2023
TP-153

Course Specification
(Bachelor)

Course Title:	*Organic Chemistry Lab*
Course Code:	*CHM 1302*
Program:	*Chemistry*
Department:	*Chemistry*
College:	*Science*
Institution:	*Imam Mohammad Ibn Saud Islamic University*
Version:	3
Last Revision Date:	7 October 2024

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (1)					
2 practical					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (3th level / 2nd year)					
4. Course general Description:					
This course is intended to introduce you to major concepts and techniques in organic chemistry through laboratory experiments. The Organic Chemistry Laboratory course will provide training in the techniques of the organic chemistry laboratory, such as carrying out chemical reactions and purification of chemical mixtures. Purification methods such as recrystallization, extraction, distillation, and column chromatography will be utilized. Chemical identification of unknown organic compounds and purity will be determined by assessing data from methods such as chemical tests, thin-layer chromatography (TLC).					
5. Pre-requirements for this course (if any)**:**					
6. Co-requirements for this course (if any)**:**					
CHM 1301 Organic Chemistry					
7. Course Main Objective(s):					
At the end of the course each student should be able to: 1. To apply the knowledge obtained in organic chemistry lecture to problem solving in the laboratory. 2. To develop good laboratory techniques; work safety; take data carefully; record relevant observation; use time effectively; assess the efficiency of your experimental method; identification of unknown organic compounds.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		

No	Mode of Instruction	Contact Hours	Percentage
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	
2.	**Laboratory/Studio**	30
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		**30**

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Recall the theory that the students have learnt to be applied in the experiment.	K.1		• Quizzes • Exams
2.0	**Skills**			
2.1	Interpret the experimental data.	S.1		Lab report
2.3	Summarize the experimental work and understand the laboratory manual.	S.3		
2.4	Conduct experiments.	S.1		
3.0	**Values, autonomy, and responsibility**			
3.1	Demonstrate team work in group.	C.1		Lab report
3.2	Operate some office software for writing the report and making the plot.	C.5		
3.3	Write effectively a technical report.	C.4		

C. Course Content

No	List of Topics	Contact Hours
1	Laboratory Rules and Safety Precautions.	2
2	Identification of Organic Compounds; Physical Character, (Physical Properties).	2
3	Crystallization, Melting Points, Boiling Points.	2
4	Chromatography (Thin Layer Chromatography).	2
5	**Exam I**	2
6	Detection of carbon and Hydrogen, Detection of nitrogen and Sulphur.	4
7	Detection of Halogens (Chlorine, Bromine, Iodine, Florine).	4
8	**Exam II**	2
9	Classification of organic compounds, identification of Aromatic and aliphatic hydrocarbons (Aliphatic hydrocarbons, Saturated and Unsaturated, Aromatic hydrocarbons, Alcohols, Phenols, Carboxylic acids).	8
10	**Final Exam**	2
Total		**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes	TBA	10
2.	Midterms 1	#6	20
3.	Midterms 2	#12	20
4.	Lab report	TBA	20
5.	Final Exam	#16	40

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Organic Chemistry by John McMurry, 7th Edition, THOMSONS / BROOKS COLE
Supportive References	- Morrison, R. T.; Boyd, R. N. "Organic Chemistry", 6th edition, Prentice Hall of India, (1996). - Morrison, R. T.; Boyd, R. N. "Organic Chemistry", 6th edition, Prentice Hall of India, (1996). - Organic Chemistry. G. Marc loudon, Fourth Edition. - Organic Chemistry I For Dummies, by Arthur Winter. July (2008).

	- Organic Chemistry I, by David R. klein. 2end edition June, (2007.) - Solomons Organic chemistry. Organic chemistry (schmid).
Electronic Materials	http://www.cengage.com/search/productOverview.do?Ntt=mcmurry||9780495112587&N=16&Ntk=all%7C%7CP_Isbn13
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Lecture classrooms should be large enough to accommodate 25 students or more
Technology equipment (projector, smart board, software)	computer - projector system- smart board, polymath software, internet in the classroom for both Instructors and Students
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Survey (direct)
Effectiveness of Students' assessment	Students	Survey (direct)
Quality of learning resources	Students	Survey (direct)
The extent to which CLOs have been achieved	Faculty	CLO-KPI analysis (direct)
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**Department of Chemical Engineering**
REFERENCE NO.	**Department Meeting # 4**
DATE	**5/4/1446H - 8/10/2024 G**