

University of Fallujah/ College of
Applied Sciences

جامعة الفلوجة - كلية العلوم التطبيقية



First Cycle – Bachelor's degree (B.Sc.) – applied chemistry

بكالوريوس علوم - قسم الكيمياء التطبيقية



كلية لعلوم التطبيقية

Table of Contents | جدول المحتويات

- | | |
|---------------------------------------|---------------------|
| 1. Mission & Vision Statement | بيان المهمة والرؤية |
| 2. About applied chemistry department | |
| 3. Program Specification | مواصفات البرنامج |
| 4. Program (Objectives) Goals | أهداف البرنامج |

- | | |
|--------------------------------------|--------------------------------------|
| 5. Program Student learning outcomes | مخرجات تعلم الطالب |
| 6. Academic Staff | الهيئة التدريسية |
| 7. Credits, Grading and GPA | الاعتمادات والدرجات والمعدل التراكمي |
| 8. Modules | المواد الدراسية |
| 9. Contact | اتصال |

1. Mission & Vision Statement

The vision of the Department of Chemistry is to create distinct and lasting contributions at the forefront of chemistry by focusing on core areas of basic research in developing and designing innovative materials and chemical processes to lead the way toward a sustainable future. We envision our pupils as exceptional designers, not only in science and technology, but also in good citizenship and discipline. Our commitment is to produce thorough knowledge seekers and humanitarian individuals capable of constructing a strong and thriving nation.

Vision Statement

To realize the aim, we need dedicated faculty who employ efficient teaching methods. To provide modern technical education and knowledge. To prepare our young students both professionally and morally. To achieve global production and value-based living standards through an honest and scientific approach. The vision of the Department of Chemistry is to create distinct and lasting contributions to chemistry by focusing on core areas of basic research in developing and designing innovative materials and chemical processes to lead the way toward a sustainable future. Furthermore, we aim to improve the student experience by integrating teaching, research, and development throughout the curriculum.

Mission Statement

The chemistry department's mission is to prepare students professionally and scientifically through a scientific program that focuses on the student's need for education and tools that helps to meet one of the most important objectives upon which the faculty was founded, which is to qualify the student academically and scientifically in a way that is fully consistent with the requirements of scientific progress regarding basic sciences, which represent the basic sciences. The Chemistry Department, which is trying to promote human health, sets the path for further research into remedies to improve human health. Diagnosis and exploration through the development of novel technologies that allow for advancement in diagnosis and mechanism of action.

2. About Applied chemistry departments

The Department of applied Chemistry was established in the Faculty of Science in 2018. The study period in the department is four years. The department grants a bachelor's degree in general chemistry after the student has completed a systematic scientific preparation that qualifies him/her to keep pace with technical progress in the field of scientific research and to provide service to the public and private sectors such as ministry of health. This program offers students the demonstrate understanding, knowledge, and skills in chemistry as follows: Knowledge and Understanding, Learning and Teaching Methods, A range of learning and teaching approaches are used including

Lectures, tutorials, guided reading of books, holding conferences and workshops to participate in scientific discussion, interactive teaching sessions, practical classes and extended projects. In addition, the Department of Chemistry has UV-Vis, F. T.I.R and Atomic absorption laboratories that could provide the PhD and MSc students with the ability to identify their compounds.

The department grants the Bachelor's degree

The bachelor's degree includes four periods; each period includes two semesters meaning for the students to be graduated, they must have completed eight semesters. The Department of Chemistry grants BSc in general chemistry.

3. Program Specification

Programme code:	BSc-	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

4. Educational and Program Goals

- 1- Provide chemistry majors with a strong background in the five major sub-disciplines of chemistry – organic, inorganic, physical, and analytical chemistry and biochemistry – with up-to-date coursework in each area.
- 2- Provide biochemistry majors with a strong background in organic and analytical chemistry and biochemistry, while emphasizing the interface between chemistry and biology.
- 3- Provide students with relevant laboratory and research experiences designed to deepen their understanding of chemical principles, while simultaneously teaching students safe, responsible laboratory practices.
- 4- Provide opportunities for students to become familiar with the chemical professions and professional activities of practising chemists and biochemists.
- 5- Provide students with a more holistic view of chemistry through the emphasis on its interdisciplinary nature by using specific examples to illustrate connections between chemistry and other science areas.

This program aims to:

1. Introduce the student to the main branches of chemistry.
2. Help students to understand the principles of chemistry.
3. Provide students with a solid foundation for a successful career as a chemist.
4. Enable you to develop skills in problem solving and critical and quantitative analysis in chemistry.
5. Enable students to develop knowledge and laboratory skills through undertaking laboratory work using a range of chemical techniques.
6. Provide the student with some of the basic skills which may be its necessary for further study and employment, including word-processing, data analysis and use of the internet.
7. develop the ability of student to seek out, organize, critically analyses and communicate technical information and concepts through writing a dissertation and giving seminars;
8. Enhance capacity of student for self-study.

9. Help students to develop a deeper insight into the theoretical framework underlying the principles of Chemistry.
10. Enable you to prepare and present seminars on advanced chemistry topics.
11. Explain to you the challenges involved in carrying out ground-based and space -based Observations of the fundamental parameters of the universe.
- 12- Graduate scientific cadres able to manage the industrial projects.
- 13- Graduate scientific cadres able to manage the universities and institutes scientifically and administratively.

5. Student Learning Outcomes

The Department of Applied Chemistry has been preparing specialist employees in chemistry and scientific research, as well as professional and educational staff for the various state directorates, particularly the medical, agricultural, and industrial ones. One of the most significant goals of the department in the Faculty of Sciences is to prepare students academically and scientifically to deal with updated technology. The department is particularly excited to help students enhance their research skills and become acquainted with technology and programs while they conduct their study.

Students will be able to:

- 1- Demonstrate understanding of the fundamental concepts of several fields of chemistry, such as organic, inorganic, physical, and biochemistry, by the completion of this program.
- 2- Be familiar with the recognized curriculum for each stage seminar.
- 3- Demonstrate knowledge of selected issues in chemistry that are at the cutting edge of research. Understand the ideas that underpin practical chemistry experiments and observations.

6. Academic Staff

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7. Credits, Grading and GPA

Credits

University of Fallujah is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hrs student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
Number Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Calculation of the Cumulative Grade Point Average (CGPA)

- The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

CGPA of a 4-year B.Sc. degree:

$$\text{CGPA} = [(1\text{st module score} \times \text{ECTS}) + (2\text{nd module score} \times \text{ECTS}) + \dots] / 240$$

8. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Che-1111	Qualitative Analytical Chemistry	109	66	7.00	C	
Che-1112	Inorganic Chemistry I	79	71	6.00	C	
Che-1113	General Physics	93	57	6.00	C	
Che-1114	Safety and Chemical Security	48	27	3.00	B	
UOA-1115	Human Rights	48	52	4.00	S	
UOA-1116	Calculus I	63	37	4.00	S	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Che-1207	Qualitative Analytical Chemistry II	109	66	7.00	C	
Che-1208	Inorganic Chemistry II	79	71	6.00	C	
Che-1209	Statistics	63	37	4.00	B	
Che-12010	Cell Biology	93	57	6.00	C	
Che-12011	Computer I	48	27	3.00	S	
UOK-12012	Language	63	37	4.00	B	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Che-23113	Gravimetric Analytical Chemistry	94	56	6.00	C	
Che-23114	Inorganic Chemistry III	94	56	6.00	C	
Che-23115	thermodynamic Chemistry I	79	71	6.00	C	
Che-23116	Organic chemistry I	79	71	6.00	C	
CoS-23117	Computer II	48	27	3.00	B	

CoS-23118	Calculus II	48	27	3.00	B	
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Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Che-24019	Separation method	94	56	6.00	C	
Che-24020	Inorganic Chemistry 4	94	56	6.00	C	
Che-24021	thermodynamic Chemistry II	79	71	6.00	C	
Che-24022	Organic chemistry I	79	71	6.00	C	
CoS-24023	Nanotechnology	48	27	3.00	B	
CoS-24024	English II	48	27	3.00	B	

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Che-35025	Biochemistry	94	56	6.00	C	
Che-35026	Chemistry of Heterocyclic compounds	94	56	6.00	C	
Che-35027	Industrial Chemistry	79	71	6.00	C	
Che-35028	Coordination Chemistry	79	71	6.00	C	
Che-35029	Physical Chemistry (Kinetic)	79	71	6.00	C	
Che-35030	Stereochemistry	48	27	3.00	B	
CoS-35031	English III	48	27	3.00	B	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Che-36032	Biochemistry II	94	56	6.00	C	
Che-36033	Chemistry of Heterocyclic compounds II	94	56	6.00	C	
Che-36034	Industrial Chemistry II	79	71	6.00	C	
Che-36035	Coordination Chemistry II	79	71	6.00	C	
Che-36036	Physical Chemistry (Kinetic)II	79	71	6.00	C	
Che-36037	Stereochemistry I	48	27	3.00	B	
Che-36038	English Language IIII	48	27	3.00	B	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Che-47039	Instrumental Analysis I	94	56	6.00	C	
Che-47040	Organic Identification	94	56	6.00	C	
Che-47041	Chemistry of Petrol	79	71	6.00	C	
Che-47042	Clinical Chemistry	79	71	6.00	C	
Che-47043	Quantum Chemistry	48	27	3.00	B	
Che-47044	Selective Topics	48	27	3.00	B	
Che-47045	Research Project	48	52	4.00	B	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Che-48046	Instrumental Analysis II	94	56	6.00	C	
Che-48047	Organic Identification II	94	56	6.00	C	
Che-48048	Metabolism	79	71	6.00	C	
Che-48049	Molecular Spectrum	79	71	6.00	C	
Che-48050	Medicines Manufacturing	48	27	3.00	B	
Che-48051	English Language IV	48	27	3.00	B	
Che-48052	Research Project	48	52	4.00	B	

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