هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission
اعتماد
NCAAA
2024
TP-153

Course Specification
(Bachelor)

Course Title:	Graduation Project
Course Code:	CHM 1499
Program:	Bachelor of Science in Chemistry
Department:	Chemistry
College:	Science
Institution:	Imam Mohammed Ibn Saud Islamic University
Version:	2024 V1
Last Revision Date:	12 October 2024

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: 4					
4 (4)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: Level 8/ 4th year					
4. Course general Description:					
The Graduation Project is an independent task to be carried out by each student individually and accomplished according to a specific timetable duration. Students should achieve the project within one semester. The graduation project is a solo act based on one major department topic and is supervised by one of the staff members. The department assigns a scientific committee with the project supervisor to evaluate and discuss the project on a pre-stated date before the final exam. The student is given thefreedom to a great extent in choosing the graduation project title; the selected topic will focus on and follow with the aid of the supervising professor.					
5. Pre-requirements for this course (if any)**:**					
The Graduation Project course starts in the last semester of the program study, with 126 Credit Hours					
6. Co-requisites for this course (if any)**:**					
None					
7. Course Main Objective(s):					

After completing the project, the student is supposed to acquire the necessary skills in the following:

- **Be able to carry out a guided graduation project independently.**
- **Be able to attend and practice the knowledge and information he has obtained during his chemistry program appropriately.**
- **Be able to search and communicate with faculty members scientifically.**
- **Be able to develop his intellectual abilities in scientific research.**

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	**60**	**100%**
2	E-learning	**0**	**0**
3	Hybrid • Traditional classroom • E-learning	**0**	**0**
4	Distance learning	**0**	**0**

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	**0**
2.	**Laboratory/Studio**	**60**
3.	**Field**	**0**
4.	**Tutorial**	**0**
5.	**Others (specify)**	**0**
Total		60

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

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	**To recall basic concepts and knowledge to initiate the graduation project**	**K1, K2, K3**	• Four hours weekly containing a literature survey with supervisor guidance. • Students are encouraged to make regular visits during office hours where they can ask any question about the course.	• Continuous evaluation of the research supervisor • Written the collected literature survey • Oral Discussion
1.2	**To list the scientific approach for interpreting the obtained data, to describe the obtained results in appropriate form, to outline in-depth knowledge of currently active research areas in Chemistry.**	**K1, K3**	• Four hours weekly containing laboratory activities under supervisor guidance. • Think and talk to interpret the obtained results.	• Continuous evaluation of the research supervisor • Self-interpreting check with the supervisor • Oral Discussion
1.3	**To state the scientific report supported with obtained results and conclusion**	**K3**	Practice the scientific writing of the project with aid of the supervisor.	• Self- Written report • Oral Discussion

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
2.0	**Skills**			
2.1	**To develop experience in searching and assessing current literature.**	**S1, S3**	Independent development is under the guidance of the research supervisor through weekly discussions.	• Continuous evaluation of the research supervisor • Written report • Oral discussion
2.2	**To analyze obtained data independently with supervisor guidance and to explain obtained results through scientifically logical thinking, with an evaluation of the gained information.**	**S1, S3, S4**	Independent data analysis will be conducted under the guidance of the research supervisor, including further discussion.	• Continuous evaluation of the research supervisor • Written report • Oral discussion
2.3	**To interpret the different results taken from various techniques used.**	**S1, S3, S4**	Laboratory experiments and self-study	• Laboratory reports • Oral discussion
3.0	**Values, autonomy, and responsibility**			
3.1	**To illustrate the active participation by oral discussion, to demonstrate creative and innovative approaches to his (her) research project subject.**	**V1, V2**	• Motivate students to discuss the graduation project topic. • Oral discussions	• Oral • Discussion. • Continuous evaluation of the research supervisor • Oral presentation marks
3.2	**To show the ability to communicate effectively with the supervisor, to revise and improve written and visual content and use appropriate technology to achieve desired outcomes, to comprehend information accessed through reading and discussion.**	**V1, V2**	• Independent study under the guidance of the research supervisor with further discussion with the supervisor weekly. • Simulation of presentation	• Oral Discussion. • Continuous evaluation of the research supervisor • Written report.

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
			monitored by the supervisor.	

C. Course Content

No	List of Topics	Contact Hours
1.	Collection of a background and literature review on the suggested work.	8
2.	The student carries out a guided independent study with a review of the research background and literature on a selected topic in chemistry. The project can be done with laboratory work.	44
3	Discussion by oral presentation	8
	Total	60

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	First continuous evaluation (reported by the supervisor)	6TH-7thweek	20%
2.	Second continuous evaluation (reported by the supervisor)	11th -12th week	30%
3.	Written report in English (20-35 pages)	During the semester	20%
4.	Short talk in the English language (oral presentation 15 minutes)	15thweek	30%
5.	Total		100%

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

E. Learning Resources and Facilities

Students will be guided by study notes, books, research articles, and sources (or English translations where necessary), which are provided. The students will need to master the appropriate chemistry research and ultimately present his /her work in the form of a final presentation. Other relevant learning resources are possibly related to the nature of the research project.

1. References and Learning Resources

Essential References	Depending on the Graduation Project Subject
Supportive References	Depending on the Graduation Project Subject
Electronic Materials	Blackboard
Other Learning Materials	**None**

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• Each of the class room should be equipped with a whiteboard and a projector, with a maximum of 20 students. • In each laboratory, a list of safety and precautions are provided. • In each lab has proper ventilation, and well equipped with instruments. • In each lab, containers for solid waste, liquid waste, and crushed glasses. • Each lab has a small pharmacy for first aid in case of an accident • In each lab, the rules, conditions, and safety mechanism as well list of Risk, Safety precautions according to Merck Catalogue are hanging in the labs
Technology equipment (projector, smart board, software)	• The rooms are equipped with data show, Smart Board, WI-FI access.
Other equipment (depending on the nature of the specialty)	• Appropriate Glasswares for carrying the requested experiments (conical flasks, beakers, measuring cylinders) • Appropriate fine chemicals and solvents (distilled Water ammonium nitrate) • Analytical balance (3 digits), Set gas laws with the glass jacket Data acquisition set for gas laws with glass jacket, PC, Windows® 95 or higher, calorimeter, thermometer, Filter papers , clamps, stands

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	**Students**	Direct: Questionnaire.
	Course Responsible	Direct: Course e-Portfolio. Indirect: Second examiner checklist-Course report.
	Peer Reviewer	Direct: Questionnaire. Indirect: External assessor report.
Effectiveness of Students assessment	**Program Leaders**	Direct: Course e-Portfolio. Indirect: Course report.
Quality of learning resources	**Students**	Indirect: Second examiner checklist-Course report.
	Faculty (Academic Advisory)	Direct: course Entrance/Exit. Indirect: Observations - Accreditation review.
	Program Leaders	Direct: Course e-Portfolio. Indirect: Course evaluation survey- Observations- Syllabus review- Accreditation review.
The extent to which CLOs have been achieved	**Course Responsible**	**Direct:** Exams - Course e-Portfolio. **Indirect:** Second examiner checklist-Course report.
	Program Leaders	**Indirect:** Exams.
Lab Performance	**Students**	Direct: Lab reports, Final Lab exam, Course e-Portfolio.

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**COUNCIL OF DEPARTMENT OF CHEMISTRY**
REFERENCE NO.	**7 (NO. 2/3)**
DATE	**29/3/1446 - 2/10/2024**