Syllabus (2021-1)

Course Title	유기화학실험 I Organic Chemistry Laboratory I	Course No.	33692-03
Department/ Major	화학·나노과학 Chemistry and Nano Science	Credit/Hours	2
Class Time/ Classroom	Science (종) D-211호 Wed. (수) 14:00-16:45		
Instructor	Name: Jean Bouffard (잔 보파드)	Department: 화학·나노과학 Chemistry and Nano Science	
	E-mail: bouffard@ewha.ac.kr	Phone: 3277-3427	
Office Hours/ Office Location	종합과학관 D동 402호 / General Science D402 Office Hours : By Appointment Lab TA : t.b.a.		

I. Course Overview

1. Course Description

Principles and theory presented in the Organic Chemistry lectures are applied to the synthesis, purification, and characterization of organic compounds, and to the elucidation of reaction mechanisms. Particular emphasis is placed on the acquisition of key experimental techniques.

2. Prerequisites

It is recommended for students either to have already taken Organic Chemistry I before taking Organic Chemistry Laboratory I, or to take it during the same semester.

3. Course Format

Lecture	Discussion/Presentation	Experiment/Practicum	Field Study	Other
0%	0%	100%	0%	0%

Explanation of course format: Laboratory experiments and lab reports. Handouts will be distributed for each experiment. Short (~10-15 mins) lab lectures and demonstrations will be conducted at the beginning of some lab sessions.

• *Note on language use:* This lab section will be conducted in English. Pre-labs and lab reports (see details below) should be written in English. However, you will not be graded on your English skills – only chemistry will be evaluated.

4. Course Objectives

Principles and theory presented in the Organic Chemistry lectures are applied to the synthesis, purification, and characterization of organic compounds, and to the elucidation of reaction mechanisms. Particular emphasis is placed on the acquisition of key experimental techniques.

5. Evaluation System

☐ Relative evaluation ☐ Absolute evaluation ■ Others : Semi-Absolute Method (see below)

- Explanation of evaluation system:

- No fixed numbers of A's, B's, C's etc. for this class.
- Students final scores are compared to the score of the class' top student.
- ≥ 90% of the top score for A's; ≥ 80% of the top score for B's; ≥ 70% of the top score for C's; ≥ 60% of the top score for D's.
- In all cases, letter-grade modifiers (+/0/-) are left at the discretion of the professor.

- Total: 1000 pts.
- Experiments: 900 pts. (10*90 pts.); Final Exam: 100 pts.
- Experiments will be evaluated on the basis of a pre-lab (15 pts.: title & date, lab team members, objectives, principles, reagents, experimental methods, pre-results), laboratory skills (45 pts.: lab technique, safety, tidiness/cleanliness, experimental results, etc.), and lab report (30 pts.: results, discussion, references, answers to questions).
- *Short pre-labs and laboratory reports*: Since this laboratory section will be conducted in English, both the pre-labs and laboratory reports will follow a short-form format (≤ 1-page each). Depending on the laboratory, a short results' sheet may also be required.

Midterm Exam	Final Exam	Quizzes	Presentation	Projects	Assignments	Participation	Other
%	10%	%	%	%	90%	%	%

II. Course Materials and Additional Readings

1. Required Materials

- There is no mandatory textbook for this class. Handouts will be distributed.
- *Other Required Class Materials:* lab coat, safety goggles, lab notebook.

2. Supplementary Materials

- *Suggested Readings:*

(1) John A. Landgrebe, "Theory and Practice in the Organic Laboratory", 5th ed., 2005 Thomson Wadsworth;

(2) James W. Zubrick, "The Organic Chem Lab Survival Manual" (several editions available);

- *References:* L. G. Wade, Jr., "Organic Chemistry", 8th ed. (International Ed.), 2013 Pearson; CRC Handbook of Chemistry and Physics; Merck Index; Aldrich Catalogue; etc.

3. Optional Additional Readings

III. Course Policies

* For laboratory courses, all students are required to complete the lab safety training.

* Students who want to meet with the professor can request an appointment by e-mail (bouffard@ewha.ac.kr), or simply visit my office (General Science D402). However, to guarantee that I am available to help you, taking an appointment is preferable.

* **Notes Regarding Safety**
The primary concern of every laboratory class is to ensure the safety of all participants. The wearing of a lab coat, suitable eye protection (safety goggles, or plastic-lens glasses with side-protectors), and closed-toe shoes is mandatory at all times in the laboratory. No food or drinks are allowed in the laboratory. Disruptive or unsafe behavior (running, use of cell phone or texting during an experiment, etc.) is also forbidden.

Students who disregard safety rules, making them a danger to themselves and others in the laboratory will, after a first warning, be expelled from the laboratory, automatically resulting in a zero score for that experiment.

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

Week	Date		
Week 1	(03/03)	Topics & Class Format	Introduction, Safety, Lab Check-In
		Materials & Assignments	Landgrebe pp. 2-40
Week 2	(03/10)	Topics & Class Format	Thin-layer chromatography (TLC) & determination of melting point ranges (m.p.)
		Materials & Assignments	Landgrebe pp. 41-46; 55-66; 314; 315-317 (exp. 3)
Week 3	(03/17)	Topics & Class Format	Simple and fractional distillation
		Materials & Assignments	Landgrebe pp. 46-50; 124-133; 346-349 (exp. 12)
Week 4	(03/24)	Topics & Class Format	Column chromatography, use of a rotary evaporator
		Materials & Assignments	Landgrebe pp. 34-35; 46-50; 67-69; 318-320 (exp. 4)
Week 5	(03/31)	Topics & Class Format	Extraction & acid-base properties
		Materials & Assignments	Landgrebe pp. 108-123; 339-341 (exp. 10)
Week 6	(04/07)	Topics & Class Format	Recrystallization and filtration
		Materials & Assignments	Landgrebe pp. 95-107; 339-341
Week 7	(04/14)	Topics & Class Format	Resolution of a racemic mixture
		Materials & Assignments	Landgrebe pp. 52-54; 367-369 (exp. 17)
Week 8	**(04/21)**	Topics & Class Format	No Class on 04.21 (Midterm Exam Period 04.21~04.23)
		Materials & Assignments	n/a
Week 9	(04/28)	Topics & Class Format	Kinetic investigation of unimolecular solvolysis
		Materials & Assignments	Landgrebe pp. 359-363 (exp. 15)
Week 10	**(05/05)**	Topics & Class Format	No Class on 05.05 (Children's Day)
		Materials & Assignments	
Week 11	(05/12)	Topics & Class Format	Divalent carbon intermediates & phase-transfer catalysis
		Materials & Assignments	Landgrebe pp. 133-136; 375-379 (exp. 20)
Week 12	**(05/19)**	Topics & Class Format	No Class on 05.19 (Buddha's Birthday)
		Materials & Assignments	
Week 13	(05/26)	Topics & Class Format	Methylcyclohexenes by alcohol dehydration
		Materials & Assignments	Landgrebe pp. 140-141; 364-366 (exp. 16)
Week 14	(06/02)	Topics & Class Format	Oxidation of alcohols to aldehydes or ketones
		Materials & Assignments	Landgrebe pp. 403-407 (exp. 27)
Week 15	(06/09)	Topics & Class Format	Lab Checkout and **Final Exam**
		Materials & Assignments	n/a
Week 16	(06/16)	Topics & Class Format	Lab Make-Up Period
		Materials & Assignments	

V. Special Accommodations

* According to the University regulation section #57-3, students with disabilities can request for special accommodations related to attendance, lectures, assignments, or tests by contacting the course professor at the beginning of semester. Based on the nature of the students' request, students can receive support for such accommodations from the course professor or from the Support Center for Students with Disabilities (SCSD). Please refer to the below examples of the types of support available in the lectures, assignments, and evaluations.

Lecture	Assignments	Evaluation
. Visual impairment : braille, enlarged reading materials . Hearing impairment : note-taking assistant . Physical impairment : access to classroom, note-taking assistant	Extra days for submission, alternative assignments	. Visual impairment : braille examination paper, examination with voice support, longer examination hours, note-taking assistant . Hearing impairment : written examination instead of oral . Physical impairment : longer examination hours, note-taking assistant

- Actual support may vary depending on the course.

* The contents of this syllabus are not final—they may be updated. Unforeseen adjustments to the class schedule (and/or the use of online classes) may be unavoidable depending on the evolution of the Covid-19 situation.