Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

2025-2026

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: university of Babylon

Faculty/Institute: collage of science

Scientific Department: chemistry department

Academic or Professional Program Name: chemistry

Final Certificate Name: .. B.Sc., M.Sc., and ph.D Degrees

Academic System: The academic system of the study is semester

Description Preparation Date:

File Completion Date: 14-11-

2025

Signature:
Head of Department Name:
Prof. Dr. Abbas Jasim Atiyah
Date:2026-2-10

Signature:
Scientific Associate Name:
Prof. Dr. Ahmed Sadoon Witwit
Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean:

1. Program Vision

The chemistry academic staff of the Natural and Behavioral Sciences Division at university of Babylon, college of science) University believe that students come to understand the discipline of chemistry through a combination of course work, laboratory experiences, research, and fieldwork. The combination of instructional methods leads students to a balanced understanding of the scientific methods used by chemist to make observations, develop insights and create theories about chemistry sciences

2. Program Mission

The chemistry academic staff pursues a multifaceted charge at (university of Babylon, college of science). The Program seeks to provide all chemistry students with fundamental knowledge of chemistry, as well as a deeper understanding of a selected focus area within the chemical l sciences. The curriculum and advising have been designed to prepare graduates for their professional future, whether they choose to work as field chemistry specializing in different fields of chemical sciences. The chemistry program also provides the necessary fundamental knowledge of the chemical sciences

3. Program Objectives

The main goal of this program is to enable all its graduate to have basic principles of chemistry science including theoretical and practical concepts. the proposed graduate should have reasonable qualification in all chemistry branches including: biochemistry, organic, inorganic, physical, analytical and industrial chemistry.

4. Program Accreditation

Not yet

5. Other external influences

Yes, Ministry of higher education and scientific research(MOHER), and some funding from evening study in the department.

6. Program Structure				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
University requirements	8	13	0.089654	
College requirements	3	14	0.09655	
Department requirements	43	108	0.74482	
Summer training	non			
others	non			

* This can include notes whether the course is basic or optional.

7. Program Description

year	Course code	Course name	Credit Hours	
1st year			theoretical	practical
	CHEM1101	Qualitative Analytical Chem.	3	2
	CHEM1102	Inorganic1	3	
	CHEM1103	cytology	2	2
	CHEM1104	Derivatives and integration	2	
	UOBAB1104	Democracy and human rights	2	
	UOBAB1102	Arabic Language	2	
	CHEM1201	Volumetric Analytical Chem.	3	2
	CHEM1202	Inorganic2	2	
	CHEM1203	physics	2	2
	CHEM1204	safety and chemical security	2	
	UOBABb4	computer 1	1	2
	UOBABb1101	English language 1	2	
2nd year	CHEM2301	Gravitymetric analysis	2	2
	CHEM2302	Chemistry of represented elements 1	2	2
	CHEM2303	Thermodynamics1	3	2
	CHEM2304	Organic Chemistry 1	3	2
	CHEM2305	Differential equations	2	
	CHEM2401	Separation Methods	2	2
	CHEM2402	Chemistry of represented elements 2	2	2
	CHEM2403	Thermodynamics2	3	2
	CHEM2404	Organic Chemistry 2	3	2
	UOBAB2301	Baath party crimes	2	
	UOBAB2302	English Language 2	2	
	UOBAB2001	Arabic Language 2		
3rd class	UOBAB0502051	Inorganic chemistry 5	2	2
	UOBAB0502052	Kinetics chemistry	3	2

	UOBAB0502053	Organic chemistry 3	3	2
	UOBAB0502054	Biochemistry 1	2	2
	UOBAB0502055	Industrial chemistry 1	2	
	UOBAB0502056	Elective 2	2	
	UOBAB0502061	Inorganic chemistry 6	2	2
	UOBAB0502062	Electrochemistry	3	2
	UOBAB0502063	Organic chemistry 4	3	2
	UOBAB0502064	Biochemistry 2	2	2
	UOBAB0502065	Industrial chemistry 2	2	
	UOBAB0502066	Research methodology	2	
4th class	UOBAB0502071	Instrumental analysis 1	3	2
	UOBAB0502072	Identification 1	2	2
	UOBAB0502073	Biochemistry 3	2	2
	UOBAB0502074	Industrial chemistry3	3	2
	UOBAB0502075	Spectroscopy chemistry	3	
	UOBAB0502076	Research project		2
	UOBAB0502081	Instrumental analysis 2	3	2
	UOBAB0502082	Identification 2	2	2
	UOBAB0502083	Biochemistry 4	2	2
	UOBAB0502084	Industrial chemistry 4	3	2
	UOBAB0502085	Quantum chemistry	3	
	UOBAB0502086	Research project		2

8. Expected learning outcomes of the program

Learning Outcomes 1	Learning Outcomes Statement 1
Skills	
-learning basic science in chemistry -synthesis of basic compounds - understanding safety and chemical security in chemical labs -	-student learning basic works in chemical labs -preparation of some chemical and polymeric compounds -designing of simple chemical reactors
Ethics	
Student would learn ethics behavior	-learning scientific honesty

9. Teaching and Learning Strategies

1-classroom,
2-laboratory
3-electronic lectures

10. Evaluation methods

1-monthly and daily Examination
2-Reports and home work
3-Projects Design
4-Feedback Learning
5--E-Learning using Moodle

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
professor	16	16			staff	
Assist. Prof.	8	8			staff	
Lecturer	12	12			staff	
Assist. Lecturer	8	8			staff	

Lecturer	Staff	Precise subject	General subject	Scientific title	name	seq
	Staff	Analytical chemistry	Chemistry	Professor	Dr. Abbas Nor Mohammad	1
	Staff	Physical chemistry	Chemistry	Professor	Dr. Abbas Abid Ali Drea	2
	Staff	Physical chemistry	Chemistry	Professor	Dr. Abbas Jasim Atiyah	3
	Staff	biochemistry	Chemistry	Professor	Dr. Lemia Abid almageed Jafra	4
	Staff	Inorganic chemistry	Chemistry	Professor	Salih Hady Kadum	5
	Staff	biochemistry	Chemistry	Professor	Dr. Mahmmod Husein Hedwan	6
	Staff	Organic chemistry	Chemistry	Professor	Dr. Kudair Jwad Kadum	7
	Staff	Organic chemistry	Chemistry	Professor	Dr. Mohannad Mosa Kareem	8
	Staff	Analytical chemistry	Chemistry	Professor	Dr. Ahmed Ali Abid Alsahib	9

	Staff	**Organic chemistry**	**Chemistry**	**Professor**	**Dr. Hella Eshkair Luhaimus**	10
	Staff	**industrial chemistry**	**Chemistry**	**Professor**	**Dr. Faris Hammod Mohammad**	11
	Staff	**Analytical chemistry**	**Chemistry**	**Professor**	**Dr. Ahmed Saadon Abbas**	12
	Staff	**Inorganic chemistry**	**Chemistry**	**Professor**	**Dr. Yaya Fahim Obaid**	13
	Staff	**Inorganic chemistry**	**Chemistry**	**Professor**	**Dr. Saad Madlol Mahdy**	14
	Staff	**Analytical chemistry**	**Chemistry**	**Professor**	**Dr. Ahmed Salih Farhod**	15
	Staff	**Inorganic chemistry**	**Chemistry**	**Professor**	**Dr. Angham Gahnim Hady**	16
	Staff	**Analytical chemistry**	**Chemistry**	**Assist. Professor**	**Luma Ahmed Mohammad**	17
	Staff	**Organic chemistry**	**Chemistry**	**Assist. Professor**	**Dr. Sheerin Retha Rasol**	18
	Staff	**Analytical chemistry**	**Chemistry**	**Assist. Professor**	**Dr. Saba Sahib Mohseen**	19
	Staff	biochemistry	**Chemistry**	**Assist. Professor**	**Dr. Rana Abid Alal Kamees**	20
	Staff	**Physical chemistry**	**Chemistry**	**Assist. Professor**	**Hussein Edrees Esmael**	21
	Staff	**computer**	**Computer**	**Assist. Professor**	**Ebtisam Abid alwahid Rasheed**	22
	Staff	**Physical chemistry**	**Chemistry**	**Assist. Professor**	**Dr. Ahmed Fawzy Halbus**	23
	Staff	biochemistry	**Chemistry**	**Assist. Professor**	**Dr. Eyman Hameed Humaidy**	24
	Staff	biochemistry	**Chemistry**	**Lecturer**	**Zainab Abbas Jawad**	25
	Staff	**industrial chemistry**	**Chemistry**	**Lecturer**	**Dr. Weesam Abid alajallel Jwad**	26
	Staff	**Physical chemistry**	**Chemistry**	**Lecturer**	**Basim Mohammad Hasan**	27

	Staff	**Organic chemistry**	**Chemistry**	**Lecturer**	**Fatima Ali Huein**	28
	Staff	**industrial chemistry**	**Chemistry**	**Lecturer**	**Eawa Hofdy Zaooly**	29
	Staff	**Analytical chemistry**	**Chemistry**	**Lecturer**	**Nahla Salman Saddam**	30
	Staff	**Analytical chemistry**	**Chemistry**	**Lecturer**	**Eynas Mahdy Jalil**	31
	Staff	**Inorganic chemistry**	**Chemistry**	**Lecturer**	**Dr. Hussein Abid alkadum Hasan**	32
	Staff	**Analytical chemistry**	**Chemistry**	**Lecturer**	Dr, Rosil Mahdy Obaid	33
	Staff	**Analytical chemistry**	**Chemistry**	**Lecturer**	Dr. Amneen Mohammad abidalkareem	34
	Staff	**Organic chemistry**	**Chemistry**	**Lecturer**	Dr. Thoha Rahy Kishash	35
	Staff	biochemistry	**Chemistry**	**Lecturer**	Dr. Alla Shaban Raheem	36
	Staff	**Physical chemistry**	**Chemistry**	**Lecturer**	Dr. Marwa Mohammad Ali Obaid	37
	Staff	**Organic chemistry**	**Chemistry**	Assist. Lecturer	**Ayad Ali Dishar**	38
	Staff	**Organic chemistry**	**Chemistry**	Assist. Lecturer	**Marwa Abid alameer Mseer**	39
	Staff	**Organic chemistry**	**Chemistry**	Assist. Lecturer	**Saleem Hussein Shannan**	40
	Staff	**Physical chemistry**	**Chemistry**	Assist. Lecturer	**Fardos Sami Abid alameer**	41
	Staff	**Analytical chemistry**	**Chemistry**	Assist. Lecturer	Eyman Abbas Hamza	42
	Staff	biochemistry	**Chemistry**	Assist. Lecturer	Fatima Abid ali Hassony	43
	Staff	biochemistry	**Chemistry**	Assist. Lecturer	Ahmed Kareem Kaleel	44

Professional Development

Mentoring new faculty members

This can be achieved via participating of staff member in different courses and workshops to improve their abilities in teaching and scientific research

Professional development of faculty members

Conducting contineous programms regarding with teaching stadd development via participitating in modern teaching and learning methods as well as new electronic learning methods.

12. Acceptance Criterion

Our policy depends mainly on the central acceptance that is conducted by MOHER in Iraq, it main condition, the qualified student should pass general secondary national examination with high degree, more than 75%.

13. The most important sources of information about the program

- Electronic website of Babylon University,
- -electronic website of college of science

-electronic website of chemistry department

14. Program Development Plan

-Improving teaching and learning abilities of staff members,
-Development sources of learning,
-Development both of classwork and lab work,
-Development infrastructures of the department

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First class	CHEM1101	Quantitative analytical chem.	basic	*	*	*	*	*	*	*	*	*	*	*	*
	CHEM1102	Inorganic 1	basic	*	*	*		*	*			*	*	*	
	CHEM1103	cytology	basic	*	*	*	*	*	*			*	*	*	*
	CHEM1104	Differnation and integration	basic	*	*	*	*	*	*			*	*	*	*
	UOBAB1104	Democracy and human rights	basic	*	*	*	*	*	*			*	*	*	*
	UOBAB1102	Arabic language 1	basic	*	*	*	*	*	*			*	*	*	*
	CHEM1201	Volumetric analytical chem.	basic	*	*	*	*	*	*	*	*	*	*	*	
	CHEM1202	Inorganic 2	basic	*	*	*	*	*	*	*	*	*	*	*	
	CHEM1203	physics	basic	*	*	*		*	*			*	*	*	
	CHEM1204	Safety and chemical security	basic	*	*	*	*	*	*			*	*	*	*
	UOBABb4	Computer 1	basic	*	*	*	*	*	*			*	*	*	*
	UOBABb1101	English language 1	basic	*	*	*	*	*	*			*	*	*	*
Second class			basic	*	*	*	*	*	*	*		*	*	*	*

			basic	*	*	*	*	*	*	*	*	*	*	*	*	*
			basic	*	*	*	*	*	*			*	*	*	*	
	CHEM2301	Gravitymetric analysis	basic	*	*	*	*	*	*			*	*	*	*	
	CHEM2302	Chemistry of represented elements 1	basic	*	*	*	*	*	*			*	*	*	*	
	CHEM2303	Thermodynamics 1	basic	*	*	*	*	*	*			*	*	*	*	
	CHEM2304	Organic Chemistry 1	basic	*	*	*	*	*	*	*		*	*	*	*	
	CHEM2305	Differential equations	basic	*	*	*	*	*	*	*	*	*	*	*	*	
	UOBAB0502036	Computer 2	basic	*	*	*	*	*	*			*	*	*	*	
	CHEM2401	Separation Methods	basic	*	*	*	*	*	*			*	*	*	*	
	CHEM2402	Chemistry of represented elements 2	basic	*	*	*	*	*	*			*	*	*	*	
	CHEM2403	Thermodynamics 2	basic	*	*	*	*	*	*			*	*	*	*	
Third class	CHEM2404	Organic Chemistry 2	basic	*	*	*	*	*	*	*	*	*	*	*	*	
	UOBAB2301	Baath party crimes	elective	*	*	*	*	*	*			*	*	*	*	
	UOBAB2302	English Language 2	basic	*	*	*	*	*	*	*	*	*	*	*	*	
	UOBAB2001	Arabic Language 2	basic	*	*	*	*	*	*			*	*	*	*	
	UOBAB0502055	Industrial chemistry1	basic	*	*	*	*	*	*	*	*	*	*	*	*	
	UOBAB0502056	elective2	basic	*	*	*	*	*	*			*	*	*	*	
	UOBAB0502057	Inorganic chemistry6	basic	*	*	*	*	*	*	*	*	*	*	*	*	
	UOBAB0502058	electrochemistry	elective	*	*	*	*	*	*			*	*	*	*	
	UOBAB0502061	Organic chemistry4	basic	*	*	*	*	*	*	*	*	*	*	*	*	

	UOBAB0502062	biochemistry 2	basic	*	*	*	*	*	*			*	*	*	*
	UOBAB0502063	Industrial chemistry2	basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0502064	research methodology	basic	*	*	*	*	*	*			*	*	*	*
Fourth class	UOBAB0502071	Instrumental analysis1	basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0502072	Organic identification1	basic	*	*	*	*	*	*			*	*	*	*
	UOBAB0502073	biochemistry 3	basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0502074	Industrial chemistry3	basic	*	*	*	*	*	*			*	*	*	*
	UOBAB0502075	Quantum chemistry	basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0502076	research project	basic	*	*	*	*	*	*			*	*	*	*
	UOBAB0502081	Instrumental analysis 2	basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0502082	Organic identification 2	elective	*	*	*	*	*	*			*	*	*	*
	UOBAB0502083	biochemistry 4	basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0502084	Industrial chemistry4	basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0502085	Molecular spectroscopy	basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOBAB0502086	Research project	basic	*	*	*	*	*	*	*	*	*	*	*	*

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Bologna system
2. Course Code:
CHEM1101
3. Semester / Year:
1st, 2025-2026
4. Description Preparation Date:
10-10-2025
5. Available Attendance Forms:
classroom, electronic attendance, labwork
6. Number of Credit Hours (Total) / Number of Units (Total):
(175/750 hrs), (7/30 ECTS)
7. Course administrator's name (mention all, if more than one name)

Prof. Dr. Ahmed Sadoon Abbas
Lect. Nahla Salaman Saddam

8. Course Objectives	
Course Objectives	Study main concept of analytical chemistry, -preparation of standard solutions, - conducting chemical labs -analysis of some basic chemical compounds .....
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9. Teaching and Learning Strategies	
Strategy	-classroom, -lab, -homework's, -reports

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1 Week 2 Week 3 Week 4 Week 5	5 hrs	Introduction of analytical chemistry Types of analytical chemistry Methods of Quantitative	Introduction of analytical chemistry Types of analytical chemistry Methods of Quantitative Analysis		

Week 6 Week 7 Week 8 Week 9 Week 10 Week 11 Week 12 Week 13 Week 14 Week 15		Analysis Gas Analysis Solutions Types of Solutions Classification of of Electrolytic solutions Chemical Equilibrium Equilibrium involving precipitates and their ions,Solubility product & Solubility Applications of Solubility-Product Constants Kw,ka,kb for strong and weak acid base Buffer solution Buffer types and applications The Effect of Ionic Strength General review	Gas Analysis Solutions Types of Solutions Classification of of Electrolytic solutions Chemical Equilibrium Equilibrium involving precipitates and their ions,Solubility product & Solubility Applications of Solubility-Product Constants Kw,ka,kb for strong and weak acid base Buffer solution Buffer types and applications The Effect of Ionic Strength General review		

11. Course Evaluation
Daily evaluation, monthly evaluation, reports, homework

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Main references:

Fundamentals Analytical chemistry by Donnaled Skkoge 2009.
Principle in analytical chemistry,
Some related scientific electronic websites