 Reactions of aromatic compounds		In-Hwan Lee	강의/온라인		
14	Ch 18 Reactions of aromatic compounds		In-Hwan Lee	강의/온라인		
15	Ch 19 Carboxylic acid		In-Hwan Lee	강의/온라인	실시간 화상 수업 병행	
16	기말고사		In-Hwan Lee	시험/오프라인		

11. Other items of notification