University of Anbar

جامعة الانبار

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

(بكالوريوس علوم - علوم كيمياء) الدورة الأولى

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1. Mission & Vision Statement

Vision Statement

The academic staff of chemistry department – Collage of Science at University of Anbar believe that students registered at this department in order to understand the multidiscipline of chemistry through a variety of patterns of course work, laboratory experiences, research, and teamwork. This combination of instructional methods leads students to equalized understanding of the scientific techniques used by chemists . Small class sizes within the chemistry program foster a close working relationship between academic staff and students in an nurturing atmosphere. it is one of the top departments at the level of universities. The vision of the department is to generate knowledge and skills by applying new technologies to teaching. We are encouraging our students to contribute to society through teaching, training, and conducting active research. The department of Chemistry distinguishes itself by its strong cross-disciplinary collaborations both within and outside the university and country.

Mission Statement

The academic staff of chemistry department – Collage of Science pursues a multifaceted charge at University of Anbar The department works hard to inspire and educate young minds, discover their talents, and conduct and maintain research and teaching at a high level. We are working to take the lead in finding solutions to problems of global significance through participation in international and national research networks. The department is offering research projects with a high emphasis on theory and practical training that is needed for the transformation of the budding chemist into a productive member

of society, an independent researcher, and a productive scientist. Our goal is to use high standards for excellence in all branches of chemistry that will produce students in chemistry who can think critically.

2. Program Specification

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

Chemistry is astonishingly wide-ranging subject and is well fortified to deliver. The emphasis of this programmer is the Atom and Molecular and synthesis of these compounds and Identification to which everything is correlated, be it the molecules form Organic or Inoraganic in our system. It is a common degree - –or some it's' the breadth of the subject that appeals, for others it's a path to specialization. All students have the opportunity to transfer onto our specialist degrees in Analytical Chemistry , Inoraganic Chemistry at the end of the first year.

In Level 1 students are exposes to core topics such as Analytical chemistry , Inorganic chemistry and Laboratory Safety as well as other topics, appropriate for progression to all programmers within the chemistry programme group. The majority of programme-specific core topics are covered at Level 2 preparing for research-led topic specialist modules at Levels 3 and 4. The University Chemistry graduate is therefore instructed to gain how research informs teaching, according to the University and School Mission statements.

At Levels 4 students have the opportunity to choose one or two topics from their module credits with the proviso a range of modules are selected that reflect of life forms from Atom, through compounds , both oraganic and inorganic , to populations to ensure the breadth of knowledge expected of a graduate with a chemistry degree. This allows students to develop their own wide-ranging interests in Chemistry. Decisions on what to study are made with input from personal tutors.

The research ethos is developed and fostered from the start via practicals, which are either embedded in lecture modules or taught in enthusiastic practical modules, research seminars and tutorials. There is a compulsory field course in Level 1, which students have to pass in order to progress into Level 2, and optional field courses in Levels 4. At Level 4 all students carry out an independent research project, which has a 4-credit library or data analysis project, or laboratory-based project or a combination of all of the above mentioned.

Academic tutorials are held at Levels 1 and 2 with the same tutor, who is also the individual tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to demonstrate skills such as library usage and presentation skills, followed by evaluated exercises (essays and talks) as opportunities to exercise these skills in a subject-specific context.

International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

3. Program Objectives

1. Providing the community with graduates in various branches of chemistry sciences who are able to deal with the requirements of scientific research and can work in health laboratories, construction laboratories, control and standardization, food and pharmaceutical industries, various chemical industries, including oil and petrochemical industries.
2. with qualified teachers to teach in various schools and universities in Iraq offering high-quality educational services in various chemistry specialties that meet the needs of society and the labor market through strong and clear commitment.
3. Teach chemistry to students in other departments within the College of Sciences and other colleges in the university.
4. Perform scientific research while staying current with worldwide research and development in the field.
5. Provide chemical analysis services and scientific consulting for both state institutions and the private sector. abroad

4. Student Learning Outcomes

Chemistry Students will gain an understanding of: chemical reactions and strategies to balance them. the relative quantities of reactants and products. the fundamental properties of atoms, molecules, and the various states of matter, The Department offers a Bachelor of Science in Chemistry with a concentration in Biochemistry; Pre-medicine / Pre-dentistry; Analytical Chemistry / biochemistry and a minor in Secondary Education that leads to a Public Instruction License. Additionally, the Department offers courses to a large number of students from other departments and supports pre-professional programs. The Chemistry curriculum and experiences are designed to prepare students, in part, for entry into professional health programs, graduate studies, technical careers and education.

Outcome 1

perform and design scientific experiments in all fields of chemistry, be able to evaluate the scientific aspects, principles, and future directions of their study.

Outcome 2

be able to manage safety and health protocols and will be directed to work as a part of a team. -be able to explore new areas of research that help the society by addressing solutions to economic, environmental, health, and social problems.

Outcome 3

gain skills that help them employ critical thinking in the major chemistry branches such as organic, inorganic, analytical, and physical chemistry.

Outcome 4

have the ability to use literature in writing reports, submitting presentations, and publishing manuscripts, and they will gain enough knowledge to pursue postgraduate studies in a variety of disciplines such as pharmacy, medicine, dentistry, etc..

Outcome 5

Data Analyses

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.

Outcome 6

Critical Thinking

Graduates will be able to use critical-thinking and problem-solving skills to develop a research project and/or paper.

5. Academic Staff

Wajeeh Yuonis Mohammed Al-Ani | Ph.D. in Biochemistry | Prof.

Email: wajeehalshaaban@ uoanbar.edu.iq

Mobile no.: 07816492706

Ahmed Mishaal Mohammed | Ph.D. in Physical Chemistry | Prof.

Email: sc.dr.ahmedm.mohammed @uoanbar.edu.iq

Mobile no.: 07813216612

Ibraheem Jaleel Ibraheem | Ph.D. in Industry Chemical | Prof.

Email: sc.jaleeli@uoanbar.edu.iq

Mobile no.: 07810490431

Mohammad Abdulkarim Talaq | Ph.D. in Organic Chemistry | Prof.

Email: sc.drmohamadtalaq@uoanbar.edu.iq

Mobile no.: 07832575081

Hameed Hussein Ali | Ph.D. in Biochemistry | Prof.

Email: sc.dr.hameedh.ali@uoanbar.edu.iq

Mobile no.: 07902219727

Omar Hamad Shihab | Ph.D. in Inorganic Chemistry | Prof.

Email: edw.laith21973 @uoanbar.edu.iq

Mobile no.: 07800745898

Yusra Mahmoud Hamadi | Ph.D. in Physical Chemistry | Assistant Prof.

Email: yusra_alobaidy @uoanbar.edu.iq

Mobile no.: 07902160323

Sattar Salim Ibrahim | Ph.D. in Inorganic Chemistry | Assistant Prof.

Email: sc.sattar_salim1976@uoanbar.edu.iq

Mobile no.: 07822476610

Ali Kareem Alywee | Ph.D. in Organic Chemistry | Assistant Prof.

Email: cfw.alikareem@uoanbar.edu.iq

Mobile no.: 07815424927

Wahran M Saod | Ph.D. in Analytical Chemistry | Assistant Prof.

Email: sc.wahran.s@uoanbar.edu.iq

Mobile no.: 07816086990

Ahmed Subhi Eaheea| Ph.D. in Analytical Chemistry | Lecturer
Email: ahmedeaheea @uoanbar.edu.iq
Mobile no.: 07829389908

Mohammed Adnan Abid | Ph.D. in Organic Chemistry - Pharmacists | Lecturer
Email: moh.adnan @uoanbar.edu.iq
Mobile no.: 07805408169

Samar Mohammed Abd Alelah | Ph.D. in Analytical Chemistry |Lecturer
Email: samaralani81 @uoanbar.edu.iq
Mobile no.: 07864508318

Ghufran Shaker Jassim | Ph.D. in Inorganic Chemistry | Lecturer
Email: sc.gofranalhity @uoanbar.edu.iq
Mobile no.: 07808834889

Khdyar yeas khdyar | Ph.D in Agricultural sciences- soil chemistry | Lecturer
Email: khdyaralkubysy @uoanbar.edu.iq
Mobile no.: 07810564590

Abdullah Thamer Hameed | M.Sc. in Analytical Chemistry| Assi. Lecturer
Email: abdullah.thamer @uoanbar.edu.iq
Mobile no.: 07814092452

Omar saeed khalifa | Ph.D in Inorganic Chemistry | Assi. Lecturer
Email: omar.saeed @uoanbar.edu.iq
Mobile no.: 07817745422

Baker Fawzi Abdallaha | Ph.D. in Industry Chemistry| Assi. Lecturer
Email: fawzibaker7 @uoanbar.edu.iq
Mobile no.: 07800745898

Mouhaned yousif turky| M.Sc. in Inorganic Chemistry | Assi. Lecturer

Email: myturky @uoanbar.edu.iq

Mobile no.: 07819892721

Marwa Noori Mahmooud | M.Sc. in Organic Chemistry | Assi. Lecturer

Email: marwa.noori @uoanbar.edu.iq

Mobile no.: 07903562408

Fatima Khalil Ibrahim | M.Sc. in Physical Chemistry | Assi. Lecturer

Email: fatima.khalil @uoanbar.edu.iq

Mobile no.: 07811654136

Estabraq Wafeek Ghayad | M.Sc. in Industry Chemistry| Assi. Lecturer

Email: sc.estabraq-wafeek @uoanbar.edu.iq

Mobile no.: 07902347659

Thamer taha Athmil | M.Sc. in Analytical Chemistry | Assi. Lecturer

Email: thamer.taha@uoanbar.edu.iq

Mobile no.: 07816976836

6. Credits, Grading and GPA

Credits

University of Anbar 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)

1. 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: CGPA = [(1st ^{m}odule score x ECTS) + (2nd ^{m}odule score x ECTS) + ……] / 240

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module Name	SSWL	USSWL	ECTS	Module Type	Pre-request
Che-111	Analytical(1)	94	81	7.00	C	
Che-112	Inorganic (1)	94	81	7.00	C	
CoS-113	geology	48	77	4.00	B	
Che-114	Laboratory Sefty	48	52	4.00	B	
UoA-115	Human Rights and freedoms	48	27	4.00	S	
UoA-116	Arabic Language (1)	63	37	4.00	S	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module Name	SSWL	USSWL	ECTS	Module Type	Pre-request
Che-121	Analytical 2	79	96	7.00	C	Che-111
Che-122	Inorganic 2	79	96	7.00	C	Che-112
CoS-123	Mathematics I	48	27	3.00	B	
CoS-124	Physics	64	61	5.00	B	
UoA-125	Computers program	64	36	4.00	B	
UoA-126	English Language	63	37	4.00	S	
UOA104	Crimes of Baath	17	7	1.00	S	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module Name	SSWL	USSWL	ECTS	Module Type	Pre-request
Che-211	Analytical 3	79	71	6.00	C	Che-121
Che-212	Inorganic 3	79	71	6.00	C	Che-122
Che-213	Physical Chemistry 1	64	61	5.00	C	
Che-214	Organic Chemistry 1	64	61	5.00	C	
Sci-215	Cytology	64	61	5.00	B	
Sci-216	Mathematics II	48	27	3.00	B	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module Name	SSWL	USSWL	ECTS	Module Type	Pre-request
Che-221	Analytical 4	79	71	6.00	C	Che-211
Che-222	Inorganic 4	79	71	6.00	C	Che-212
Che-223	Physical Chemistry 2	64	61	5.00	C	Che-213
Che-224	Organic Chemistry 2	64	61	5.00	C	Che-214
Che-225	Nanotechnology	64	61	5.00	B	
Che-226	Statistical	48	27	3.00	B	

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module Name	SSWL	USSWL	ECTS	Module Type	Pre-request
Che-312	Inorganic chemistry 5	79	71	6.00	C	Che-222
Che-313	Physical chemistry 3	79	71	6.00	C	Che-223
Che-314	Organic chemistry 3	79	71	6.00	C	Che-224
Che-315	Biochemistry 1	79	71	6.00	C	Che-215
Che-316	Industrial chemistry 1	48	52	4.00	C	Che-226
Che-317	Selective 1	33	17	2.00	B	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module Name	SSWL	USSWL	ECTS	Module Type	Pre-request
Che-312	Inorganic chemistry 5	79	71	6.00	C	Che-222
Che-313	Physical chemistry 3	79	71	6.00	C	Che-223
Che-314	Organic chemistry 3	79	71	6.00	C	Che-224
Che-315	Biochemistry 2	79	71	6.00	C	Che-215
Che-316	Industrial chemistry 1	48	52	4.00	C	Che-226
Che-317	Research methodology	33	17	2.00	B	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module Name	SSWL	USSWL	ECTS	Module Type	Pre-request
Che-411	Instrumental analysis 1	79	71	6.00	C	Che-221
Che-414	Identification 1	79	46	5.00	C	Che-324
Che-417	Biochemistry 3	79	46	5.00	C	Che-325
Che-420	Industrial chemistry3	78	72	6.00	C	Che-326
Che-423	Spectroscopy chemistry	48	52	4.00	C	
Che-426	Research project	33	67	4.00	B	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module Name	SSWL	USSWL	ECTS	Module Type	Pre-request
Che-421	Instrumental analysis 2	79	71	6.00	C	Che-411
Che-424	Identification 2	79	46	5.00	C	Che-414
Che-427	Biochemistry 4	79	46	5.00	C	Che-415
Che-430	Industrial chemistry 4	78	72	6.00	C	Che-416
Che-433	Quantum chemistry	48	52	4.00	C	Che-413
Che-436	selective 2	33	67	4.00	S	

8. Contact

Program Manager:

Hameed Hussien Ali | Ph.D. in Biochemistry | Lecturer

Email: sc.dr.hameedh.ali@uoanbar.edu.iq

Mobile no.: 07902219727

Program Coordinator:

Ahmed Subhi Eaheea | Ph.D. in Analytical Chemistry | Lecturer

Email: sc.ahmedeaheea@uoanbar.edu.iq

Mobile no.: 07829389908