



جَامِعَةُ الْبَيَانِ



Academic Program Description

Al-Bayan University College of Pharmacy

2025 - 2024

College of Pharmacy
20 September, 2024

University	Al-Bayan University
Faculty	College of Pharmacy
Department	College of pharmacyBachelor
Title of Academic Program	in pharmacy scienceBachelor
Degree	in pharmacy scienceCourses
Type of Study	(semester)
Date of Preparing the Course Description	20-9-2024
Date of Completing the Course Description	29-9-2024

Head of Department

Signe

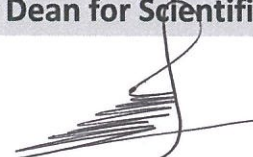


Name Asist. Prof. Atheer Sabah

Date 30-9-2024

Deputy Dean for Scientific Affairs

Signe



Name Lect. Dr. Ameer Alwash

Date 30-9-2024

This File has been Checked by Quality Assurance Section

Head of Quality Assurance Section

Signe



Name Lect. Dr. Ekhas Khammas Hasan

Date 30-9-2024

Handwritten in green ink:
Lect. Dr. Ekhas Khammas Hasan
30.09.2024

Approved by The Dean

1. The Vision of the Academic Program

The Faculty of Pharmacy is an educational and research institution of public benefit, whose goal is human health through high-quality pharmaceutical education and to prepare qualified pharmacists with scientific and professional capabilities and skills that qualify them to serve the community within health institutions and pharmaceutical factories, as well as spreading health culture and health awareness.

2. The Message of the Academic Program

Preparing qualified pharmaceutical competencies with specialized knowledge, professional skills, and ethical values to meet the needs of the labor market through a distinguished academic environment and promising scientific research.

3. The Objectives of the Academic Program

1. Improving the college curriculum and developing it continuously to reach the scientific levels and in line with the labor market.
2. Establishing a total quality management system and seeking institutional and program academic accreditations.
3. Communication, cooperation, and partnership with the corresponding institutions in all fields.
4. Providing scientific consultations to relevant ministries and state institutions and the private sector.
5. Reaching international standards in pharmaceutical education.

4. The Program Accreditation

N/A

5. Other External Influences

N/A

6. Program Structure

Course Structure	Number of Courses	Credit Units	(%)	Notes
Institutional Requirements	11	15		
College Requirements	56	170		
Department Requirements	56	170		
Summer Training	2	-		
Other				

7. Program Description

Year / Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
1 st	401101	Human biology	2	2
	401102	Principles of Pharmacy Practice	2	----
	401103	Analytical Chemistry	3	2
	401104	Medical Terminology	1	----
	401105	Mathematics and Biostatistics	3	----
	401106	Computer Sciences I	----	2
	401107	English Language I	2	----
	401108	Democracy and human rights	1	---
2 nd	401208	Human Anatomy	1	2
	401209	Pharmaceutical Calculations	2	2
	401210	Medical Physics	2	2
	401211	Organic Chemistry I	3	2
	401212	Histology	2	2
	401213	Computer Sciences II	----	2
	401214	Arabic Language	2	-----
2 nd	402101	Organic Chemistry II	3	2
	402102	Medical Microbiology I	3	2
	402103	Physical Pharmacy I	3	2
	402104	Physiology I	3	2
	402105	Democracy	1	---
	402106	Computer Sciences III	----	2
	401214	جرائم حزب البعث البائد	2	----
	402208	Organic Chemistry III	2	2
	402209	Medical Microbiology II	3	2
	402210	Physical Pharmacy II	3	2
402211	Physiology II	3	2	
402212	Pharmacognosy I	3	2	
402213	Computer Sciences IV	----	2	
402214	Arabic Language	2	-----	

3 rd	1 st	403101	Inorganic Pharmaceutical Chemistry	2	2
		403102	Pharmacognosy II	2	2
		403103	Pharmaceutical Technology I	3	2
		403104	Biochemistry I	3	2
		403105	Pathophysiology	3	2
	2 nd	403207	Organic Pharm. Chemistry I	3	2
		403208	Pharmacology I	3	----
		403209	Pharm. Technology II	3	2
		403210	Biochemistry II	3	2
		403211	Pharmacognosy III	2	2
403212	Pharmacy Ethics	1	----		
4 th	1 st	404101	Pharmacology II	3	2
		404102	Organic Pharm. Chemistry II	3	2
		404103	Clinical Pharmacy I	2	2
		404104	Biopharmaceutics	2	2
		404105	Public Health	2	----
		404106	English Language II	1	----
	2 nd	404207	Pharmacology III	2	----
		404208	Organic Pharm. Chemistry III	3	2
		404209	Clinical Pharmacy II	2	2
		404210	General Toxicology	2	2
		404211	Industrial Pharmacy I	3	2
		404212	Communication Skills	2	----
		404213	English Language	1	----
5 th	1 st	405101	Organic Pharm. Chemistry IV	2	----
		405102	Industrial Pharmacy II	3	2
		405103	Applied Therapeutics- I	3	-----
		405104	Clinical Chemistry	3	2
		405105	Clinical Laboratory Training	----	4
		405106	Clinical Toxicology	2	2
		405107	Graduation project	1	----
	2 nd	405208	Pharmacoeconomic	2	----
		405209	Applied Therapeutics- II	2	----
		405210	Therapeutic Drug Monitoring (TDM)	2	2
		405211	Advanced Pharmaceutical Analysis	3	2
		405212	Hospital Training	----	4
		405213	Dosage Form Design	2	----
		405214	Pharmaceutical Biotechnology	1	----

8. Expected learning outcomes of the program

→ Knowledge

- Outcome Learning 1** To be able to use different techniques for preparing medicines and chemicals
- Outcome Learning 2** Knowledge of the mechanisms of action of drugs and Knowing the factors affecting the biological activity, solubility, stability, side effects, duration of action of the drug
- Outcome Learning 3** To be able know different diseases and treatment (causes, symptoms, diagnosis and treatment)
- Outcome Learning 4** Identify semi- manufactured medications that are extracted from Natural sources. Identify the types and forms of medicines.

→ Skills

- Outcome Learning 1** To be able to isolate and purify active ingredients in order to treat diseases, use their knowledge to prescribe medicinal supplements , know their classification , mechanism and side effects
- Outcome Learning 2** Acquisition of skill in the use of various methods of preparation and manufacture of chemical compounds and how to maintain stability for as long as possible
- Outcome Learning 3** Acquisition of skill in separation of compounds
- Outcome Learning 4** To be able for Communication with patients education about medications for patients

→ Values

- Outcome Learning 1** Cultivating ethical values for the correct treatment of patients with minimal side effects
- Outcome Learning 2** Learn about medicines and their derivatives, performing laboratory analyzes
- Outcome Learning 3** Thinking skills through translating, analyzing, evaluating and extracting ideas
- Outcome Learning 4** Instilling moral values for correct dealing with patients

9. Teaching and Learning Strategies

Using data show devices and showing lecture slides	Conducting scientific discussions in class and presenting seminars	Mid-term and final examination
View scientific videos	Surprise quizzes	Encouraging reading books, research, and doing research
Giving homework	Conducting scientific experiments, performing seminars, and writing reports	Participate in workshops

10. Evaluation Methods

Written examination	Homework
oral examination	Participate in workshops
Class discussions	

11. Staff

Titles	Specialist		Required Skills (if any)	Numbers	
	General	Specific		Staff	Lec
Prof	1	Biochemistry	No	1	
Ass. Prof	5	Pharmaceutics Pharmacology Biology	No	4	1
Lecturers	7	Pharmacognosy Pharmacology & therapeutics Pharmacology & toxicology Pharmaceutical chemistry Clinical pharmacy Pharmaceutics	No	6	1
Ass. Lecturers	24	Pharmacology & toxicology Pharmaceutical chemistry Clinical pharmacy Pharmaceutics Clinical chemistry Biochemistry Pharmacognosy Computer science Analytical chemistry Rabic Language	No	20	4
Lab Staff.	3	Pharmacy science	No	3	

Professional Development

Guidance for New Faculty Members

New faculty members are often provided with an orientation program that introduces them to the institution's mission, values, policies, and resources. This may include sessions on campus facilities, IT services, and support services available to faculty. Workshops or seminars may be offered to new faculty on topics such as effective teaching strategies, research methodologies, grant writing, or navigating academic publishing.

Professional Development for Faculty Members

Institutions often provide workshops, seminars, and resources to help faculty members improve their teaching skills.

Faculty members are encouraged to regularly assess student learning outcomes to ensure the effectiveness of their teaching methods.

Faculty members receive assistance in securing research funding, navigating the grant application process, and accessing institutional resources such as laboratories, libraries, and research centers. Collaboration with other faculty members and interdisciplinary research initiatives may also be encouraged.

12. Admission Criteria

Central Admission Committee in the higher education & Scientific Research Ministry according to students marks

13. Key Sources of Information about the Program

- The Pharmacy Dean's Committee
- College of pharmacy syllabus

14. Program Development Plan

Books, central library, internet, hospitals and laboratories, scientific research

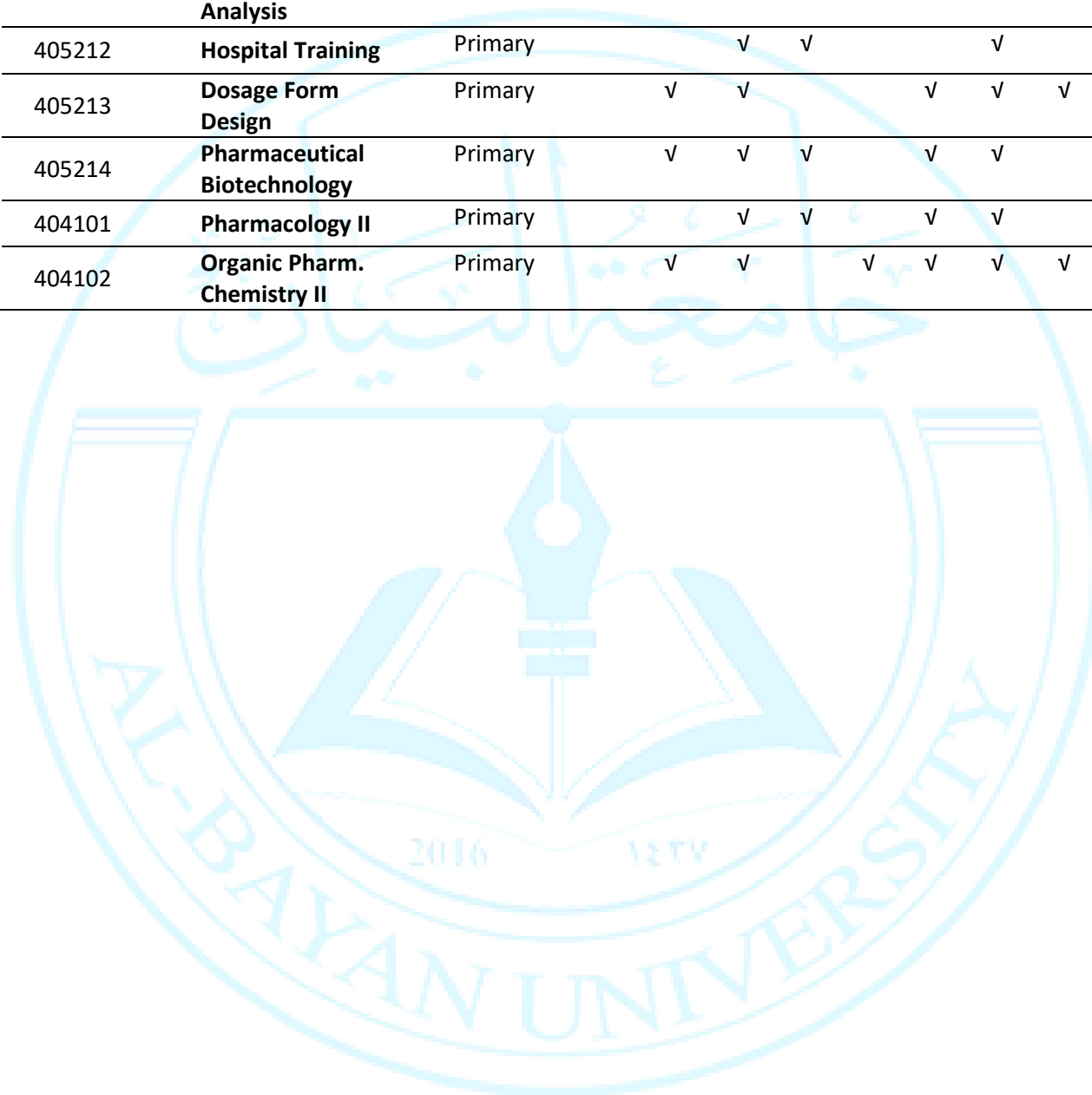


Program Skills

				Learning Outcomes Required from the Program											
Year/Level	Course Code	Course Title	Primary or Optional	Knowledge				Skills				Values			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
1 st	401101	Human biology	Primary		√	√		√	√				√		√
	401102	Principles of Pharmacy Practice	Primary	√	√				√	√			√	√	√
	401103	Analytical Chemistry	Primary	√	√		√	√	√	√			√	√	√
	401104	Medical Terminology	Primary		√	√					√	√	√	√	√
	401105	Mathematics and Biostatistics	Primary	√	√				√				√		√
	401106	Computer Sciences I	Primary	√	√				√				√		√
1 st	401107	English Language I	Primary		√							√	√		√
	401108	Democracy & human right	Primary			√						√	√	√	√
2 nd	401208	Human Anatomy	Primary		√	√		√				√	√	√	√
	401209	Pharmaceutical Calculations	Primary	√	√			√	√			√	√	√	
	401210	Medical Physics	Primary	√			√	√	√			√	√	√	
	401211	Organic Chemistry I	Primary	√	√		√	√	√	√			√	√	√
	401212	Histology	Primary		√	√	√	√				√	√	√	√
	401213	Computer Sciences II	Primary	√	√						√	√	√		√
	401214	Arabic Language	Primary		√	√						√	√	√	√
2 nd 1 st	402101	Organic Chemistry II	Primary	√	√		√	√	√	√			√	√	√
	402102	Medical Microbiology I	Primary		√	√		√		√			√	√	√

	402103	Physical Pharmacy I	Primary	√	√		√	√	√	√	√	√	√	√
	402104	Physiology I	Primary	√	√	√	√	√	√	√	√	√	√	√
	402105	Democracy	Primary			√	√	√	√		√	√	√	√
	402106	Computer Sciences III	Primary			√	√	√	√		√	√	√	
	401214	جرائم حزب البعث البائد	Primary			√	√			√	√	√	√	√
2 nd	402208	Organic Chemistry III	Primary	√	√		√	√	√	√		√	√	√
	402209	Medical Microbiology II	Primary	√	√	√	√	√	√	√	√	√	√	√
	402210	Physical Pharmacy II	Primary	√	√	√	√	√	√	√	√	√	√	√
	402211	Physiology II	Primary			√	√	√	√	√	√	√	√	√
	402212	Pharmacognosy I	Primary		√		√	√	√	√		√	√	√
	402213	Computer Sciences IV	Primary	√	√	√	√	√	√	√	√	√	√	√
	402214	Arabic Language	Primary								√	√	√	√
		403101	Inorganic Pharmaceutical Chemistry	Primary	√	√		√	√	√	√		√	√
1 st	403102	Pharmacognosy II	Primary	√	√		√	√	√	√		√	√	√
	403103	Pharmaceutical Technology I	Primary	√	√	√		√	√	√		√	√	√
	403104	Biochemistry I	Primary	√	√	√	√	√		√		√	√	√
	403105	Pathophysiology	Primary	√	√	√	√	√		√	√	√	√	√
3 rd	403207	Organic Pharm. Chemistry I	Primary	√	√		√	√	√	√		√	√	√
	403208	Pharmacology I	Primary		√	√		√			√	√	√	√
	403209	Pharm. Technology II	Primary	√	√	√		√	√	√		√	√	√
	403210	Biochemistry II	Primary	√	√	√	√	√		√		√	√	√
	403211	Pharmacognosy III	Primary		√		√	√	√	√		√	√	√
	403212	Pharmacy Ethics	Primary		√	√			√		√	√	√	√

405211	Advanced Pharmaceutical Analysis	Primary	√	√	√	√	√	√	√	√	√	√	√
405212	Hospital Training	Primary		√	√			√		√	√	√	√
405213	Dosage Form Design	Primary	√	√			√	√	√		√	√	√
405214	Pharmaceutical Biotechnology	Primary	√	√	√		√	√			√	√	√
404101	Pharmacology II	Primary		√	√		√	√		√	√	√	√
404102	Organic Pharm. Chemistry II	Primary	√	√			√	√	√	√		√	√



Course Description (15)

1. Course Name	Arabic language	
2. Course Code	401214	
3. Semester / Year	Chapter Two / First Stage	
4. The history of preparation of this description	2024	
5. Available Attendance Forms	attendance time	
6. Number of Credit Hours (Total)	Two hours	
7. Number of Units (Total)	2	
8. Course administrator name	Asist. Lect. Hamza Mahdi	
Email		
9. Course Objectives : Helping to understand the language and know its grammar.		
Knowledge	A1	Students should be able to acquire knowledge and understanding of the intellectual framework of the Arabic language subject.
	A2	Developing students' talents and abilities in literary arts through the knowledge gained.
Skills	B1	The student should be able to be familiar with the rules of the fixed language.
	B2	The student should develop his linguistic and literary skills.
Values	C1	Enhancing the spirit of cooperation and teamwork among students.

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s	C2	The student should contribute to the preservation of his nation's linguistic heritage.
	C3	The student should be able to instill the eloquent Arabic language and stay away from drifting behind the colloquial language.
	C4	Training students to respect the freedom of thought, expression and creativity of others.

10. Teaching and Learning Strategies

١.	Encourage reading published blogs	٤.	Forming seminars in which the student is rewarded for his answer, and his information is corrected if he makes a mistake
٢.	Making reports related to language topics.		
٣.	Writing self-reports on the lecture	٥.	Article presentation and discussion

11. Course Structure

The week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	2	Recognize the concept of The following terms: (speech, speech, saying, word)	The concept of (speech, speech, saying, word)	Smart Board	Tests, Attendance Students and their participation, repor
٢	2	Know the types of name and its sign	Name, its sign and types	Smart Board	Tests, Attendance Students and their participation, repor
٣	2	Knowing what the verb is, its divisions and sign	The verb, its divisions and sign	Smart Board	Tests, Attendance Students and their participation, repor
٤	2	Know the signs of feminization	Feminine signs in nouns and verbs	Smart Board	Tests, Attendance Students and their participation, repor
٥	2	Know the missing verbs, their action and significance	Imperfect verbs, their work and significance	Smart Board	Tests, Attendance Students and their participation, repor
٦	2	Know the already similar characters, their action and significance.	Already suspicious characters	Smart Board	Tests, Attendance Students and their participation, repor
٧	2	Knowing the name of the actor and his work	The name of the actor and his work	Smart Board	Tests, Attendance Students and their participation, repor
٨	2	Know the name of the object and its action	Object name and action	Smart Board	Tests, Attendance Students and their participation, repor
٩	2	Knowing the Five Verbs and distinguish it from other	The Five Verbs	Smart Board	Tests, Attendance Students and their

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		verbs			participation, repor
١٠	2	Know the mechanism of Deuteronomy	Muthanna	Smart Board	Tests, Attendance Students and their participation, repor
١١	2	Knowledge of the collection of Salem of both types	The plural of the masculine Salem and the feminine Salem	Smart Board	Tests, Attendance Students and their participation, repor
١٢	2	Familiarity with the rules of number	Number	Smart Board	Tests, Attendance Students and their participation, repor
١٣	2	Know the rules of writing hamza	Hamza and ways to write it	Smart Board	Tests, Attendance Students and their participation, repor
١٤		Course Development Plan	Access to modern books in language sciences		

12. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports etc

13. Learning and Teaching Resources

Required textbooks (Methodology, if any)	General Arabic Book: A Group of Authors
Main references (Sources)	The Arabic Lessons Collector, Mustafa Ghalayini Academy of Language and Literature, Magdy Wah and others Meanings of grammar, Fadel Al-Samarrai
Recommended supporting books and references (Scientific journals, reports...)	Arabic grammar and literature books
Electronic references, Websites	Noor Library to download free books

Course Description (20)

1. Course Title		Democracy and human rights	
2. Course Code		402105	
3. Semester/Year		First semester 2024-2025	
4. Description Preparation Date		2024	
5. Available Attendance Form		Official time	
6. No. of Hours (Total)		30 hrs	
7. No. of Credits (Total)		1	
8. Course Administrator Name		Asist. Lect. Zainab Mohammed	
9. E-mail			
10. Course Objectives			
Knowledge	A1	Human rights and public freedoms	
	A2	The historical development of the concept of human rights	
	A3	Knowledge of human rights protection mechanisms.	
	A4	Universal Declaration of Human Rights.	
Skills	B1	Thinking and using problem-solving techniques	
	B2	Many questions	
	B3		
	B4		
Values	C1	Educating students on professional humanitarian work	
	C2	Promoting and consolidating professional and ethical values among students practicing the profession of pharmacist	
	C3	Enhancing the spirit of cooperation and teamwork upon request	
	C4	Training students to respect the freedom of thought, expression, and creativity of others	
11. Teaching and Learning Strategies			
1.	Discussing group work	4.	Field visits to relevant ministries and educational institutions
2.	Writing self-reports	5.	Holding seminars, courses and workshops for students that encourage spiritual values
3.	Using a strategy of cooperation and assistance during the education process	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	Teaching the student the concept of human rights	The concept of human rights	theoretical	Dialogue questions and discussion
2	1	Teaching students human rights in ancient civilizations	Human rights in ancient civilization (Mesopotamia, the Nile Valley, Greek civilization)	theoretical	Dialogue questions and discussion
3	1	Informing the student about the intellectual contribution of the Greeks (Plato and Aristotle).	The intellectual contribution of the Greeks (Plato and Aristotle).	theoretical	Dialogue questions and discussion
4	1	The student's knowledge of the idea of human rights in divine laws.	The idea of human rights in heavenly laws.	theoretical	Dialogue questions and discussion
5	1	Teaching the student the types of rights	Types of rights	theoretical	Assigning the student to do related research
6	1	Teaching students basic freedoms	Basic freedoms.	theoretical	With the topic.
7	1	Educating students about intellectual rights and freedoms	Intellectual rights and freedoms.	theoretical	Dialogue questions and discussion
8			Mid-term exam		Dialogue questions and discussion
9			Mid-term exam		Tests
10	1	Teaching students about political rights	Political rights	theoretical	Tests
11	1	Educating students about economic and social freedoms	Economic and social freedoms	theoretical	Assigning the student to do related research
12	1	Teaching students about the Universal Declaration of Human Rights	Universal Declaration of Human Rights.	theoretical	With the topic
13	1	Teaching the student according to the charter	Arab Charter on Human Rights.	theoretical	Dialogue questions and discussion
14	1	Arab League for Human Rights	Human rights in regional agreements	theoretical	Dialogue questions and discussion
15-16	1	Teaching the student about rights	Final semester exam	theoretical	Dialogue questions and discussion

13. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the students such as daily preparation, daily, oral, monthly, written exams, reports.... etc

14. Learning & Teaching Resources

Required textbooks (curricular if any)	The human rights of first stage students are binding
Main References (sources)	Human rights lectures taught at the College of Political Science/University of Baghdad.
Recommended Books & References (Scientific Journals, Reports ...)	Modern scientific research in the field of human rights and freedoms
Websites or Electronic References	Human rights organization, UNICEF

Course Description (1)

1. Course Title		Democracy and human rights
2. Course Code		401108
3. Semester/Year		First semester 2024-2025
4. Description Preparation Date		2024
5. Available Attendance Form		Official time
6. No. of Hours (Total)		30 hrs
7. No. of Credits (Total)		
8. Course Administrator Name		Asist. Lect. Zainab Mohammed
9. E-mail		
10. Course Objectives		
Knowledge	A1	Human rights and public freedoms
	A2	The historical development of the concept of human rights
	A3	Knowledge of human rights protection mechanisms.
	A4	Universal Declaration of Human Rights.
Skills	B1	Thinking and using problem-solving techniques
	B2	Many questions
	B3	
	B4	
Values	C1	Educating students on professional humanitarian work
	C2	Promoting and consolidating professional and ethical values among students practicing the profession of pharmacist
	C3	Enhancing the spirit of cooperation and teamwork upon request
	C4	Training students to respect the freedom of thought, expression, and creativity of others
11. Teaching and Learning Strategies		
1.	Discussing group work	4. Field visits to relevant ministries and educational institutions
2.	Writing self-reports	5. Holding seminars, courses and workshops for students that encourage spiritual values
3.	Using a strategy of cooperation and assistance during the education process	6.

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1		Teaching the student the concept of human rights	The concept of human rights	theoretical	Dialogue questions and discussion
2		Teaching students human rights in ancient civilizations	Human rights in ancient civilization (Mesopotamia, the Nile Valley, Greek civilization)	theoretical	Dialogue questions and discussion
3		Informing the student about the intellectual contribution of the Greeks (Plato and Aristotle).	The intellectual contribution of the Greeks (Plato and Aristotle).	theoretical	Dialogue questions and discussion
4		The student's knowledge of the idea of human rights in divine laws.	The idea of human rights in heavenly laws.	theoretical	Dialogue questions and discussion
5		Teaching the student the types of rights	Types of rights	theoretical	Assigning the student to do related research
6		Teaching students basic freedoms	Basic freedoms.	theoretical	With the topic.
7		Educating students about intellectual rights and freedoms	Intellectual rights and freedoms.	theoretical	Dialogue questions and discussion
8			Mid-term exam		Dialogue questions and discussion
9			Mid-term exam		Tests
10		Teaching students about political rights	Political rights	theoretical	Tests
11		Educating students about economic and social freedoms	Economic and social freedoms	theoretical	Assigning the student to do related research
12		Teaching students about the Universal Declaration of Human Rights	Universal Declaration of Human Rights.	theoretical	With the topic
13		Teaching the student according to the charter	Arab Charter on Human Rights.	theoretical	Dialogue questions and discussion
14		Arab League for Human Rights	Human rights in regional agreements	theoretical	Dialogue questions and discussion
15		Teaching the student about rights	Final semester exam	theoretical	Dialogue questions and discussion
16					
17					
18					

13. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports.... etc.

14. Learning & Teaching Resources

Required textbooks (curricular if any)	The human rights of first stage students are binding
Main References (sources)	Human rights lectures taught at the College of Political Science/University of Baghdad.
Recommended Books & References (Scientific Journals, Reports ...)	Modern scientific research in the field of human rights and freedoms
Websites or Electronic References	Human rights organization, UNICEF

Course Description (8)

1. Course Name	English Language	
2. Course Code	401107	
3. Semester / Year	First Semester 2023-2024	
4. The history of preparation of this description	2024	
5. Available Attendance Forms	Official working hours	
6. Number of Credit Hours (Total)	2 hours per week	
7. Number of Units (Total)	2	
8. Course administrator name	Asist Lect Hasan Thamer	
Email		
9. Course Objectives		
Knowledge	A1	Develop the student's skills and knowledge of English grammar
	A2	Educating students on professional humanitarian work
	A3	Help understand the principles of the English language
	A4	
Skills	B1	Develop the student's speaking, writing, reading and comprehension skills in English
	B2	Developing the student's ability to dialogue, discuss and speak English
	B3	
	B4	
Values	C1	Promoting and consolidating professional and ethical values among students to practice the profession of pharmacist
	C2	Training students to respect the freedom of thought, expression and creativity of others
	C3	Develop a sense of responsibility among students during the study period and

		during work
	C4	
10. Teaching and Learning Strategies		
1.	1- Use the strategy of cooperation and assistance education during	

11. Course Structure

The week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	I, am, you, this : القواعد is... Review (test)	How to present yourself in English? Module 1: Greetings	use Scientific references and use of the board	Monthly Written Exams
2	2	How, what, where, : القواعد Review (test)	Module 2: Your World	use Scientific references and use of the board	Exams Oral
3	2	Grammar: Present Simple, Tools Definition a AND an Review (test)	Module 3: It's My Life	use Scientific references and use of the board	Daily Written Exams
4	2	Rules: Negation, Questions, Short Answers Review (Test)	Module 4: Personal Information	use Scientific references and use of the board	Oral exams
5	2	Grammar: short answers, adjectives, use of has/have Review (test)	Module 5: Family and Friends	use Scientific references and use of the board	Monthly Written Exams
6	2	Grammar: Present Simple, Tools Definition a/an Review (test)	Module 6: It's My Life	use Scientific references and use of the board	Surprise questions
7	2	Grammar: Time, Date, Present and Past Simple Review (test)	Module 7: Daily Life	use Scientific references and use of the board	Daily Written Exams
8	2	Grammar: Object Pronouns , Use of this/that , Questions	Module 8: Places where I love her/her	use Scientific references and use of	Oral exams

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		Answers Review (test)		the board	
9	2	Grammar: Time, Date, Present and Past Simple Review (test)	Module 9: Everyday Life	use Scientific references and use of the board	Monthly Written Exams
10	2	Homework Subject: Numericals, Singular and Plural Review (Test)	Module 10: Business Skills , Reading & Listening (New vocabulary)	use Scientific references and use of the board	Questions Surprise
11	2	Subject:Country Names The Homework Review (Test)	Module 11: Work Skills, Reading and Listening (New vocabulary)	use Scientific references and use of the board	Monthly Written Exams
12	2	Reading and speaking:., Subject: Social Expressions , Functions Homework Review (test)	Module 12: Business Skills (New vocabulary)	Exams Oral	use Scientific references and use of the board
13	2	Reading and speaking: Study topic: talking about family and friends Homework Review (test)	Module 13: Business Skills (New vocabulary)	Daily Written Exams	use Scientific references and use of the board
14	2	Listen and speak	Module 14: Business Skills (New vocabulary)	Oral exams	use Scientific references and use of the board
15	2	Reading and Speaking: Subject: Talking about Sports and Music Homework review (test)	Module 15: Stop and Check	Monthly Written Exams	use Scientific references and use of the board

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11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports ... etc

12. Learning and Teaching Resources

Required textbooks (Methodology, if any)	New Headway, Oxford (Beginner)
Main references (Sources)	New Headway, Oxford (Beginner)
Recommended supporting books and references (Scientific journals, reports...)	New Headway, Oxford (Beginner)
Electronic references, Websites	New Headway, Oxford (Beginner)

Course Description (46)

1. Course Name	English Language / Fourth Stage	
2. Course Code	404106	
3. Semester / Year	First Semester 2023-2024	
4. The history of preparation of this description	2024	
5. Available Attendance Forms	Official working hours	
6. Number of Credit Hours (Total)	2 hours per week	
7. Number of Units (Total)	1	
8. Course administrator name	Asist. Lect Hasan Thamer	
Email		
9. Course Objectives		
Knowledge	A1	Develop the student's skills and knowledge of English grammar
	A2	Educating students on professional humanitarian work
	A3	Help understand the principles of the English language
	A4	
Skills	B1	Develop the student's speaking, writing, reading and comprehension skills in English
	B2	Developing the student's ability to dialogue, discuss and speak English
	B3	
	B4	
Values	C1	Promoting and consolidating professional and ethical values among students to practice the profession of pharmacist
	C2	Training students to respect the freedom of thought, expression and creativity of others
	C3	Develop a sense of responsibility among students during the study period and

		during work
	C4	
10. Teaching and Learning Strategies		
10		Using the strategy of cooperation and assistance education during the education process

11. Course Structure

The week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Students acquire the basics of the English language	English grammar and writing: the system of verbs and their use in the language The tense system and English tenses usage	Smart Board	Cob, reports and homework
2	2	Students acquire the basics of the English language	Reading and listening: Practice reading and listening to pieces in English.	Smart Board	Cob, reports and homework
3	2	Students acquire the basics of the English language	English and Writing Grammar: Introduction to the Present Perfect , simple and continuous	Smart Board	Cob, reports and homework
4	2	Students acquire the basics of the English language	Grammar & Reading Narrative tenses Past Simple and Present Perfect Reading practice	Smart Board	Cob, reports and homework

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5	2	Students acquire the basics of the English language	English and Writing Grammar: Question forms & Negatives	Smart Board	Cob, reports and homework
6	2	Students acquire the basics of the English language	English and Writing Grammar: Introduction to future forms,	Smart Board	Cob, reports and homework
7	2	Students acquire the basics of the English language	English Grammar and Writing: An Introduction to Future Forms, Decisions and intentions, words commonly confused	Smart Board	Cob, reports and homework
8	2	Students acquire the basics of the English language	Rules, reading and listening: Expressing quantity Practice reading and listening to pieces in English from the curriculum.	Smart Board	Cob, reports and homework

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9	2	Students acquire the basics of the English language	English and Writing Grammar: Modal auxiliary verbs of probability present and future rules	Smart Board	Cob, reports and homework
10	2	Students acquire the basics of the English language	Introduction to relative clauses.	Smart Board	Cob, reports and homework
11	2	Students acquire the basics of English language	English and Writing Grammar: - Expressing habits -argument and brainstorm ideas Hypothesizing	Smart Board	Cob, reports and homework

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11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports ... etc

12. Learning and Teaching Resources

Required textbooks (Methodology, if any)	
Main references (Sources)	New headway plus(Upper-Intermediate) by Liz and John Soars
Recommended supporting books and references (Scientific journals, reports...)	
Electronic references, Websites	

Course Description (5)

1. Course Name	Mathematics and Biostatistics	
2. Course Code	401105	
3. Semester / Year	First Semester/ 2024-2025	
4. The history of preparation of this description	2024	
5. Available Attendance Forms	Official attendance hours	
6. Number of Credit Hours (Total)	3 theoretical hours	
7. Number of Units (Total)	3 units	
8. Course administrator name	Assistant lecturer. Maysam Sajit Khudair	
Email	Mesam.S@Albayan.edu.iq	
9. Course Objectives		
Knowledge	A1	To provide students with the ability to deal with the concepts of mathematics and statistics.
	A2	Emphasize the knowledge and skills required to perform the duties and responsibilities of the pharmacist efficiently
	A3	The course deals with the concepts of basic mathematics and the application of biostatistics in the medical field.
	A4	Upon completion of the course, the student will be able to understand the applications of statistics in the medical field.
Skill	B1	The skill of using mathematics in the medical field
	B2	The skill of using biostatistics in the medical field
Values	C1	Understand the basics of mathematics
	C2	Understand the fundamentals of biostatistics
	C3	Understand the application of mathematics in the medical field
	C4	Understand the application of biostatistics in the medical field
10. Teaching and Learning Strategies		

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١.	Lectures (questions and discussion)	٤.	Homework
٢.	Interactive Electronic Whiteboard	٥.	Weekly exams
٣.	Whiteboard	٦.	

11. Course Structure

The week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	3	Mathematics General Principles Includes forms. Inequality Absolute values Complications.	General principles	Smart board Electronic text Buster Reviews Lectures	Theoretical exam
٢	3	Functions and charges. Reciprocal slope functions and line equations.	Functions and slope	Smart board Electronic text Buster Reviews Lectures	Theoretical exam
٣	3	Determinant and integration. Determinant theorems. Integration conditions.	Determinants and integration	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
٤	3	Line tangent deviation derivatives. Rules of discrimination.	Derivative and functions	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
٥	3	Integration: The integration indefinite bases Indefinite integrations. Integration formulas for	The concept of integration	Smart board Electronic text Buster Reviews	Theoretical exam effectiveness Row

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		trigonometric function. Basic		Lectures	
٦	3	Properties of specific integrals. Practice Exercises.	-----	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
٧	3		Exam 1	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
٨	3	Biostatistics: General Concepts Statistics, Statistical Methods Probability concepts, Probability properties.	General concept of probability statistics	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
٩	3	Probability distribution . Discrete variabl. Binomial distribution. Poisson distribution.	Poisson distribution	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
١٠	3	Continued probability distribution and distribution. Natural, Review Questions Exercises.	-----	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
١١	3	The concept of central tendency: sample mean and the average population.	Centralism	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row

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١٢	3	Coefficient of variations. Standard error. Correlation analysis. (regression model and model Regression equation).	Coefficient of variations. Standard error. Correlation analysis.	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
١٣	3	Coefficient of variations. Standard error. Correlation analysis (regression model and model Regression equation).	Coefficient of variations. Standard error. Correlation analysis.	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
١٤	3	Test T Test Z Kay Anonova Test.	Statistics Tests	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
١٥	3	Application of statistics in medical field. Review questions and exercises.	Tests	Smart board Electronic text Buster Reviews Lectures	Theoretical exam effectiveness Row
			Final Exam		

12. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports etc

13. Learning and Teaching Resources

Required textbooks (Methodology, if any)	<ol style="list-style-type: none"> 1. Finny RI, Thomas GB (Eds.); Calculus and Analytical Geometry. 2. Daniel WW (ED.), Foundation for Analysis in the Health Science, 4th ed
Main references (Sources)	<ol style="list-style-type: none"> 1. Finny RI, Thomas GB (Eds.); Calculus and Analytical Geometry. 2. Daniel WW (ED.), Foundation for Analysis in the Health Science, 4th ed
Recommended supporting books and references (Scientific journals, reports...)	<ol style="list-style-type: none"> 1. Finny RI, Thomas GB (Eds.); Calculus and Analytical Geometry. 2. Daniel WW (ED.), Foundation for Analysis in the Health Science, 4th ed
Electronic references, Websites	Scientific movies

Course Description (14)

1. Course Title		Computer science 1st Stage
2. Course Code		401213
3. Semester/Year		Second Semester/ 2024-2025
4. Description Preparation Date		2024
5. Available Attendance Form		Official working hours
6. No. of Hours (Total)		2 hours * 15 weeks
7. No. of Credits (Total)		1
8. Course Administrator Name		A. Teach. Mustafa Jamal
9. E-mail		mustafajamal8090@gmail.com
10. Course Objectives: Understanding the Internet, its components, and how to search the Internet to write research and medical reports. And also learn how to create reports ready for presentation in Microsoft Office Power Point.		
Knowledge	A1	Know the types of Internet networks and how they work.
	A2	Knowledge of devices for connecting to the Internet.
	A3	Creating and saving documents, entering, editing, and coordinating presentation on Power Point pages.
	A4	Working on creating presentation files on the Power Point program.
Skills	B1	Giving a comprehensive idea about the use of the Internet and its harnessing the medical field.
	B2	Using programs to edit and display texts and tables and draw compounds and laboratory devices.
	B3	Giving a complete idea about the uses of Power Point.
	B4	View interactive diagrams to see how the display is implemented.
Values	C1	Requesting periodic reports regarding the material.
	C2	Interactive assessment through lecture.
	C3	Conducting examinations periodically.

	C4	Surprise practical tests.	
11. Teaching and Learning Strategies			
1.	Conduct research on the subject.	4.	Discuss group work.
2.	Preparing joint reports on topics related to the Internet and medical research.	5.	Use a collaborative strategy to help during the education process
3.	Encourage reading published blogs.	6.	Report writing is related to lecture topics.

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	Two hours	Definition of the Internet, Internet devices, and connection methods.	What is the Internet and how to connect devices to it.	smart board	Tests, reports, and daily assignments
2	Two hours	Types of Internet networks and how to search on the Internet.	The Internet and types.	smart board	Tests, reports, and daily assignments
3	Two hours	Knowledge of the principles and importance of PowerPoint.	PowerPoint and the main components of PowerPoint.	smart board	Tests, reports, and daily assignments
4	Two hours	Working with written texts.	Knowledge of entering, arranging and coordinating written texts.	smart board	Tests, reports, and daily assignments
5	Two hours	Design the presentation file.	Designing slides and arranging their contents.	smart board	Tests, reports, and daily assignments
6	Two hours	Tables.	Knowledge of entering and arranging tables.	smart board	Tests, reports, and daily assignments
7	Two hours	The pictures.	Know how to insert, arrange and format images.	smart board	Tests, reports, and daily assignments
8	Two hours	The movement.	Know how to move texts and images and switch between slides professionally.	smart board	Tests, reports, and daily assignments
9	Two	Protection.	Know how to protect file	smart board	Tests, reports, and daily

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	hours		and data		assignments
10	Two hours	Communicating information.	Knowing how to format the file and how to present and communicate information in an interesting and practical way.	smart board	Tests, reports, and daily assignments
11	Two hours	Print the file.	Know how to print file contents and their types.	smart board	Tests, reports, and daily assignments
12	Two hours	Share file.	Know how to share the file with others professionally and work collaboratively.	smart board	Tests, reports, and daily assignments
13	Two hours	Presentation.	Groups of students deliver a lecture using PowerPoint.	smart board	Tests, reports, and daily assignments

13. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the studentsuch as daily preparation, daily, oral, monthly, written exams, reports etc .	
14. Learning & Teaching Resources	
Required textbooks. (curricular if any)	https://kayaconnect.org/course/info.php?id=3050&lang=ar&gad_source=1&gclid=Cj0KCQjwzZmwBhD8ARIsAH4v1gVSUTwES8XTn4g-xQhiJdazzZcGp7e3UydHskummgTz1PLBYSHEjBgaAr57EALw_wcB
Main References (sources)	- https://mehnawy.com/blog/what-is-powerpoint - I. Wigmore, "Computer Network," 2014. https://whatis.techtarget.com/definition/access-network .
Recommended Books & References (Scientific Journals, Reports ...)	Vivekkothari, "Network Access." https://www.geeksforgeeks.org/access-networks/ .
Websites or Electronic References	C. G. Bell, A. N. Habermann, J. McCredie, R. Rutledge, and W. Wulf, <i>Computer networks</i> , vol. 3, no. 5. 2011.

Course Description (6)

1. Course Title	Computer science 1st Stage	
2. Course Code	401106	
3. Semester/Year	First Semester/ 2024-2025	
4. Description Preparation Date	2024	
5. Available Attendance Form	Official working hours	
6. No. of Hours (Total)	2 hours * 15 weeks	
7. No. of Credits (Total)	1	
8. Course Administrator Name	A. Teach. Mustafa Jamal	
9. E-mail	mustafajamal8090@gmail.com	
10. Course Objectives :	Understand computer science principles and terminology used in daily life. View and learn the basics of computer systems components and parts and their relationship to medicine and medical applications, in addition to the Microsoft Office Word program.	
Knowledge	A1	Knowledge of common computer types and systems.
	A2	Knowledge of the main parts of computer hardware.
	A3	Create and save documents. Enter, edit, and format paragraphs on pages.
	A4	Work with tables, charts and graphical documents.
Skills	B1	Giving a comprehensive idea about the use of computers and harnessing them in the medical field.
	B2	Using programs to edit texts, tables, and draw compounds.
	B3	Give a complete idea about the uses of Office Word.
	B4	View interactive diagrams to see the implementation of tables.
Values	C1	Requesting periodic reports regarding the material.
	C2	Make tests periodically.
	C3	Interactive assessment through lecture.
	C4	Surprise practical tests.

11. Teaching and Learning Strategies

1.	Conduct research on the subject.	4.	Discuss group work.
2.	Preparing joint reports on computer topics.	5.	Use a collaborative strategy to help during the education process
3.	Encourage reading published blogs.	6.	Writing self-reports.

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	Two hours	Definition of computer and computer functions	computer	smart board	Tests, reports, and daily assignments
2	Two hours	Input and output devices	Computer hardware and main components	smart board	Tests, reports, and daily assignments
3	Two hours	System software and application software	Operating Systems	smart board	Tests, reports, and daily assignments
4	Two hours	Storage units and speed units	Computer units measurement	smart board	Tests, reports, and daily assignments
5	Two hours	Types of computers in the world	Computer classifications	smart board	Tests, reports, and daily assignments
6	Two hours	Computer features (speed, memory, etc.)	Computer properties	smart board	Tests, reports, and daily assignments
7	Two hours	Types of viruses and how to protect against them	Computer viruses	smart board	Tests, reports, and daily assignments
8	Two hours	Open Word and Use the Start Screen Understanding Office and the Cloud Explore the Word Window Sign In to Your Account Work with Backstage View Change the Color Scheme and Background Locate Commands on the Ribbon	Getting Started with Microsoft Word & Creating and Saving Documents	smart board	Tests, reports, and daily assignments

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		<p>Give Commands Using the Keyboard and Mouse</p> <p>Using Word on Tablets and Phones</p> <p>Using Word in OneDrive and Microsoft Teams</p> <p>Work with the Mini Toolbar and Context Menus</p> <p>Enter Text in a Document</p> <p>Move the Insertion Point Around Document</p> <p>Switch Document View Understanding Document View</p> <p>Work with the Navigation Pane</p> <p>Using Focus Mode Using Immersive Reader & Start a New Document</p> <p>Save a Document to Your Computer, Save a Document to Cloud</p> <p>Recover an Unsaved Document</p> <p>Save a Document in a Different Format, Save Document in PDF or XPS Format, Set Options for Saving Documents, Open Word Document</p> <p>Open a Document That Uses a Different Format Open a Document from the Cloud</p> <p>Switch Between Open Documents</p>			
9	Two hours	<p>Insert and Add Text, Insert Symbols and Special Characters</p> <p>Create a Hyperlink Delete Text</p> <p>Insert Blank Lines, Undo, Repeat and Repeat, Changes, Select TextMark and Find Your Place with Bookmarks, Move or Copy Text</p> <p>Share Text Between Documents</p>	Entering Text into Document & Editing and Proofing Text	smart board	Tests, reports, and daily assignments

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		<p>Move or Copy Several Selections Work in Read Mode View Zoom In or Out Translate Text Set Options for Additional Actions Use Additional Actions Search for Text Replace Text or Other Items Copy Words in a Document Automatically Correct Mistakes Automatically Insert Frequently Used Text Check Spelling and Grammar Find Synonyms, Antonyms, and Definitions</p>			
10	Two hours	<p>Understanding How Word's Formatting Works Change the Font Change the Font Size Emphasize Information with Bold, Italic, or Underline Create Superscripts and Subscripts Change Text Case Change Text Color Apply Text Effects Apply a Font Style Apply Highlighting to Text Apply Strikethrough to Text Copy and Paste Text Formatting Remove Text Formatting Set the Default Font for All New Documents Change Text Alignment Set Line Spacing Within a Paragraph Line Spacing Between Paragraphs Create a Bulleted or Numbered List Display Formatting Markers Hide or Display the Ruler Indent Paragraphs Set and Use Tabs Add Paragraph Border Review and</p>	<p>Formatting Text & Paragraphs</p>	smart board	Tests, reports, and daily assignments

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		Change Formatting Comp Formatting Apply Formatt Using Styles Switch Styles S Formatting in a Style Expand Collapse Document Content Mod a Style Add Paragraph Shading			
11	Two hours	Adjust Margins Insert and Manage Page Breaks Control Text Flow and Text Direction Align Text Vertically on the Page Change Page Orientation Insert a Section Break Add Page Numbers to a Document Add Line Numbers to a Document Using the Building Blocks Organizer Add a Header Footer Vary Headers or Foot Within a Document Add a Footn Add an Endnote Find, Edit, Delete Footnotes or Endno Convert Footnotes to Endnotes Vice Versa Generate a Table Contents Add a Watermark Ad Page Border Apply Docum Themes and Style Sets Cre Newspaper-Style Columns Tr the Changes to a Document L and Unlock Tracking Revi Tracked Changes Collaborate Real Time on a Document Comp Two Versions of a Docum Combine Changes into a Sin Document Work with Comme Work with Protected Docume	Formatting Pages & Reviewing Finalizing Documents	smart board	Tests, reports, and daily assignments

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		Inspect a Document Before Sharing It Mark a Document as Final Create a Master Document Work in a Master Document			
12	Two hours	Create a Table Change the Row Height or Column Width Resize a Table Add or Delete a Row Add or Delete a Column Set Cell Margins Add Space Between Cells Merge Two or More Cells into a Single Cell Split One Cell into Two or More Cells Split a Table into Two Add a Formula to a Table Align Text in Cells Add Shading to Cells Change Cell Borders Format a Table Using a Table Style Add a Chart Add Decorative Text Using WordArt Insert an Online Picture Insert a Video Add a Screenshot Add a Shape Add a Text Box Move or Resize a Graphic Understanding Graphic Modification Techniques Understanding Text Wrapping and Graphics Wrap Text Around Graphic Work with Diagrams	Working with Tables and Charts & Working with Graphics	smart board	Tests, reports, and daily assignments
13	Two hours	Control the Display of Formatting Marks Customize the Status Bar Hide or Display Ribbon Buttons Create Your Own Ribbon Group Create Your Own Ribbon Tab Customize the Quick Access Toolbar Create	Customizing Word & Printing, Sharing and Mail Merge	smart board	Tests, reports, and daily assignments

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		Custom Keyboard Shortcuts & Preview and Print a Document Print on Different Paper Sizes Print an Envelope Share a W Document on OneDrive Email Document as an Attachment Cre Letters to Mass Mail Create Lat for a Mass Mailing			
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13. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the students such as daily preparation, daily, oral, monthly, written exams, reports etc .

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Vermaat, Misty E. Microsoft Office 2013 Introductory. Cengage Learning, p.IT3. 2014
Main References (sources)	http://www.tutorialspoint.com/computer_fundamentals/computer_quick_guide.htm
Recommended Books & References (Scientific Journals, Reports ...)	itservices-help@ualr.edu
Websites or Electronic References	http://en.wikipedia.org/wiki/Computer_hardware

Course Description (21)

1. Course Title	Computer science 2^{ed} Stage	
2. Course Code	402106	
3. Semester/Year	First Semester/ 2024-2025	
4. Description Preparation Date	2024	
5. Available Attendance Form	Official working hours	
6. No. of Hours (Total)	2 hours * 15 week	
7. No. of Credits (Total)	1	
8. Course Administrator Name	A. Teach. Mustafa Jamal	
9. E-mail	mustafajamal8090@gmail.com	
10. Course Objectives:	Giving the student information about the importance of using Excel and how to use it in analyzing mathematical matters related to medical calculations, to help in solving complex mathematical matters.	
Knowledge	A1	Know how to use Excel program.
	A2	Knowledge of the main parts of Excel program.
	A3	Create and save documents. Enter, edit, and format paragraphs on pages.
	A4	Work with tables, charts and graphical documents.
Skills	B1	Giving a comprehensive idea about the Excel program and its use in the medical field.
	B2	Using programs to edit texts, tables, drawing compounds, and laboratory calculations.
	B3	Give a complete idea about the uses of Excel program.
	B4	View interactive diagrams to see the implementation of Excel features.
Values	C1	Requesting periodic reports regarding the material.
	C2	Conduct tests periodically.
	C3	Interactive assessment through lecture.
	C4	Surprise practical tests.

11. Teaching and Learning Strategies

1.	Conduct research on the subject.	4.	Discuss group work.
2.	Preparing joint reports on Excel topics.	5.	Use a collaborative strategy to help during the education process
3.	Encourage reading published blogs.	6.	Writing self-reports.

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	Two hours	The Excel environment: Navigating a worksheet, Spreadsheet terminology, Getting help.	What is Excel?	smart board	Tests, reports, and daily assignments
2	Two hours	Enter data into a spreadsheet: Entering and editing text and values, Cell comments.	Entry operations in Excel.	smart board	Tests, reports, and daily assignments
3	Two hours	Format a worksheet: Moving and copying data, Text formatting Row and column formatting, Number formatting, Conditional formatting, Additional formatting options.	Arrange the papers.	smart board	Tests, reports, and daily assignments
4	Two hours	Saving and updating workbooks.	Save data and papers.	smart board	Tests, reports, and daily assignments
5	Two hours	Enter a formula: Entering and editing formulas, Moving and copying formulas.	Edit formulas in Excel.	smart board	Tests, reports, and daily assignments
6	Two	Enter a function: Entering	Entering jobs and functions	smart board	Tests, reports, and daily

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	hours	functions, AutoSum, Other common functions.	in Excel.		assignments
7	Two hours	Create and use named ranges: Inserting and deleting ranges, rows, and columns.	Ranges.	smart board	Tests, reports, and daily assignments
8	Two hours	Create a simple chart: Chart basics, Pie Chart, Bar Chart, Modify data.	Drawing basics.	smart board	Tests, reports, and daily assignments
9	Two hours	Format Charts: Resize charts, Add and modify chart elements, apply chart layouts and styles, Move charts to a chart sheet.	Formatting charts.	smart board	Tests, reports, and daily assignments
10	Two hours	Insert a new worksheet and modifying existing worksheet.	Insert and edit papers.	smart board	Tests, reports, and daily assignments
11	Two hours	Insert rows and columns into a worksheet.	How to insert rows and columns.	smart board	Tests, reports, and daily assignments
12	Two hours	Sort and filter data: Use conditional filters, create custom conditional formatting rules, Create conditional formatting rules that use formulas, Manage conditional formatting rules.	How to sort data.	smart board	Tests, reports, and daily assignments

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13	Two hours	Create an Excel table: Create an Excel table from a cell range, convert a table to a cell range, Add or remove table rows and columns.	Tables and their ranges change.	smart board	Tests, reports, and daily assignments
14	Two hours	Printing: Preparing to print, Page Setup options, Printing worksheets.	Preparation and printing.	smart board	Tests, reports, and daily assignments

13. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the students such as daily preparation, daily, oral, monthly, written exams, reports etc	
14. Learning & Teaching Resources	
Required textbooks. (curricular if any)	Jelen, B., Juhasz, S. (2015). MrExcel XL: The 40 Greatest Excel Tips of All Time. United States: Holy Macro! Books.
Main References (sources)	Walkenbach, J. (2015). Excel 2016 Bible. United Kingdom: Wiley.
Recommended Books & References (Scientific Journals, Reports ...)	Quirk, T. J., Palmer– Schuyler, J. (2020). Excel 2019 for Human Resource Management Statistics: A Guide to Solving Practical Problems. Germany: Springer International Publishing.
Websites or Electronic References	Quirk, T. J., Palmer– Schuyler, J. (2020). Excel 2019 for Human Resource Management Statistics: A Guide to Solving Practical Problems. Germany: Springer International Publishing.

Course Description (28)

1. Course Title		Computer science 2^{ed} Stage
2. Course Code		402213
3. Semester/Year		Second Semester/ 2024-2025
4. Description Preparation Date		2024
5. Available Attendance Form		Official working hours
6. No. of Hours (Total)		2 hours * 15
7. No. of Credits (Total)		1
8. Course Administrator Name		A. Teach. Mustafa Jamal
9. E-mail		mustafajamal8090@gmail.com
10. Course Objectives: Giving the student information about the importance of using Excel and how to use it to analyze mathematical matters and add functions, in addition to the basics of SPSS and how to solve matters related to complex medical calculations.		
Knowledge	A1	Know how to insert functions into Excel.
	A2	Knowledge of the main parts of SPSS.
	A3	Creating and saving documents. Entering, editing and formatting paragraphs SPSS.
	A4	Working with numbers, numbers, and arithmetic analyzes in the food progr and SPSS.
Skills	B1	Giving a comprehensive idea about Excel and SPSS and harnessing them in the medical field.
	B2	Using programs to edit texts, tables, drawing compounds, and laboratory calculations.
	B3	Giving a complete idea about the uses of Excel and how to include functions.
	B4	View diagrams to see the implementation of SPSS features.
Values	C1	Requesting periodic reports regarding the material.
	C2	Conduct tests periodically.

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	C3	Interactive assessment through lecture.	
	C4	Surprise practical tests.	
11. Teaching and Learning Strategies			
1.	Conduct research on the subject.	4.	Discuss group work.
2.	Preparing joint reports on Excel topics.	5.	Use a collaborative strategy to help during the education process
3.	Encourage reading published blogs.	6.	Writing self-reports.

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	Two hours	Possibility of searching for missing values in tables	Use the VLOOKUP function	smart board	Tests, reports, and daily assignments
2	Two hours	Possibility of calculating values according to certain criteria	Use the COUNTIF function	smart board	Tests, reports, and daily assignments
3	Two hours	Create tables and use their features such as filters, alphabetical order, etc	Tables and filters	smart board	Tests, reports, and daily assignments
4	Two hours	Make a hyperlink in the same sheet and to other sheets	Hyperlink	smart board	Tests, reports, and daily assignments
5	Two hours	How to make a drop-down list	Drop down menus	smart board	Tests, reports, and daily assignments
6	Two hours	The ability to round numbers according to certain criteria	Use rounding functions	smart board	Tests, reports, and daily assignments
7	Two hours	The ability to convert letters from lowercase to uppercase and vice versa	Transfer functions	smart board	Tests, reports, and daily assignments
8	Two hours	Clean entries in pages.	Input and data cleaning	smart board	Tests, reports, and daily assignments
9	Two hours	Knowledge of statistical tests and variance	Statistical tests, T-test, One-way ANOVA,	smart board	Tests, reports, and daily assignments

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		analysis of materials.			
10	Two hours	Knowledge of the possibilities of vertical, multivariate and factor analysis.	Multivariate analysis, Factor analysis, Cluster analysis	smart board	Tests, reports, and daily assignments
11	Two hours	Know the basics of SPSS 21	Software used SPSS 21	smart board	Tests, reports, and daily assignments
12	Two hours	General description, functions and commands in SPSS	Data analysis with SPSS: general aspects, workflow, critical issues	smart board	Tests, reports, and daily assignments
13	Two hours	Knowledge of data analysis, general aspects and critical issues.	SPSS: general description, functions, menus, commands	smart board	Tests, reports, and daily assignments
14	Two hours	File management in SPSS	SPSS file management	smart board	Tests, reports, and daily assignments

13. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the students such as daily preparation, daily, oral, monthly, written exams, reports etc.	
14. Learning & Teaching Resources	
Required textbooks. (curricular if any)	Jelen, B., Juhasz, S. (2015). MrExcel XL: The 40 Greatest Excel Tips of All Time. United States: Holy Macro! Books.
Main References (sources)	Walkenbach, J. (2015). Excel 2016 Bible. United Kingdom: Wiley.
Recommended Books & References (Scientific Journals, Reports ...)	Quirk, T. J., Palmer–Schuyler, J. (2020). Excel 2019 for Human Resource Management Statistics: A Guide to Solving Practical Problems. Germany: Springer International Publishing.
Websites or Electronic References	النظام الاحصائي SPSS: فهم و تحليل البيانات الاحصائية. (n.d.). Jordan: (n.p.).

Course Description (57)

1. Course Title	Clinical chemistry	
2. Course Code	405104	
3. Semester/Year	First semester 2024-2025	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance at the college	
6. No. of Hours (Total)	Theoretical: 3 hours per week for 15 weeks Practical: two hours per week for 15 weeks	
7. No. of Credits (Total)	4 units	
8. Course Administrator Name	A.lec Ali.khalaf hasan	
9. E-mail	Ali.khalaf@albayan.edu.iq	
10. Course Objectives	<p>Helping to understand the principles of clinical chemistry</p> <p>Providing the student with the information and some skills necessary to conduct future studies, such as analyzing results and documents and using the Internet</p> <p>Providing a solid foundation for a successful career</p> <p>Ability to prepare seminars on advanced clinical chemistry</p> <p>Preparing the student how to conduct research in the field of clinical chemistry</p>	
Knowledge	A1	Statement of basic knowledge and principles in clinical chemistry
	A2	Enabling students to become familiar with the most important sources and references in clinical chemistry
	A3	Conducting practical experiments on theoretical concepts
	A4	Preparing reports on clinical chemistry topics
Skills	B1	Enabling the student to identify the normal levels of vital indicators within human body
	B2	Scientific reports
	B3	Participate in scientific discussions, workshops and conferences

	B4	
Values	C1	Enhancing the spirit of cooperation at work
	C2	Consolidating professional and ethical values among students
	C3	Training students in professional humanitarian work
	C4	
11. Teaching and Learning Strategies		
1.	Writing self-reports	4. Conducting practical and scientific experiments
2.	Discuss group work	5. Semester and final exams
3.	Quizzes	6. homework

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Giving students knowledge and encouraging them On reading	Liver function	Recruit Eldata show and Other means of explanation	Monthly written exams Oral exams
2	3	Giving students knowledge and encouraging them On reading	Calcium Metabolism	Recruit Eldata show and Other means of explanation	Monthly written exams Oral exams
3	3	Giving students knowledge and encouraging them On reading	Kidney +calcium	Recruit Eldata show and Other means of explanation	Monthly written exams Oral exams
4	3	Giving students knowledge and encouraging them On reading	endocrinology	Recruit Eldata show and Other means of explanation	Monthly written exams Oral exams
5	3	Giving students knowledge and encouraging them On reading	Hypothalamus	Recruit Eldata show and Other means of explanation	Monthly written exams Oral exams
6	3	Giving students knowledge and encouraging them On reading	Adrenal gland	Recruit Eldata Show and Other means of explanation	Monthly written exams Oral exams
7	3	Giving students knowledge and encouraging them On reading	Reproductive System	Recruit Eldata show and Other means of explanation	Monthly written exams Oral exams
8	3	Giving students knowledge and encouraging them	Pregnancy	Recruit Eldata show and Other means of explanation	Monthly written exams Oral exams

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		On reading			
9	3	Giving students knowledge and encouraging them On reading	Hyperlipidemia	Recruit Eldata show and Other means of explanation	Monthly written exams Oral exams
10	3	Giving students knowledge and encouraging them On reading	Hyperlipidemia	Recruit Eldata show and Other means of explanation	Monthly written exams Oral exams
11	3	Giving students knowledge and encouraging them On reading	Tumor markers	Recruit Eldata Show and Other means of explanation	Monthly written exams Oral exams
12	3	Giving students knowledge and encouraging them On reading	carbohydrates	Recruit Eldata Show and Other means of explanation	Monthly written exams Oral exams
13	3	Giving students knowledge and encouraging them On reading	carbohydrates	Recruit Eldata Show and Other means of explanation	Monthly written exams Oral exams
14	3	Giving students knowledge and encouraging them On reading	Acid-base balance	Recruit Eldata Show and Other means of explanation	Monthly written exams Oral exams
15	3	Giving students knowledge and encouraging them On reading	Clinical enzymology	Recruit Eldata Show and Other means of explanation	Monthly written exams Oral exams

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Clinical chemistry crook.8edition.2013
Main References (sources)	Clinical chemistry crook.8edition.2013
Recommended Books & References (Scientific Journals, Reports ...)	Clinical chemistry marshal.8edition.2016
Websites or Electronic References	Google scholar, PubMed, science direct

Course Description (58)

1. Course Title	Laboratory training	
2. Course Code	405105	
3. Semester/Year	Annual	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance inside the hospital	
6. No. of Hours (Total)	4 hours a week for 30 weeks	
7. No. of Credits (Total)	2 units	
8. Course Administrator Name	A. Inam Ahmed Amin	
9. E-mail	Ali.khalaf@albayan.edu.iq	
10. Course Objectives :	<p>Helping to understand chemical and biological analyses Providing a solid foundation for a successful career Providing the student with some basic skills that may be necessary for future studies, such as analyzing results and documents and using the Internet.</p> <p>Enables you to prepare seminars related to the training material</p>	
Knowledge	A1	Theoretical application to practical experiments
	A2	Statement of basic knowledge and principles in hospital training subject
	A3	
	A4	
Skills	B1	Preparing students' research projects
	B2	Practical reports
	B3	Holding conferences and workshops and participating in scientific discussions
	B4	
Values	C1	Educating students in professional humanitarian work
	C2	Promoting and consolidating professional and ethical values among students practicing the profession of pharmacist

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C3	Promote the spirit of cooperation and teamwork upon request
C4	Training students to respect the freedom of thought, expression, and creativity others

11. Teaching and Learning Strategies

1.	Using data show devices and showing lecture slides	4.	Conducting scientific discussions in class and presenting seminars
2.	View scientific videos on toxicology	5.	Surprise quizzes
3.	Giving homework	6.	Conducting seminars and writing reports

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	4	Enhancing the student's practical side	Testing basics Diagnostic, sample collection and transport, venipuncture, urine samples, stool samples.	Theoretical and practical application	Reports and exams
2	4	Enhancing the student's practical side	Testing basics Diagnostic, sample collection and transport, venipuncture, urine samples, stool samples.	Theoretical and practical application	Reports and exams
3	4	Enhancing the student's practical side	Biochemical tests: Fasting blood glucose, postprandial glucose	Theoretical and practical application	Reports and exams
4	4	Enhancing the student's practical side	Oral glucose tolerance test.	Theoretical and practical application	Reports and exams
5	4	Enhancing the student's practical side	Blood urea, blood creatinine	Theoretical and practical application	Reports and exams
6	4	Enhancing the student's practical side	Creatinine clearance, uric acid.	Theoretical and practical application	Reports and exams
7	4	Enhancing the student's practical side	Cholesterol and lipoproteins	Theoretical and practical application	Reports and exams
8	4	Enhancing the student's practical side	Triglyceride.	Theoretical and practical application	Reports and exams
9	4	Enhancing the student's practical side	Blood proteins	Theoretical and practical application	Reports and exams
10	4	Enhancing the student's practical side	Bilirubin.	Theoretical and practical application	Reports and exams
11	4	Enhancing the student's practical side	Calcium and inorganic phosphate	Theoretical and practical application	Reports and exams

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12	4	Enhancing the student's practical side	Serum chloride	Theoretical and practical application	Reports and exams
13	4	Enhancing the student's practical side	Alkaline phosphatase, acid phosphatase, alanine aminotransferase	Theoretical and practical application	Reports and exams
14	4	Enhancing the student's practical side	Aspartate aminotransferase, lactate dehydrogenase, creatine phosphokinase.	Theoretical and practical application	Reports and exams
15	4	Enhancing the student's practical side	Serological tests: VDRL	Theoretical and practical application	Reports and exams
16	4	Enhancing the student's practical side	ASO- Titer and Hepatitis Tests.	Theoretical and practical application	Reports and exams
17	4	Enhancing the student's practical side	C-reactive protein test Rheumatoid factor test, rose bengal test	Theoretical and practical application	Reports and exams
18	4	Enhancing the student's practical side	Typhoid fever test (test Widal, pregnancy test.	Theoretical and practical application	Reports and exams
19	4	Enhancing the student's practical side	General urine examination	Theoretical and practical application	Reports and exams
20	4	Enhancing the student's practical side	General stool examination	Theoretical and practical application	Reports and exams
21	4	Enhancing the student's practical side	Blood tests: red blood cell count, hemoglobin , PCV, balls indicators Red blood, urine samples collection.	Theoretical and practical application	Reports and exams
22	4	Enhancing the student's practical side	Blood classification, test	Theoretical and practical application	Reports and exams
23	4	Enhancing the student's practical side	Bleeding time	Theoretical and practical application	Reports and exams
24	4	Enhancing the student's practical side	Pigmentation methods	Theoretical and practical application	Reports and exams
25	4	Enhancing the student's practical side	Culture and sensitivity tests	Theoretical and	Reports and exams

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		side		practical application	
26	4	Enhancing the student's practical side	Agricultural media	Theoretical and practical application	Reports and exams
27	4	Enhancing the student's practical side	Methods of diagnosing bacteria	Theoretical and practical application	Reports and exams
28	4	Enhancing the student's practical side	Disc diffusion test of sensitivity To antibiotics	Theoretical and practical application	Reports and exams
29	4	Enhancing the student's practical side	Drug test to check the disc	Theoretical and practical application	Reports and exams
30	4	Enhancing the student's practical side	Drug testing to screen for diseases Bacterial	Theoretical and practical application	Reports and exams

13. Course Evaluation

Semester pursuit: 40 marks
Final exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	Google scholar, PubMed

Course Description (24)

1. Course Title	Medical microbiology 2	
2. Course Code	402209	
3. Semester/Year	2024-2025	
4. Description Preparation Date	2024-9-20	
5. Available Attendance Form	Attendance at collage	
6. No. of Hours (Total)	Theoretical:3Hr per week for 15 weeks Practical:2Hr per week for 15 weeks	
7. No. of Credits (Total)	4 units	
8. Course Administrator Name	Lect.Dr. Marwa jassim Lect. Khadija thaer	
9. E-mail	Khadijat.@albayan.edu.iq	
10. Course Objectives		
Knowledge	A1	know the rules of parasitic infections and know the types and strains of parasites and how to diagnose them
	A2	know the characteristic of the morphological and anatomical structure of viruses well as classify them according to genome type
	A3	The use of the drug affecting viruses in order to eliminate it and prevent its spread, especially epidemic viruses
	A4	knowledge, guidance and health awareness through the methods of transmission and source of infection Continuous follow-up of health recommendations and instructions issued by higher medical authorities and follow-up of the latest scientific developments and medical in order to control and eliminate epidemic diseases and prevent their spread globally
Skills	B1	Knowing the rules of parasitic and viral infections and knowing the types of parasites and viral strains and how to diagnose them and the use of the drug affecting parasites and viruses in order to eliminate it and prevent its spread

	B2	<p>e graduate's full scientific knowledge about dangerous epidemic diseases such as Ebola, Lhasa or AIDS and other diseases that and how to control it and prevent its spread and the use of the appropriate drug for it and provide guidance and health awareness to the individual to prevent</p> <p>To prevent its spread according to international medical mechanisms and advise the graduate must be fully aware of these recommendations</p>	
	B3	<p>Know the characteristic of the morphological and anatomical structure parasites and viruses as well as their classification by genome type</p>	
	B4	<p>In-depth study of vaccines and how to manufacture them and the use of the modern scientific methods to produce a vaccine at the lowest cost, free of side effects, purity and high effectiveness of the importance of vaccines at the present time as a key factor to reduce the spread of diseases</p>	
Values	C1	Educating students on professional humanitarian work	
	C2	Promote collaboration and teamwork upon request	
	C3	Promoting and consolidating professional and ethical values among students to practice the profession of pharmacist	
	C4	Develop a sense of responsibility among students during the study period and during work	
11. Teaching and Learning Strategies			
1.	Oral exams	4.	Giving theoretical lectures
2.	<p>Actual training in hospitals and direct access to the types of forms sent, the method of examination and evaluation and the optimal diagnosis</p> <p>And identify the type of pathological bacteria and study</p>	5.	Holding conferences, seminars and seminars

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	their characteristics and how to identify them		
3.	Giving homework	6.	Technical education in the laboratory through practical material

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Student Acquisition Information in the field of parasites to Required level	roduction and classification of the human parasites.	use Scientific references And the use of t painting and the data show and t explanatory videos	Exams Editorial Daily
2	2	Student Acquisition Information in the field of parasites to Required level	Intestinal protozo Entamoeba histolytica	use Scientific references And the use of t painting and t data show and t explanatory videos	Exams Editorial Daily
3	2	Student Acquisition Information in the field of parasites to Required level	mmensal amoeba; tamoeba coli ; Endolimax nana ; Iodomoeba buetschillii .	use Scientific references And the use of t painting and t data show and t explanatory	Exams Editorial Daily

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				videos	
4	2	Student Acquisition Information in the field of parasites to Required level	gellate of digestive tract: Giardia lamblia ; Chilomastix mesenili	use Scientific references And the use of t painting and the d show and t explanatory videos	Oral exam
5	2	Student Acquisition Information in the field of parasites to Required level	gellate of genital organs: trichomonas vaginalis ; Ciliate protozoa; Balantidium coli.	use Scientific references And the use of t painting and t data show and t explanatory videos	Oral exam
6	2	Student Acquisition information in the field of parasites to Required level	gellate of blood and tissues: Leishmania donovani ; Leishmania tropica .	use Scientific references And the use of t painting and t data show and t explanatory videos	Oral exam
7	2	Student Acquisition Information in the field of parasites to Required level	Trypanosoma gambiens ; Trypanosome rhodesiense ; Trypanosoma cruzi .	use Scientific references And the use of t painting and t	Oral exam

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				data show and t explanatory videos	
8	2	Student Acquisition Information in the field of parasites to Required level	larial parasite: Life cycle of Plasmodium species; Plasmodium vivax Plasmodium falciparum	use Scientific references And the use of t painting and t data show and t explanatory videos	Oral exam
9	2	Student Acquisition Information in the field of parasites to Required level	Plasmodium malariae ; Plasmodium ovali .	use Scientific references And the use of t painting and t data show and t explanatory videos	Exams Editorial Daily
10	2	Student Acquisition Information in the field of parasites to Required level	Toxoplasma gondii ; Cestoidea; Taenia saginata ; Taenia solium .	use Scientific references And the use of t painting and t data show and t explanatory videos	Exams Editorial Daily
11	2		Trichomonas nana ;	use	Exams

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		Student Acquisition Information in the field of parasites to Required level	hinococcus granulosus ; Echinococcus multilocularis .	Scientific references And the use of t painting and t data show and t explanatory videos	Editorial Daily
12	2	Student Acquisition Information in the field of parasites to Required level	ematoda: Life cycle of Schistoma species; Schistoma japonicum ; Schistoma mansoni ; Schisto haematobium	use Scientific references And the use of t painting and t data show and t explanatory videos	Exams Editorial Daily
13	2	Student Acquisition Information in the field of parasites to Required level	matoda: Trichurs chuirea ; Entrobilus vermicularis .	use Scientific references And the use of t painting and t data show and t explanatory videos	Oral exam
14	2	Student Acquisition Information in the field of parasites to Required level	Ascaris lumbricoides Ancylostoma duodenale	use Scientific references And the use of t painting and t	Homework

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				data show and t explanatory videos	
15	2	Student Acquisition Information in the field of parasites to Required level	Methods of diagnosis parasites.	use Scientific references And the use of t painting and t data show and t explanatory videos	Home work

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Review of Medical microbiology and immunology, Warren Levinson
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	Youtube, elsiver , wikibidia
Websites or Electronic References	NCBI,WHO

Course Description (17)

1. Course Title	Medical Microbiology 1	
2. Course Code	402102	
3. Semester/Year	2023-2024	
4. Description Preparation Date	2024-9-20	
5. Available Attendance Form	Attendance at the collage	
6. No. of Hours (Total)	Theoretical:2Hr per week for 15 weeks Practical:2Hr per week for 15 weeks	
7. No. of Credits (Total)	4 units	
8. Course Administrator Name	Lect. Khadija Thair, lect. Haidar ahmed	
9. E-mail	Khadijat.@albayan.edu.iq	
10. Course Objectives		
Knowledge	A1	Preparing the graduate to deal properly and know the sound medical foundation in dealing with patients as well as with both the specialized staff and the training staff in order to reach the best ways to serve the patient
	A2	Give the student full knowledge of medical information and how to deliver it to patient using the method of culture and health awareness to prevent diseases directly and indirectly
	A3	Making the graduate have the ability to diagnose microbial in educational and diagnostic laboratories in the Ministry of Health and in private laboratories as well as in the quality control laboratories of pharmaceutical laboratories
	A4	Using health awareness and guidance on how to use sterilizers and disinfectants and warning of the wrong method and the side effects it causes that may lead to pathological conditions on the patient's health
Skills	B1	To know fully about the rules of bacterial infections and know the types of bacterial strains and how to diagnose them
	B2	The use of the drug that affects pathogenic bacteria according to internationally applicable allergy test

	B3	Knowing the characteristic of each pathological bacterium from the formal and anatomical aspects and using the best diagnostic methods applied globally
	B4	Full knowledge of how to control and prevent epidemic infection as a result of bacterial infection
Values	C1	Educating students on professional humanitarian work and developing a sense of responsibility among students during the study period and during work
	C2	Promoting and consolidating professional and ethical values among students to practice the profession of pharmacist
	C3	Promote collaboration and teamwork upon request
	C4	Training students to respect the freedom of thought, expression and creativity of others

11. Teaching and Learning Strategies

1.	Oral exams	4.	Holding conferences, seminars and seminars
2.	Giving theoretical lectures	5.	Technical education in the laboratory through practical material
3.	Actual training in hospitals and direct access to the types of forms sent, the method of examination and evaluation and the optimal diagnosis And identify the type of pathological bacteria and study their characteristics and how to identify them	6.	Giving homework

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Students acquire knowledge in the field of Laboratories and the mechanism of their safe use to the required level. W mastery of the use of microscope	Orientation to the laboratory Rules of conduct and general safety. Microscopic techniques Bright-field light microscope	Data Show with clarification of the tools through its presentation	Daily Exams Editorial
2	2	The student acquires information about microorganisms; pigmentation of bacteria and watching them on microscope	Examination of stained microorganisms; Smear preparation and simple staining; Gram staining.	Data Show With Clarity of T To Throg Presentation	Daily Exams Editorial
3	2	Student Acquisition Information in the field of Microbiology into Required level	The hanging drop slide and bacterial motility; Acid-fast staining procedure	Data Show With Clarity of T To Throg Presentation	Daily Exams Editorial
4	2	The student acquires information and benefits bacterial spores and the mechanism of pigmentation	Bacterial spores and endospores staining; Microbiological culture media and sterilization; methods of inoculation and	Data Show and practical experience through groups	Daily Exams Editorial

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			isolation of pure culture.		
5	2	Students acquire knowledge in the field of Microbiology to the required level and the use of antibiotics	tion of dyes and antibiotics; zymes assays for some specific microbial enzymes.	Data Show a practical experience through groups	Oral exam
6	2	Students acquire knowledge in the field of Microbiology to the required level and clinical testing	Assays for specific metabolic activities; Acid and gas production from: Carbohydrate fermentation; Triple sugar iron agar IMVIC tests.	Data Show a practical experience through groups	Oral exam
7	2	Students acquire knowledge in the field of Microbiology to the required level and knowledge of the characteristics of the bacterial strain	Systemic bacteriology: Staphylococci spp.	Data Show a explanatory videos	Oral exam
8	2	Students acquire knowledge in the field of Microbiology to the required level and knowledge of the characteristics of the bacterial strain	Streptococci species.	Data Show a explanatory videos	Exams Editorial Daily
9	2	Students acquire knowledge	Salmonella species	Data Show a	Exams

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		in the field of Microbiology to the required level and knowledge of the characteristics of the bacterial strain		explanatory videos	Editorial Daily
10	2	students acquire knowledge in the field of Microbiology to the required level and knowledge of the characteristics of the bacterial strain	Shigella species	Data Show and explanatory videos	Oral exam
11	2	students acquire knowledge in the field of Microbiology to the required level and knowledge of the characteristics of the bacterial strain	Pseudomonas species	Data Show and explanatory videos	Oral exam
12	2	students acquire knowledge in the field of Microbiology to the required level and knowledge of the characteristics of the bacterial strain	Proteus species	Data Show and explanatory videos	Exams Editorial Daily
13	2	students acquire knowledge in the field of Microbiology to the required level and knowledge of the characteristics of the bacterial strain	Escherichia coli	Data Show and explanatory videos	Exams Editorial Daily

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		bacterial strain			
14	2	students acquire knowledge in the field of Microbiology to the required level and knowledge of the characteristics of the bacterial strain	Klebsiella species.	Data Show explanatory videos	Exams Editorial Daily
15	2	students acquire knowledge in the field of Microbiology to the required level and knowledge of the characteristics of the bacterial strain	Candida albicans	Data Show explanatory videos	Oral exam

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks....

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Jawetz Melnick & Adelbergs Medical microbiology 28E
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	Power point , youtube, elsiver
Websites or Electronic References	NCBI, WHO

Course Description (27)

1. Course Title	Pharmacognosy and phytotherapy Pharmacognosy I	
2. Course Code	402212	
3. Semester/Year	2024-2025	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance at the college	
6. No. of Hours (Total)	Theoretical: three hours per week for 15 weeks Practical: two hours per week for 15 weeks	
7. No. of Credits (Total)	4 units	
8. Course Administrator Name	Lect. Dr. RUAA AZIZ JASSIM Lect. FARAH FAWZI	
9. E-mail	ruaa.aziz@albayan.edu.iq	
10. Course Objectives		
Knowledge	A1	study drugs and medicinal plants, studying plant chemistry which include extraction and isolation of active compounds from natural products, and raise students' awareness of the importance of plant compounds in medicine and nutrition.
	A2	
	A3	
	A4	
Skills	B1	Enhancing communication skills with patients and medical staff during treatment phases.
	B2	Empowering students to possess skills in preparing medications derived from plants.

	B3	Laboratory experiments
	B4	
Values	C1	Introducing students to the importance of active ingredients found within plants
	C2	How to extract active ingredients using the latest modern scientific methods
	C3	
	C4	
11. Teaching and Learning Strategies		
1.	Quizzes and oral exam.	4. Encouraging reading books, research, and doing research Organizing conferences and seminars
2.	Using data show devices and showing lecture slides	5. Surprise quizzes
3.	Conducting scientific experiments, performing seminars, and writing reports	6. Participate in workshops, conferences

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Scope of pharmacognosy	General Introduction: The Scope Pharmacognosy, definitions and basic principle	Data show	theoretical exam, Class discussions
2	3	Drugs, official and non official drugs	Drugs from natural sources: crude drugs, official and non official drugs.	Data show	theoretical exam, Class discussions
3	3	Classification of natural products	Classification of natural products.	Data show	theoretical exam, Class discussions
4	3	taxonomy	Plant nomenclature and taxonomy.	Data show	theoretical exam, Class discussions
5	3	Production of crude drug	Production of crude drug: Cultivation, collection, drying and storage	Data show	theoretical exam, Class discussions
6	3	deterioration	Deterioration of crude natural products.	Data show	theoretical exam, Class discussions
7	3	Natural product	Chemistry of natural drug products.	Data show	theoretical exam, Class discussions
8	3	Quality control	Quality control: Evaluation of natural products: macroscopical evaluation; physical evaluation; chemical evaluation;	Data show	theoretical exam, Class discussions
9	3	extraction	Phytochemical investigation of herbal products: Extraction of the plant material; Separation and isolation of constituents	Data show	theoretical exam, Class discussions

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10	3	chromatography	Separation technique: Introduction; Mechanism of separation and classification based on type of technique;	Data show	theoretical exam, Class discussions
11	3	chromatography	Thin layer chromatography;	Data show	theoretical exam, Class discussions
12	3	chromatography	Ion-exchange chromatography Gel filtration chromatography	Data show	theoretical exam, Class discussions
13	3	chromatography	Column chromatography; Gas chromatography; HPLC;	Data show	theoretical exam, Class discussions
14	3	chromatography	Gas chromatography	Data show	theoretical exam, Class discussions
15	3	Tissue culture	Tissue culture of medicinal plant: Introduction and history; laboratory of the plant tissue culture; aseptic techniques Application of plant tissue culture; environmental biological control; plant growth regulators.	Data show	theoretical exam, Class discussions

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Trease and Evans Pharmacognosy; 15th ed., 2009 for theoretical Practical Guide for Second Grade in Practical Pharmacology
Main References (sources)	Michael Heinrich, Joanne Barnes; Fundamentals of pharmacognosy and phytotherapy 2017
Recommended Books & References (Scientific Journals, Reports ...)	Fundamentals of Pharmacology and Herbal Treatment
Websites or Electronic References	World health organization, FDA (U.S. Food and Drug Administration), NCBI

Course Description (31)

1. Course Title	Pharmacognosy and phytotherapy Pharmacognosy II	
2. Course Code	403102	
3. Semester/Year	2023-2024	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance at the college	
6. No. of Hours (Total)	Theoretical: three hours per week for 15 weeks Practical: two hours per week for 15 weeks	
7. No. of Credits (Total)	3 units	
8. Course Administrator Name	Lect. Dr. RUAA AZIZ JASSIM Lect. HASSAN ALAA-ALDIN	
9. E-mail	ruaa.aziz@albayan.edu.iq	
10. Course Objectives		
Knowledge	A1	Extraction and isolation of active components using standard methods.
	A2	Diagnosing and evaluating isolated substances using physical, chemical, and chromatographic methods, as well as studying phytotherapy and tissue culture techniques used in the production of natural products.
	A3	Discussing the therapeutic efficacy of the main varieties of plant compounds and their interactions with other medications.
	A4	Evaluating the use of plants and their products as medicinal materials and enabling students to acquire and understand methods of extracting and isolating active substances from plants.
Skills	B1	Enhancing communication skills with patients and medical staff during treatment phases.
	B2	Empowering students to possess skills in preparing medications derived from

		plants.
	B3	Laboratory experiments
	B4	
	C1	Introducing students to the importance of active ingredients found within plants
Values	C2	How to extract active ingredients using the latest modern scientific methods
	C3	study drugs and medicinal plants, studying plant chemistry which includes extraction and isolation of active compounds from natural products, and raising students' awareness of the importance of plant compounds in medicine and food.
	C4	
	11. Teaching and Learning Strategies	
1.	Quizzes and oral exam.	4. Encouraging reading books, research, and doing research Organizing conferences and seminars
2.	Using data show devices and showing lecture slides	5. Surprise quizzes
3.	Conducting scientific experiments, performing seminars, and writing reports	6. Participate in workshops, conferences

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Carbohydrates.	Carbohydrates., natural products	Data show	theoretical exam, Class discussions
2	2	lignans	Lignana	Data show	theoretical exam, Class discussions
3	2	Cumarin	Cumarin	Data show	theoretical exam, Class discussions
4	2	flavonoids	Flavonoids	Data show	theoretical exam, Class discussions
5	2	glycosides	Biosynthesis, physical and chemical properties of glycosides	Data show	theoretical exam, Class discussions
6	2	glycosides	Types of glycosides: Isothiocyanate glycosides; aldehyde glycosides; alcoholic glycosides; phenolic glycosides; lactone glycosides; coumarins and chromones.glycosides cardiac glycosides; saponin glycosides; anthraquinone glycosides; flavonoid glycosides; cyanoglucosides.	Data show	theoretical exam, Class discussions
7	2	glycosides	Plants contain glycosides	Data show	theoretical exam, Class discussions
8	2	tannins	Tannins: types of tannins Plants contain tanins	Data show	theoretical exam, Class discussions
9	2	lipids	Lipids	Data show	theoretical exam, Class discussions

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10	2	terpins	Terpins,	Data show	theoretical exam, Class discussions
11	2	Volatiles oils	Introduction; chemistry of volatile oils; biosynthesis of volatile oils;	Data show	theoretical exam, Class discussions
12	2	Volatiles oils	hydrocarbons as volatile oils; alcohols as volatile oils; aldehydes as volatile oils, Ketones as volat oils; Phenols as volatile oils; Oxides as volatile oils; Ester as volatile oils; Phenolic ethers volatile oils.	Data show	theoretical exam, Class discussions
13	2	Volatiles oils	Plants contain volatile oil	Data show	theoretical exam, Class discussions
14	2	resins	Resins and resin combinatio	Data show	theoretical exam, Class discussions
15	2	Non- medicinal toxic plants	Non- medicinal toxic plants	Data show	theoretical exam, Class discussions

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Trease and Evans Pharmacognosy; 15th ed., 2009 for theoretical Practical Guide for third Grade in Practical Pharmacology
Main References (sources)	Robbers JE, Speedie MK, Tyler VE (Eds.); Pharmacognosy and Pharmacobiotechnology; the latest edition.
Recommended Books & References (Scientific Journals, Reports ...)	Fundamentals of Pharmacology and Herbal Treatment
Websites or Electronic References	World health organization, FDA (U.S. Food and Drug Administration), NCBI

Course Description (39)

1. Course Title	Pharmacognosy and phytotherapy Pharmacognosy III	
2. Course Code	403211	
3. Semester/Year	2024-2025	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance at the college	
6. No. of Hours (Total)	Theoretical: two hours per week for 15 weeks Practical: two hours per week for 15 weeks	
7. No. of Credits (Total)	3 units	
8. Course Administrator Name	Lect. Dr. RUAA AZIZ JASSIM Lect. HASSAN ALAA-ALDIN	
9. E-mail	ruaa.aziz@albayan.edu.iq	
10. Course Objectives		
Knowledge	A1	Chemistry of natural products is studied, specifically alkaloids and antibiotics.
	A2	Diagnosing and evaluating isolated substances using physical, chemical, and chromatographic methods.
	A3	Discussing the therapeutic efficacy of the main varieties of plant compounds and their interactions with other medications.
	A4	Assessing the use of plants and their products as medicinal materials, and enabling students to acquire and understand methods of extracting and isolating active substances from plants.
Skills	B1	Enhancing communication skills with patients and medical staff during treatment phases.

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	B2	Empowering students to possess skills in preparing medications derived from plants.
	B3	Laboratory experiments
	B4	
Values	C1	Introducing students to the importance of active ingredients found within plants
	C2	How to extract active ingredients using the latest modern scientific methods
	C3	
	C4	
11. Teaching and Learning Strategies		
1.	Quizzes and oral exam.	4. Encouraging reading books, research, and doing research Organizing conferences and seminars
2.	Using data show devices and showing lecture slides	5. Surprise quizzes
3.	Conducting scientific experiments, performing seminars, and writing reports	6. Participate in workshops, conferences

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	alkaloids	Introduction; Physical and chem properties;.	Data show	theoretical exam, Class discussions
2	3	alkaloids	; pyridine, piperidine alkaloids	Data show	theoretical exam, Class discussions
3	3	alkaloids	tropane alkaloids	Data show	theoretical exam, Class discussions
4	3	alkaloids	Quinoline tropan alkaloids	Data show	theoretical exam, Class discussions
5	3	alkaloids	iso-quinoline alkaloids	Data show	theoretical exam, Class discussions
6	3	alkaloids	indole alkaloids	Data show	theoretical exam, Class discussions
7	3	alkaloids	imidazole alkaloids	Data show	theoretical exam, Class discussions
8	3	alkaloids	Steroidal alkaloids	Data show	theoretical exam, Class discussions
9	3	alkaloids	lupinane alkaloids; alkaloidal amines; pu alkaloids.	Data show	theoretical exam, Class discussions
10	3	antibiotics	Antibiotics: Natural sources;	Data show	theoretical exam, Class discussions
11	3	antibiotics	biosynthetic pathways of antibiotic	Data show	theoretical exam, Class discussions
12	3	antibiotics	isolation and purification of	Data show	theoretical exam,

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			antibiotics classification of antibiotics		Class discussions
13	3	phytotherapy	phytotherapy :Introduction	Data show	theoretical exam, Class discussions
14	3	phytotherapy	principles,medicinal plants in selec health care systems	Data show	theoretical exam, Class discussions
15	3	phytotheraphy	phytomedcines used in pharmacy medicine	Data show	theoretical exam, Class discussions

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Robbers JE, Speedie MK, Tyler VE (Eds.); Pharmacognosy and Pharmacobiotechnology; the latest edition Practical Guide for third Grade in Practical Pharmacology
Main References (sources)	Michael Heinrich, Joanne Barnes; Fundamentals of pharmacognosy and phytotherapy 2017
Recommended Books & References (Scientific Journals, Reports ...)	Fundamentals of Pharmacology and Herbal Treatment
Websites or Electronic References	World health organization, FDA (U.S. Food and Drug Administration), NCBI

Course Description (9)

1. Course Title	Human anatomy
2. Course Code	401208
3. Semester/Year	Second semester 2024-2025
4. Description Preparation Date	20/9/2024
5. Available Attendance Form	Presence only
6. No. of Hours (Total)	3
7. No. of Credits (Total)	2
8. Course Administrator Name	Assistant lecturer Hassanien M. Alwash
9. E-mail	hassanien@albayan.edu.iq

10. Course Objectives

Knowledge	A1	Knowing the importance of physics in medicine and its sciences
		Knowledge of physical applications
		Knowledge of physical applications
		How medical devices work
		Get an overview of the nature of physical work
		Read medical tests and reports
		Knowing the disorders that appear in the tests
		Reading x-rays and tests
		A sense of responsibility towards the laboratory
		Knowing the importance of lectures and scientific material

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		العمل على ترسيخ روح التعاون بين الطلبة
A2		Working to consolidate the spirit of cooperation among students
A3		Work mainly on basic subjects for students

11. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1		Circulatory system: Location of vascular system (Heart, Arteries, Veins)	Circulatory system 1	Presence only	Written and oral exam
2		Circulatory system: Location of lymphatic system (Lymphatic capillary).	Circulatory system 2	Presence only	Written and oral exam
3		Lymphoid tissue: location of the (Thymus gland, Spleen & Lymph nodes)	Lymphoid tissue 1	Presence only	Written and oral exam
4		Lymphoid nodule (MALT) Tonsils	Lymphoid tissue 2	Presence only	Written and oral exam
5		Nervous system: Central & Peripheral nervous system by location	Nervous system	Presence only	Written and oral exam
6		Respiratory system: -Conducting portion (Nose, Nasopharynx, Trachea, Bronchus & Bronchioles). -Respiratory portion (Lungs)	Respiratory system	Presence only	Written and oral exam
7		Digestive system: -location of different parts of digestive tract (GIT) (Oral cavity, Mouth, Esophagus & Stomach) -Small intestine, Large intestine, Rectum & Anus.	Digestive system 1	Presence only	Written and oral exam

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8		Digestive system: Glands associated with the digestive tract by location (Salivary gland, Pancreas, Liver & Gall bladder).	Digestive system 2	Presence only	Written and oral exam
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12. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

13. Learning & Teaching Resources

Required textbooks (curricular if any)	
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	

Course Description (1)

1. Course Title		Human biology
2. Course Code		401101
3. Semester/Year		First semester
4. Description Preparation Date		20-9-2024
5. Available Attendance Form		Attendance at the college
6. No. of Hours (Total)		Theoretical 2 hours per week Practical 2 hours per week
7. No. of Credits (Total)		3 Units
8. Course Administrator Name		Haider Abdul Hasan Jalil
9. E-mail		hayder.ab@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	Enable the students to understanding and studying the biology of the human body
	A2	Introducing the student and giving him all the scientific information related to types of cells and tissues found in the human body.
	A3	Statement of knowledge of biology
	A4	
Skills	B1	Conducting oral and written evaluation
	B2	Scientific reports
	B3	
	B4	
Values	C1	Surprising, inferential questions during the discussion
	C2	Conducting daily examinations for students
	C3	
	C4	
11. Teaching and Learning Strategies		
1.	Using the smart board	4.

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2.	Display slides related to human biology on the data show and study them under a microscope	5.	
3.	Using the scientific references	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Introduction to Human Biology	General information definitions, branches of Biology, levels of organization in the human body	Data show, slides, and blackboard	Discussion, written and oral exam
2	2	Nutrition-Part I	Definitions, important food molecules	Data show, slides, and blackboard	oral exam
3	2	Nutrition-Part II	Digestion.	Data show, slides, and blackboard	Discussion, written and oral exam
4	2	Cell and cell biology	Cell structure, cell types, cell jobs	Data show, slides, and blackboard	oral exam
5	2	Cell and cell biology	cell division and production of reproductive cells, Fertilization.	Data show, slides, and blackboard	Monthly written exam
6	2	Tissues-Part I	Epithelial tissues, Connective tissues	Data show, slides, and blackboard	oral exam
7	2	Tissues-Part II	Muscular tissues, Nervous tissues	Data show, slides, and blackboard	Daily written exam
8	2	Systems/Glandular System	Types of glands and their structure	Data show, slides, and blackboard	oral exam
9	2	Systems	Hormones and	Data show, slides,	Monthly written exam

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			hormonal system, adulthood and reproduction	and blackboard	
10	2	Systems	Immune system: The parts and Job of the immune system	Data show, slides, and blackboard	Oral exam
11	2	Systems	Digestive system: The general structure of the system including its organs starting from the mouth to the anus, with their function.	Data show, slides, and blackboard	Monthly written exam
12	2	Systems	Circulatory system: The heart	Data show, slides, and blackboard	Oral exam
13	2	circulatory system	circulatory system components	Data show, slides, and blackboard	Oral exam
14	2	circulatory system	blood circulation	Data show, slides, and blackboard	Daily written exam
15	2	Review for the Final exam	Review for the Final exam	Data show, slides, and blackboard	Daily written exam

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Human Biology Douglas Wilkin, Ph.D Jean Brainard, Ph.D 2015
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	

Course Description (59)

1. Course Title	Clinical toxicology
2. Course Code	405106
3. Semester/Year	First semester (2024 – 2025)
4. Description Preparation Date	2024
5. Available Attendance Form	Attendance at the college
6. No. of Hours (Total)	Theoretical - two hours per week for 15 weeks Practical - two hours a week for 15 weeks
7. No. of Credits (Total)	3 units
8. Course Administrator Name	Asist.prof Kholoud Sadoun Lecturer Nibras Jamal
9. E-mail	Kholud.s@albayan.edu.iq Nibras.j@albayan.edu.iq
10. Course Objectives:	<p>1– This course aims to train the student on how to deal with cases of poisoning and suicide, how to provide first aid, methods of prevention and treatment, and giving anti–poison drugs.</p> <p>2– Study the toxic effects of over–the–counter medications such as aspirin and paracetamol, and methods of preventing and treating excessive doses and poisonings.</p> <p>3– Studying cases of poisoning as a result of overdose or suicide with medications treating chronic diseases such as Parkinson’s and Alzheimer’s, and methods of prevention and treatment of overdose and poisoning cases.</p> <p>4– Studying cases of poisoning as a result of excessive doses or suicide with sedatives, analgesics, and narcotic drugs</p> <p>Methods of prevention, treatment, and administration of antidote drugs.</p>

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Knowledge	A1	Cognitive description of the most important basics of general toxicology and their clinical applications
	A2	Ability to characterize the toxic state by analyzing laboratory results and evaluating clinical symptoms
	A3	The importance of conducting laboratory tests to clarify a specific toxicological condition and measure the level of the toxic substance in a sample Blood taken from an infected person.
	A4	Studying the toxic effects and resulting symptoms and diagnosing the drug causing that condition for the purpose of treatment by increasing the body's elimination of the drug (gastric lavage, kidney dialysis, etc.) and giving antidote drugs.
Skills	B1	Contributing to rescuing cases of poisoning and suicide due to the use of toxic substances through supportive assessment of vital functions (pulmonary, blood and cerebral) and providing emergency assistance by supporting breathing and giving Oxygen, stabilizing blood pressure, adjusting heart rate, and controlling convulsions.
	B2	Acquire the skill of determining the type of laboratory tests necessary based on signs and symptoms
	B3	Determine the necessary medical and therapeutic procedures based on the results of laboratory tests
	B4	The ability to organize and write reports and present results and conclusions clearly
Values	C1	Students must acquire communication skills with the patient and all categories of medical staff
	C2	The ability to advise and educate the patient and communicate with all categories of medical staff
	C3	The student's ability to think accurately through obtaining Information, understanding it, and ways to use it. and analysis
	C4	The student acquires the cognitive abilities to find solutions and ways to prevent problems and make the necessary decisions

11. Teaching and Learning Strategies

1.	Using data show devices and showing lecture slides	4.	Conducting scientific discussions in class and presenting seminars
2.	View scientific videos on toxicology	5.	Surprise quizzes
3.	Giving homework	6.	Conducting seminars and writing reports

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	An introductory introduction poisoning and its mechanism	Introduction to toxicology	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
2	2	Familiarity with poisoning children And geriatric patients	Poisoning in children and adults	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
3	2	Familiarity with caffeine poisoning Theophylline, antihistamines and decongestants	Medicines that do not require a prescription from a doctor	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
4	2	Familiarity with antibiotic poisoning Steroidal Anti-inflammatory and anti-toxic With vitamins	Medicines that do not require a prescription from a doctor	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
5	2	Familiarity with the toxicity of beta blockers And angiotensin converting enzyme inhibitors	medical description	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
6	2	Familiarity with digoxin toxicity And calcium	medical description	Explaining the lecture using the blackboard and a presentation	Written and oral exams And preparing seminars

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		Channel blockers		method Slides	
7	2	Familiarity with the toxicity of antiarrhythmics and the toxicity of inhibitors Blood sugar	medical description	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
8	2	Familiarity with the toxicity of opiod	medical description	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
9	2	Familiarity with the toxicity of antidepressants Tricyclic	medical description	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
10	2	Familiarity with the anticholinergic toxicity of phenothiazines	medical description	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
11	2	Familiarity with Basmaya	medical description	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
12	2	Central nervous system stimulants	medical description	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
13	2	Familiarity with the toxicity of cocaine, opium, phencyclidine, marijuana, and acid Lysergic	Drug abuse medications	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars
14	2	Familiarity with household	Chemicals and environmental	Explaining the lecture	Written and oral exams

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		poisons, disinfectants, and camphor	toxins	using the blackboard and a presentation method Slides	And preparing seminars
15	2	Familiarity with plant toxicity And herbal preparations	Plant and plant derived toxins	Explaining the lecture using the blackboard and a presentation method Slides	Written and oral exams And preparing seminars

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	. Gossel TA , Bricker TD principles of clinical toxicology Viccellio P Handbook of medicinal toxicology
Main References (sources)	Viccellio P Handbook of medicinal toxicology
Recommended Books & References (Scientific Journals, Reports ...)	International journal of toxicology Accredited scientific journals on Scopus and Calrivat websites
Websites or Electronic References	Iraqi Virtual Library (IVSL)

Course Description (52)

1. Course Title		Communication skills
2. Course Code		404212
3. Semester/Year		2024-2025
4. Description Preparation Date		2024
5. Available Attendance Form		Attendance at the college
6. No. of Hours (Total)		2 hours/week for 15 weeks
7. No. of Credits (Total)		2 units
8. Course Administrator Name		Khulood Saadoon Salim
9. E-mail		kholud.s@albayan.edu.iq
10. Course Objectives To enable the students to communicate effectively with patients, physicians, and coworkers during the different stages of treatment		
Knowledge	A1	The students able to communicate with patients and other health care providers
	A2	The students have the ability to overcome the difficulties and barriers education process of the patients
	A3	Enable the students to dispense the medicines to patients without errors
	A4	Improve the student's ability to communicate with different types of patients such as children, elderly, and handicapped patients.
Skills	B1	Improve the communication skills with the patients
	B2	Increase the skills of communication with other healthcare providers
	B3	Training the students on the methods of patient's education
	B4	Increasing the self confidence of the students during communication and consultation of the patients.
Values	C1	Developing student's sense of belonging to and loyalty to the homeland
	C2	Raising students to respect human dignity
	C3	Promoting and consolidating professional and ethical values among students
	C4	Enhancing the spirit of cooperation and teamwork among students

11. Teaching and Learning Strategies

1.	Conducting scientific discussion in class and presenting seminars	4.	Discussing cases study and scenarios
2.	Surprise quizzes	5.	Using data show devices and slides
3.	Writing reports and giving home works	6.	Oral exams

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Patient-centered communication in pharmacy practice	Patient-centered communication in pharmacy practice	Data show, slides, and blackboard	Discussion, written and oral exam
2	2	Principles and elements of communication skills	Principles and elements of communication skills	Data show, slides, and blackboard	Discussion, written and oral exam
3	2	Non-verbal communication skills	Non-verbal communication skills	Data show, slides, and blackboard	Discussion, written and oral exam
4	2	Barriers in communication skills	Barriers in communication skills	Data show, slides, and blackboard	Discussion, written and oral exam
5	2	Effective listening and emphatical response in communication	Effective listening and emphatical response in communication	Data show, slides, and blackboard	Discussion, written and oral exam
6	2	Assertiveness	Assertiveness	Data show, slides, and blackboard	Discussion, written and oral exam
7	2	Interviewing and assessment	Interviewing and assessment	Data show, slides, and blackboard	Discussion, written and oral exam
8	2	Interviewing and assessment	Interviewing and assessment	Data show, slides, and blackboard	Discussion, written and oral exam
9	2	Educating and helping the patients about the dosage regimen	Educating and helping the patients about the dosage regimen	Data show, slides, and blackboard	Discussion, written and oral exam
10	2	Medicinal safety and communication skills	Medicinal safety and communication skills	Data show, slides, and blackboard	Discussion, written and oral exam

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11	2	Strategies and methods communication with handicapped patients	Strategies and methods communication with handicapped patients	Data show, slides, and blackboard	Discussion, written and oral exam
12	2	Communication with children and elderly patients	Communication with children and elderly patients	Data show, slides, and blackboard	Discussion, written and oral exam
13	2	Communication with other health care providers	Communication with other health care providers	Data show, slides, and blackboard	Discussion, written and oral exam
14	2	Electronic communication health care	Electronic communication health care	Data show, slides, and blackboard	Discussion, written and oral exam
15	2	Ethical behaviors during communication with patients	Ethical behaviors during communication with patients.	Data show, slides, and blackboard	Discussion, written and oral exam

13. Course Evaluation

Semester pursuit: 30 marks
End of semester exam: 70 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Robert.S.Beardly(ed) Communication skills in pharmacy practice
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	Journals in soft skills and communication skills
Websites or Electronic References	Google scholar, PubMed

Course Description (41)

1. Course Title	Pharmacology 2		
2. Course Code	404101		
3. Semester/Year	First semester		
4. Description Preparation Date	2024-2025		
5. Available Attendance Form	Attendance at the College		
6. No. of Hours (Total)	Theoretical: 3 hours per week for 15 weeks Practical: 2 hours per week for 15 weeks		
7. No. of Credits (Total)	4 units		
8. Course Administrator Name	Asst. Prof. Dr. Atheer S. Alsabah Asst. Lect. Mohammed K. Abbood		
9. E-mail	atheer.sabah@albayan.edu.iq mohammed.k@albayan.edu.iq		
10. Course Objectives			
Knowledge	A1	Helping students acquire and understand pharmacology	
	A2	Helping students identify the most important references and sources in pharmaceutical science	
	A3	Enabling students to acquire self-learning skills and access the most important sources knowledge and learning to develop their specialized and general abilities	
	A4	Linking theoretical trends with practical reality in pharmaceutical sciences	
Skills	B1	Helping students to possess the skills to conduct scientific experiments	
	B2	Helping students to possess the abilities to use modern equipment and technologies related pharmaceutical sciences	
	B3	Helping students to possess dialogue and communication skills	
	B4	Helping students to possess self-learning skills to acquire new information, skills and knowled	
Values	C1	Urging students to pursue professional humanitarian work	
	C2	Promoting professional and ethical values among students practicing the pharmacy profession	
	C3	Supporting students' drug culture	
	C4	Enhancing the spirit of cooperation and teamwork among students	
11. Teaching and Learning Strategies			
1.	Using data show devices and showing lecture slides	4.	Conducting scientific discussions in class and presenting seminars
2.	View scientific videos on Pharmacology	5.	Surprise quizzes
3.	Giving homework	6.	Conducting scientific experiments, performing seminars, and writing reports

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Principles of the Nervous System	Principles of the Nervous System	Theoretical explanation Discussion panels	Written exam Oral exam
2	3	Sedative –hypnotic Drugs	Sedative –hypnotic Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
3	3	Antidepressants	Antidepressants	Theoretical explanation Discussion panels	Written exam Oral exam
4	3	Antiparkinson Drugs	Antiparkinson Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
5	3	Antipsychotic Drugs	Antipsychotic Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
6	3	Antiepileptic Drugs	Antiepileptic Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
7	3	Anesthetic Drugs	Anesthetic Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
8	3	Opioid Drugs	Opioid Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
9	3	Med-Term Exam	Med-Term Exam	Written exam	Written exam
10	3	Antihypertensive Drugs	Antihypertensive Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
11	3	Antianginal Drugs	Antianginal Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
12	3	Drugs for Heart Failure	Drugs for Heart Failure	Theoretical explanation Discussion panels	Written exam Oral exam
13	3	Antiarrhythmic Drugs	Antiarrhythmic Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
14	3	Antihyperlipidemic Drugs	Antihyperlipidemic Drugs	Theoretical explanation	Written exam

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				Discussion panels	Oral exam
15	3	Drugs Affecting Blood	Drugs Affecting Blood	Theoretical explanation Discussion panels	Written exam Oral exam

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Pharmacology; Lippincott Last edition 2019.
Main References (sources)	Pharmacology; Katzung Last edition.
Recommended Books & References (Scientific Journals, Reports ...)	Pharmacology; Goodman and Gilman Last edition. and Pharmacology Journals
Websites or Electronic References	Medscape, PubMed, Google scholar research articles

Course Description (47)

1. Course Title		Pharmacology 3	
2. Course Code		404207	
3. Semester/Year		Second semester – 2023/2024	
4. Description Preparation Date		2023-2024	
5. Available Attendance Form		Attendance at the College	
6. No. of Hours (Total)		Theoretical: 2 hours per week for 15 weeks	
7. No. of Credits (Total)		2 units	
8. Course Administrator Name		Asst. Prof. Dr. Atheer S. Alsabah	
9. E-mail		atheer.sabah@albayan.edu.iq	
10. Course Objectives			
Knowledge	A1	Helping students acquire and understand pharmacology	
	A2	Helping students identify the most important references and sources in pharmaceutical sciences	
	A3	Enabling students to acquire self-learning skills and access the most important sources of knowledge and learning to develop their specialized and general abilities	
	A4	Linking theoretical trends with practical reality in pharmaceutical sciences	
Skills	B1	Helping students to possess the skills to conduct scientific experiments	
	B2	Helping students to possess the abilities to use modern equipment and technologies related to pharmaceutical sciences	
	B3	Helping students to possess dialogue and communication skills	
	B4	Helping students to possess self-learning skills to acquire new information, skills and knowledge	
Values	C1	Urging students to pursue professional humanitarian work	
	C2	Promoting professional and ethical values among students practicing the pharmacy profession	
	C3	Supporting students' drug culture	
	C4	Enhancing the spirit of cooperation and teamwork among students	
11. Teaching and Learning Strategies			
1.	Using data show devices and showing lecture slides	4.	Conducting scientific discussions in class and presenting seminars
2.	View scientific videos on Pharmacology	5.	Surprise quizzes
3.	Giving homework	6.	Conducting scientific experiments, performing seminars, and writing reports

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Drugs Affecting GIT	Drugs Affecting GIT	Theoretical explanation Discussion panels	Written exam Oral exam
2	2	Drugs Affecting Respiratory System	Drugs Affecting Respiratory System	Theoretical explanation Discussion panels	Written exam Oral exam
3	2	NSAIDs	NSAIDs	Theoretical explanation Discussion panels	Written exam Oral exam
4	2	Drugs Affecting Bone Metabolism	Drugs Affecting Bone Metabolism	Theoretical explanation Discussion panels	Written exam Oral exam
5	2	Drugs For DM	Drugs For DM	Theoretical explanation Discussion panels	Written exam Oral exam
6	2	Hypothalamic-Pituitary Hormones	Hypothalamic-Pituitary Hormones	Theoretical explanation Discussion panels	Written exam Oral exam
7	2	Thyroid Hormones	Thyroid Hormones	Theoretical explanation Discussion panels	Written exam Oral exam
8	2	Adrenal Hormones	Adrenal Hormones	Theoretical explanation Discussion panels	Written exam Oral exam
9	2	Mid-Term Exam	Mid-Term Exam	Written exam	Written exam
10	2	Gonadal Hormones	Gonadal Hormones	Theoretical explanation Discussion panels	Written exam Oral exam
11	2	Anticancer Drugs	Anticancer Drugs	Theoretical explanation Discussion panels	Written exam Oral exam
12	2	Immunopharmacology	Immunopharmacology	Theoretical explanation Discussion panels	Written exam Oral exam
13	2	Drugs for Obesity	Drugs for Obesity	Theoretical explanation Discussion panels	Written exam Oral exam
14	2	Drugs For Anemia	Drugs For Anemia	Theoretical explanation	Written exam

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				Discussion panels	Oral exam
15	2	Drugs for Erectile dysfunction	Drugs for Erectile dysfunction	Theoretical explanation Discussion panels	Written exam Oral exam

13. Course Evaluation	
Semester pursuit: 30 marks End of semester exam: 70 marks	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	Pharmacology; Lippincott Last edition 2019.
Main References (sources)	Pharmacology; Katzung Last edition.
Recommended Books & References (Scientific Journals, Reports ...)	Pharmacology; Goodman and Gilman Last edition. and Pharmacology Journals
Websites or Electronic References	Medscape, PubMed, Google scholar research articles

Course Description (50)

1. Course Title	General toxicology	
2. Course Code	404210	
3. Semester/Year	Second semester - 2024/2025	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance at the college	
6. No. of Hours (Total)	Theoretical: two hours per week for 15 weeks Practical: two hours per week for 15 weeks	
7. No. of Credits (Total)	3 units	
8. Course Administrator Name	M. Nibras Jamal Tahseen M.M. Haider Abdel Hassan	
9. E-mail	Nibras.j@albayan.edu.iq Hayder.ab@albayan.edu.iq	
10. Course Objectives	<p>Studying the principle of exposure to chemicals and various environmental factors, their sources, mechanisms of toxicity, and their danger to humans. It enables students to understand the measures required to protect organisms from suspected toxic hazards.</p>	
Knowledge	A1	Introducing students to the different types of toxins
	A2	Introducing students to the impact of toxic substances on the environment
	A3	Introducing students to the effect of toxic substances on the organs of the human body
	A4	Understanding toxins terminology and methods of dealing with toxic substances
Skills	B1	Increasing students' skill in identifying toxic substances
	B2	Knowledge of medicinal doses and toxic doses of medications
	B3	Knowing the types of food preservatives and their effect on the human body
	B4	Know the effect of toxic substances on animals, plants and the environment

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Values	C1	Introducing students to the importance of environmental balance
	C2	Introducing students to the importance of human life and the necessity of preserving it from the influence of toxic substances
	C3	Introducing students to the effect of toxins on humans and the environment
	C4	Introducing students to how to protect the environment from toxic substances

11. Teaching and Learning Strategies

1.	Using data show devices and showing lecture slides	4.	Conducting scientific discussions in class and presenting seminars
2.	View scientific videos on toxicology	5.	Surprise quizzes
3.	Giving homework	6.	Conducting scientific experiments, performing seminars, and writing reports

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Introduction to toxicology	Introduction: general consideration; host factor, environmental factors of toxic effects	Theoretical explanation Discussion panels	Written exam oral exam
2	2	Cancer and carcinogens	Carcinogenesis	Theoretical explanation Discussion panels	Written exam oral exam
3	2	Genetic mutations and the effect of toxins on the occurrence of genetic mutations	Mutagenesis	Theoretical explanation Discussion panels	Written exam oral exam
4	2	The effect of toxins on the respiratory system	Target organs and system toxicology; Respiratory system	Theoretical explanation Discussion panels	Written exam oral exam
5	2	The effect of toxins on the liver	Target organs and systemic toxicology; Liver	Theoretical explanation Discussion panels	Written exam oral exam
6	2	Effect of toxins on the kidneys	Target organs and systemic toxicology; Kidney	Theoretical explanation Discussion panels	Written exam oral exam
7	2	Effect of toxins on the skin	Target organs and systemic	Theoretical	Written exam

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			toxicology; Skin	explanation Discussion panels	oral exam
8	2	The effect of toxins on the nervous system	Target organs and systemic toxicology; Nervous system	Theoretical explanation Discussion panels	Written exam oral exam
9	2	The effect of toxins on the blood and circulation Bloody	Target organs and systemic toxicology; cardiovascular system, Blood	Theoretical explanation Discussion panels	Written exam oral exam
10	2	Toxicity of food and drug preservatives	Toxic substances: Food additive and contaminants	Theoretical explanation Discussion panels	Written exam oral exam
11	2	Insecticide toxicity	Toxic substances: Pesticides	Theoretical explanation Discussion panels	Written exam oral exam
12	2	Metal and radiation toxicity	Toxic substances: Metals, Radiation and radioactive materials	Theoretical explanation Discussion panels	Written exam oral exam
13	2	Toxic effect of air pollutants	Environmental toxicology: Air pollution	Theoretical explanation Discussion panels	Written exam oral exam
14	2	Toxic effect of water pollutants	Environmental toxicology water and soil pollutants,	Theoretical explanation Discussion panels	Written exam oral exam
15	2	Toxicity effect of gases	Environmental toxicology;	Theoretical	Written exam

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			Gases (Tear gas, Pepper spray), Cyanide(H ₂ S)	explanation (Discussion panels	oral exam
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13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Casarett and Doull, Toxicology, the Basic Science of Poisons; latest edition
Main References (sources)	Viccellio P, (ED.); Handbook of medicine toxicology; lasts edition
Recommended Books & References (Scientific Journals, Reports ...)	Pharmacology and toxicology Journals
Websites or Electronic References	Medscape, PubMed, Google scholar research articles

Course Description (19)

1. Course Title	Physiology I	
2. Course Code	402104	
3. Semester/Year	First semester - 2023/2024	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance at the college	
6. No. of Hours (Total)	Theoretical: 3 hours per week for 15 weeks Practical: two hours per week for 15 weeks	
7. No. of Credits (Total)	4 Units	
8. Course Administrator Name	Assistant lecturer Ali Hani	
9. E-mail	Ali.h@albayan.edu.iq	
10. Course Objectives	<p>Preparing qualified students capable of practicing the profession of pharmacist in the public and private sectors</p> <ul style="list-style-type: none"> - Enabling the student to develop laboratory knowledge and skills through laboratory work using many chemical techniques and equipment - Enabling students to acquire self-learning skills and familiarize themselves with the most important sources of knowledge and learning in order to develop their specialized and general abilities. - Harmonizing theoretical trends with practical reality in pharmaceutical sciences - Enabling students to recognize scientific research tools and work on using them in the academic and practical fields. - Keeping up with modern scientific developments in pharmaceutical sciences and working to employ them. 	
Knowledge	A1	Enabling students to acquire and understand physiology
	A2	Enabling students to become familiar with the most important references and sources in pharmaceutical sciences

	A3	
	A4	
Skills	B1	Enabling students to possess the skills to work in laboratories and conduct scientific experiments
	B2	Enabling students to have the ability to use modern equipment and technologies related to pharmaceutical sciences
	B3	Enabling students to possess the skills of using scientific research tools in the academic and scientific fields
	B4	Enabling students to possess the skills of dialogue, discussion, listening to others and accepting their opinions
Values	C1	Developing students' sense of belonging to and loyalty to the homeland
	C2	Raising students to respect human dignity
	C3	Promoting and consolidating professional and ethical values among students
	C4	Enhancing the spirit of cooperation and teamwork among students
11. Teaching and Learning Strategies		
1.	Using data show devices and showing lecture slides	4. Conducting scientific discussions in class and presenting seminars
2.	View scientific videos on toxicology	5. Surprise quizzes
3.	Giving homework	6. Conducting scientific experiments, performing seminars, and writing reports

12. The Structure of the Course					
Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Introduction to cell physiology	information about the Cell composition	Theoretical explanation Discussion panel	Written exam oral exam
2	3	The general and cellular basis of medical physiology	Body cells and Cell membrane, Ion channels	Theoretical explanation Discussion panel	Written exam oral exam
3	3	Physiology of the nervous system muscles, Nerve cells; excitation conduction;	Properties of mixed nerves; neurotransmitters	Theoretical explanation Discussion panel	Written exam oral exam
4	3	Nerve fiber types	Nerve functions Graded potential action potential	Theoretical explanation Discussion panels	Written exam oral exam
5	3	Muscles: Skeletal muscle; contraction	Smooth muscle; cardiac muscle	Theoretical explanation Discussion panel	Written exam oral exam
6	3	Synaptic transmission: Reflex Cutaneous, deep and visceral sensations	Alert behavior, sleep and electrical activity of the brain; control of posture and movement	Theoretical explanation Discussion panel	Written exam oral exam
7	3	Higher function of the nervous system central regulation of visceral function	The autonomic nervous system	Theoretical explanation Discussion panel	Written exam oral exam
8	3	Respiration : Respiratory zones; Mechanics of respiration; air volumes; respiratory	Surfactants; differences in ventilation blood flow in different parts of the lung	Theoretical explanation	Written exam oral exam

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		muscles; compliance of the lungs and chest wall		Discussion panel	
9	3	Respiration: Dead space and uneven ventilation; Pulmonary circulation: Pressure, volume and flow	Gas transport between the lungs and tissue.	Theoretical explanation Discussion panel	Written exam oral exam
10	3	Regulation of respiration: Neural control of breathing; Respiratory centers; Regulation respiratory activity: Chemical factors; chemical factors.	Respiratory adjustment in health and disease; Effect of exercise; Hypoxia; Emphysema; Asthma	Theoretical explanation Discussion panel	Written exam oral exam
11	3	Renal physiology: Introduction; innervations of the renal vessels; renal clearance; renal blood flow.	Glomerular filtration rate (GFR): Measurements; factor affecting GFR	Theoretical explanation Discussion panel	Written exam oral exam
12	3	Filtration fraction: Reabsorption of Na ⁺ , Cl ⁻ and glucose. Tubuloglomerular feedback and glomerulotubular balance; water excretion in: proximal tubules; loop of henle; distal tubules; collecting ducts.	The counter current mechanism; role of urea; water diuresis and osmotic diuresis.	Theoretical explanation Discussion panel	Written exam oral exam
13	3	Acidification of the urine: H ⁺ secretion; reaction with buffers; ammonia secretion; factors affecting acid secretion.	Bicarbonate excretion; regulation of K ⁺ and Cl ⁻ excretion; uremia; acid micturition	Theoretical explanation Discussion panel	Written exam oral exam
14	3	Cardiovascular: origin and spread of cardiac excitation.	The electrocardiogram; cardiac arrhythmias.	Theoretical explanation Discussion panel	Written exam oral exam
15	3	Electrographic findings in cardiac diseases; mechanical events of the cardiac cycle	Cardiac output	Theoretical explanation Discussion panel	Written exam oral exam

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Vender human physiology- the mechanism of body function – latest edition
Main References (sources)	Essential of human physiology for pharmacy, 2 nd editing
Recommended Books & References (Scientific Journals, Reports ...)	Medical journals of physiology and pathophysiology
Websites or Electronic References	Google scholar and PubMed

Course Description (26)

1. Course Title	Physiology II
2. Course Code	402211
3. Semester/Year	Second semester - 2023/2024
4. Description Preparation Date	2024
5. Available Attendance Form	Attendance at the college
6. No. of Hours (Total)	Theoretical: 3 hours per week for 15 weeks Practical: two hours per week for 15 weeks
7. No. of Credits (Total)	4 units
8. Course Administrator Name	Assistant lecturer Ali Hani
9. E-mail	Ali.h@albayan.edu.iq
10. Course Objectives	<p>Preparing qualified students capable of practicing the profession of pharmacist in the public and private sectors</p> <ul style="list-style-type: none"> - Enabling the student to develop laboratory knowledge and skills through laboratory work using many chemical techniques and equipment - Enabling students to acquire self-learning skills and familiarize themselves with the most important sources of knowledge and learning in order to develop their specialized and general abilities. - Harmonizing theoretical trends with practical reality in pharmaceutical sciences - Enabling students to recognize scientific research tools and work on using them in the academic and practical fields. - Keeping up with modern scientific developments in pharmaceutical sciences and working to employ them.

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Knowledge	A1	Enabling students to acquire and understand physiology	
	A2	Enabling students to become familiar with the most important references and sources in pharmaceutical sciences	
	A3		
	A4		
Skills	B1	Enabling students to possess the skills to work in laboratories and conduct scientific experiments	
	B2	Enabling students to have the ability to use modern equipment and technologies related to pharmaceutical sciences	
	B3	Enabling students to possess the skills of using scientific research tools in the academic and scientific fields	
	B4	Enabling students to possess the skills of dialogue, discussion, listening to others and accepting their opinions	
Values	C1	Developing students' sense of belonging to and loyalty to the homeland	
	C2	Raising students to respect human dignity	
	C3	Promoting and consolidating professional and ethical values among students	
	C4	Enhancing the spirit of cooperation and teamwork among students	
11. Teaching and Learning Strategies			
1.	Using data show devices and showing lecture slides	4.	Conducting scientific discussions in class and presenting seminars
2.	View scientific videos on toxicology	5.	Surprise quizzes
3.	Giving homework	6.	Conducting scientific experiments, performing seminars, and writing reports

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Cardiovascular regulatory mechanisms: Local regulatory mechanisms; systemic regulation by the nervous system; systemic regulation by hormones.	Coronary circulation; Hypertension; Heart failure; Angina pectoris.	Theoretical explanation Discussion panels	Written exam oral exam
2	3	Digestive system Gastrointestinal function: Digestion and absorption of carbohydrates; proteins; lipids.	Absorption of water and electrolytes; vitamins and minerals.	Theoretical explanation Discussion panels	Written exam oral exam
3	3	Regulation of gastrointestinal function: Introduction; gastrointestinal hormones.	Mouth and esophagus.	Theoretical explanation Discussion panels	Written exam oral exam
4	3	Stomach; exocrine portion of pancreas.	liver and biliary system; small intestine; colon.	Theoretical explanation Discussion panels	Written exam oral exam
5	3	Circulatory body fluid: Introduction; blood. Bone marrow.	Circulatory body fluid: Introduction; blood. Bone marrow.	Theoretical explanation Discussion panels	Written exam oral exam
6	3	White blood cells.	Immunity	Theoretical explanation Discussion panels	Written exam oral exam
7	3	Platelets; red blood cells; anemia; polycythemia.	Blood group and Rh factor.	Theoretical explanation Discussion panels	Written exam oral exam

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8	3	Hemostasis: The clotting mechanism	Blood coagulation	Theoretical explanation Discussion panels	Written exam oral exam
9	3	Anti clotting mechanism; the plasma; the lymph.	Abnormalities of hemostasis.	Theoretical explanation Discussion panels	Written exam oral exam
10	3	Endocrinology: Introduction; energy balance.	Metabolism and nutrition.	Theoretical explanation Discussion panels	Written exam oral exam
11	3	The pituitary gland, The thyroid gland	Endocrine function	Theoretical explanation Discussion panels	Written exam oral exam
12	3	Renal physiology: Introduction; innervations of the renal vessels; renal clearance; renal blood flow.	Glomerular filtration rate (GFR): Measurements; factor affecting GFR	Theoretical explanation Discussion panels	Written exam oral exam
13	3	Filtration fraction: Reabsorption of Na ⁺ , Cl ⁻ and glucose. Tubuloglomerular feedback and glomerulotubular balance; water excretion in: proximal tubules; loop of henle; distal tubules; collecting ducts.	The counter current mechanism; role of urea; water diuresis and osmotic diuresis.	Theoretical explanation Discussion panels	Written exam oral exam
14	3	The gonads	Development and function reproductive system	Theoretical explanation Discussion panels	Written exam oral exam
15	3	The adrenal medulla and adrenal cortex	Adrenal function	Theoretical explanation Discussion panels	Written exam oral exam

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Vender human physiology- the mechanism of body function – latest edition
Main References (sources)	Essential of human physiology for pharmacy, 2 nd editing
Recommended Books & References (Scientific Journals, Reports ...)	Medical journals of physiology and pathophysiology
Websites or Electronic References	Google scholar and PubMed

Course Description (4)

1. Course Title		Medical Terminology / first semester
2. Course Code		401104
3. Semester/Year		2024-2025
4. Description Preparation Date		2024
5. Available Attendance Form		Official working hours
6. No. of Hours (Total)		1 hour per week (for 15 weeks during the first semester)
7. No. of Credits (Total)		One Unit
8. Course Administrator Name		Lecturer :zahraa kadhim al hassani
9. E-mail		Zahraa.k@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	A1- Preparing the student and making him familiar with all kinds of medical terms used in his medical field
	A2	A2- Study of different types of medicines used in the treatment of different diseases
	A3	A3- Study of drug kinetics and mechanism of action of the drug
	A4	A4- Study of side effects and drug interactions of different treatments
Skills	B1	1- Enabling students to possess the skills of using scientific research tools in the academic and scientific field
	B2	2- Enable students to read and interpret all medical and pharmaceutical terms and symbols
	B3	3- Enabling students to possess the skills of dialogue, discussion, listening to others and accepting their opinions.
	B4	4- Enabling students to possess self-learning skills to acquire new information, skills and knowledge.
Values	C1	1 -Develop students' sense of belonging to the homeland and loyalty to it.
	C2	2 - Educating students to respect human dignity.
	C3	3- Educating students on professional humanitarian work.
	C4	4- Promoting and consolidating professional and ethical values among students to practice the profession of pharmacist

11. Teaching and Learning Strategies

1.	1. Use the smart board
2.	2. Use slides
3.	3. Demand periodic reports

12. Course Structure					
method Evaluation	method education	Unit / Subject Name	Required Learning Outcomes	Hours	week
Oral or written exam reports	Smart Board Slides display	Principles of medical terminology	Rooted study Simple word and common suffixes	1	1
=	=	Principles of medical terminology	Study of word prefixes related to pharmaceutical sciences	1	2
=	=	Principles of medical terminology	Study of basic anatomy and abnormal conditions	2	3
=	=	Body system terminology	Member Study Genital and urological	1	4
=	=	Body system terminology	Study of the digestive system	1	5

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=	=	Body system terminology	Cardiovascular study	1	6
=	=	Body system terminology	Study growth, development and body	1	7
=	=		Midterm Exam		8
=	=	Body system terminology	Study of gynecology, pregnancy and child birth	1	9
=	=	Body system terminology	Eye study and respiratory study	1	10
=	=	Body system terminology	Study of the nervous system	2	11
=	=	Body system terminology	Blood study And its diseases and the study of the immune system	1	12

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=	=		Study of filters and statistics of symptoms, diagnosis, treatment and communication	2	13
			End of Semester Exam		

13. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly and written exams, reports etc

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Textbooks: A short course in medical terminology, 1st Ed.; Lippincott Williams and Wilkins;2008
Main References (sources)	<ol style="list-style-type: none"> 1. Textbooks: A short course in medical terminology, 1st Ed.; Lippincott Williams and Wilkins;2008 2. PC Networking for System Programmers
Recommended Books & References (Scientific Journals, Reports ...)	Sources related to new medical terminology from the Internet or books The other modern
Websites or Electronic References	Internet

Course Description (36)

1. Course Title		Pharmacology 1
2. Course Code		403208
3. Semester/Year		Second semester-2024-2025
4. Description Preparation Date		2024
5. Available Attendance Form		Attendance at the college
6. No. of Hours (Total)		3 hours/week for 15 weeks
7. No. of Credits (Total)		3 units
8. Course Administrator Name		Khulood Saadoon Salim
9. E-mail		kholud.s@albayan.edu.iq
10. Course Objectives: Studying the principles of pharmacology and preparing the students to be capable of classifying the available drugs according to systems disorders		
Knowledge	A1	Enable the students to understand the basic of pharmacology science
	A2	Enable the students to know the drugs groups in general
	A3	Enabling the students to know the clinical uses and the main side effects of drugs
	A4	Enabling the students to search and write reports about the drug groups
Skills	B1	Encouraging the students to possess the skills of using scientific researches in tools scientific and academic fields.
	B2	Training the students to possess the skills of dialogue, discussion, listening to others and accepting their opinions.
	B3	Enabling the students to have the ability to work in pharmacy
	B4	Enabling the students to have self-skills and acquiring information and knowledge.
Values	C1	Developing student's sense of belonging to and loyalty to the homeland
	C2	Raising students to respect human dignity
	C3	Promoting and consolidating professional and ethical values among students

C4	Enhancing the spirit of cooperation and teamwork among students.		
11. Teaching and Learning Strategies			
1.	Conducting scientific discussion in class and presenting seminars	4.	Oral exams during the lecture
2.	Surprise quizzes	5.	Using data show devices and slides
3.	Writing reports and giving home works	6.	View scientific videos on pharmacology

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Pharmacokinetics of drugs	Studying the absorption, distribution, metabolism and excretions of drugs in general	Data show, slides, and blackboard	Discussion, written and oral exam
2	3	Pharmacodynamics of drugs	Studying the mechanism of action of drugs and their therapeutic and side effects of drugs.	Data show, slides, and blackboard	Discussion, written and oral exam
3	3	The autonomic nervous system	Studying the physiology and anatomy of autonomic nervous system, classification and the receptors	Data show, slides , and blackboard	Discussion, written and oral exam
4	3	The parasympathetic nervous system	Studying the drugs acting as agonist on parasympathetic system	Data show, slides, and blackboard	Discussion, written and oral exam
5	3	Anticholinergic drugs	Studying the drugs acting as antagonists on parasympathetic receptors with their clinical uses and side effects	Data show, slides, and blackboard	Discussion, written and oral exam
6	3	Sympathetic nervous	Studying the drugs acting as	Data show, slides,	Discussion, written

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		system	agonists on adrenergic receptors, their classification uses , and side effects	and blackboard	and oral exam
7	3	Antiadrenergic drugs	Studying the drugs that block adrenergic receptors, their classification, uses , and side effects.	Data show, slides, and blackboard	Discussion, written and oral exam
8		Mid term exam	Mid term exam	Mid term exam	Mid term exam
9	3	Introduction to antimicrobial drugs	Studying the main principles antibiotics, properties, classification, and resistance mechanism	Data show, slides, and blackboard	Discussion, written and oral exam
10		Classification of antibiotics	Understanding the classification of antibiotics and the members of each class, the effect on bacteria , and the uses and side effects	Data show, slides, and blackboard	Discussion, written and oral exam
11		Urinary tract antiseptics	Studying the main drugs used in urinary tract infections with their side effect	Data show, slides , and blackboard	Discussion, written and oral exam
12		Antimycobacterial	Drugs used for treatment of tuberculosis	Data show, slides, and blackboard	Discussion, written and oral exam
13		Antifungal drugs	Drugs used for treatment of systemic and local mycosis	Data show, slides, and blackboard	Discussion, written and oral exam
14		Antiparasitic	Drugs used for treatment of diseases caused by different parasites	Data show, slides, and blackboard	Discussion, written and oral exam

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15		Anthelmintics	Drugs used for treatment of diseases caused by helminthics	Data show, slides, and blackboard	Discussion, written and oral exam
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13. Course Evaluation

Semester pursuit: 30 marks
End of semester exam: 70 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Pharmacology, Lippincott last edition 2019
Main References (sources)	Basic and clinical pharmacology, Katzung
Recommended Books & References (Scientific Journals, Reports ...)	Journals of pharmacology
Websites or Electronic References	Google scholar, PubMed, you tubes, medical journals

Course Description (13)

1. Course Title		Histology	
2. Course Code		401212	
3. Semester/Year		Second/ 2023-2024	
4. Description Preparation		Date 20-9-2024	
5. Available Attendance Form		Attendance at the college	
6. No. of Hours (Total)		Theoretical 2 hours per week Practical 2 hours per week	
7. No. of Credits (Total)		3 Units	
8. Course Administrator Name		Haider Abdul Hasan Jalil	
9. E-mail		hayder.ab@albayan.edu.iq	
10. Course Objectives			
Knowledge	A1	Enable the students to understanding and studying the Histology of the body	
	A2	Statement of knowledge of Histology	
	A3		
	A4		
Skills	B1	Conducting oral and written evaluation	
	B2	Scientific reports	
	B3		
	B4		
Values	C1	Surprising, inferential questions during the discussion	
	C2	Conducting daily examinations for students	
	C3		
	C4		
11. Teaching and Learning Strategies			
1.	Using the smart board	4.	
2.	Display slides related to human biology on the data show and	5.	

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	study them under a microscope		
3.	Using the scientific references	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Integumantery System	Integumantery System	Data show, slides, and blackboard	Monthly written exam
2	2	Circulatory System	Heart	Data show, slides, and blackboard	Oral exam
3	2	Circulatory System	blood circulation	Data show, slides, and blackboard	Oral exam
4	2	Lymphatic System	Lymph nodes	Data show, slides, and blackboard	Oral exam
5	2	Respiratory System	Lungs, alveoli	Data show, slides, and blackboard	Oral exam
6	2	Digestive System	Oral cavity	Data show, slides, and blackboard	Oral exam
7	2	Digestive System	Stomach, small and Large intestines	Data show, slides, and blackboard	Oral exam
8	2	Digestive System	Liver ,Gall bladder	Data show, slides, and blackboard	Monthly written exam
9	2	Digestive System	Pancreas	Data show, slides, and blackboard	Oral exam
10	2	Urinary system	Kidneys	Data show, slides, and blackboard	Daily written exam

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11	2	Urinary system	Nephron, Glomeruli , Bowmans capsule	Data show, slides, and blackboard	Oral exam
12	2	Reproductive System	Male reproductive System	Data show, slides, and blackboard	Daily written exam
13	2	Reproductive System	female reproductive System	Data show, slides, and blackboard	Daily written exam
14	2	Accessory glands	Accessory glands	Data show, slides, and blackboard	Oral exam
15	2	Final exam	Final exam	Data show, slides, and blackboard	Monthly written exam

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

<p>Required textbooks (curricular if any)</p>	<p>Atlas of–Histology with function and clinical correlations. (Dongmei Cui),2011 GENERAL HISTOLOGY E.F.Barinov, O.N.Sulayeva, ,B.P.Tereschuk L.I.Khlamanova, E.V.Chereshneva,K.I.Gatina .I.A.Pryluts kay 2011a</p>
<p>Main References (sources)</p>	
<p>Recommended Books & References (Scientific Journals, Reports ...)</p>	
<p>Websites or Electronic References</p>	

Course Description (34)

1. Course Title	Pathophysiology	
2. Course Code	403105	
3. Semester/Year	Third year students / First semester – 2023/2024	
4. Description Preparation Date	2023 - 2024	
5. Available Attendance Form	Attendance at college	
6. No. of Hours (Total)	Theoretical: 3 hours per week for 15 weeks Practical: 2 hours per week for 15 weeks	
7. No. of Credits (Total)	4 Units	
8. Course Administrator Name	Lect. Kholud Saadon , Assist. Lect. Mohammed I Abbood	
9. E-mail	Mohammed.k@albyan.edu.iq	
10. Course Objectives		
Knowledge	A1	Identify the mechanism of disease occurrence from the physiological perspective the human body
	A2	Identify the pathological effects during the occurrence of the disease and at recovery from it
	A3	Identify the clinical symptoms of the disease
	A4	Identify the mechanism of disease occurrence from the physiological perspective the human body
Skills	B1	Giving a comprehensive idea about the pathology of diseases that affect various body systems.
	B2	Clarifying the pathology of the disease and the pathological changes accompany the disease.
	B3	Giving an anatomical description of all the internal and external organs of human body and their relationship to each other.
	B4	Giving a comprehensive idea about the pathology of diseases that affect various body systems.
Values	C1	Developing students' sense of belonging to and loyalty to the homeland.
	C2	Raising students to respect human dignity and professional humanitarian work.
	C3	Promoting and consolidating professional and ethical values among students practicing the profession of pharmacist

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	C4	Raising students in a culture of integrity and fighting corruption in all its forms	
11. Teaching and Learning Strategies			
1.	Lectures	4.	Educational laboratories
2.	Discussing cases	5.	
3.	Seminars	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3 theory 2 practical	Introduction	Introduction	ppt	theoretical exam, Class discussions
2	3 theory 2 practical	Cell injury and tissue response; Degeneration; Necrosis.	Cell injury and tissue response; Degeneration; Necrosis.	ppt	theoretical exam, Class discussions
3	3 theory 2 practical	Inflammation and chronic inflammation)	Inflammation and chronic inflammation)	ppt	theoretical exam, Class discussions
4	3 theory 2 practical	Syndrome of inappropriate secretion of ADH; Diabetes insipidus; Metabolic acidosis and alkalosis; Respiratory acidosis and alkalosis	Syndrome of inappropriate secretion of ADH; Diabetes insipidus; Metabolic acidosis and alkalosis; Respiratory acidosis and alkalosis	ppt	theoretical exam, Class discussions
5	3 theory 2 practical	MI; Rheumatic heart disease; Heart failure.	MI; Rheumatic heart disease; Heart failure	ppt	theoretical exam, Class discussions
6	3 theory 2 practical	Emphysema and bronchiectasis; Cystic fibrosis; Pulmonary embolism; Pulmonary hypertension.	Emphysema and bronchiectasis; Cystic fibrosis; Pulmonary embolism; Pulmonary hypertension.	ppt	theoretical exam, Class discussions
7	3 theory 2 practical	Hypertensive glomerular disease; Pyelonephritis; Drug related nephropathies; Acute renal failure; Chronic renal failure.	Hypertensive glomerular disease; Pyelonephritis; Drug related nephropathies Acute renal failure; Chronic renal failure.	ppt	theoretical exam, Class discussions
8	3 theory 2 practical	Irritable bowel syndrome. Crohn's disease; Diarrhea; Celiac disease.	Irritable bowel syndrome. Crohn's disease; Diarrhea; Celiac disease.	ppt	theoretical exam, Class discussions
9	3 theory 2 practical	Graves diseases.	Graves diseases.	ppt	theoretical exam, Class discussions
10	3 theory 2 practical	Thyrotoxicosis	Thyrotoxicosis	ppt	theoretical exam, Class discussions
11	3 theory 2 practical	Diabetes mellitus and metabolic syndrome.	Diabetes mellitus and metabolic syndrome.	ppt	theoretical exam, Class discussions

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12	3 theory 2 practical	Metabolic and rheumatic disorders of skeletal system: Osteoporosis; Osteomalacia and rickets.	Metabolic and rheumatic disorders of skeletal system: Osteoporosis; Osteomalacia and rickets.	ppt	theoretical exam, Class discussions
13	3 theory 2 practical	Ankylosing spodylitis; Gout; Osteoarthritis syndrome.	Ankylosing spodylitis; Gout; Osteoarthritis syndrome.	ppt	theoretical exam, Class discussions
14	3 theory 2 practical	Alteration in immune response: Hypersensitivity disorders	Alteration in immune response: Hypersensitivity disorders	ppt	theoretical exam, Class discussions
15	3 theory 2 practical	Immunodeficiency disorders.	Immunodeficiency disorders.	ppt	theoretical exam, Class discussions

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	- Essential in Pathophysiology by: Carol Mattson Porth 2nd Ed. Volume 1 and Volume 2
Main References (sources)	Pathophysiology Conale.
Recommended Books & References (Scientific Journals, Reports ...)	1) Articles. 2) Internet
Websites or Electronic References	

Course Description (1)

1. Course Title		Medical Physics	
2. Course Code		401210	
3. Semester/Year		Second semester	
4. Description Preparation Date		28/3/2023	
5. Available Attendance Form		Presence only	
6. No. of Hours (Total)		3	
7. No. of Credits (Total)		2	
8. Course Administrator Name		Assistant lecturer hassanien M alwash	
9. E-mail		hassanien@albayan.edu.iq	
10. Course Objectives			
Knowledge	A1	Know the importance of physics in medicine and its sciences	
	A2	Knowledge of anatomical applications	
	A3	How organs work	
	A4	Get an overview of the nature of anatomical work	
Skills	B1	Read medical tests and reports	
	B2		
	B3		
	B4		
Values	C1		
	C2		
	C3		
	C4		
11. Teaching and Learning Strategies			
1.		4.	
2.		5.	
3.		6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	: Method of physics and standards; thermodynamics system and system properties; conservation of energy principle; application of thermodynamics; Zeroth law.	General concepts	Aperance only	
2	2	; temperature and temperature scales (Celsius, Fahrenheit, Kelvin); equation of state; ideal and real gas; general law of gas clauses equation and Vander Waas equation; equilibrium and types equilibrium; compressibility fac coefficient of volume expansi elastic coefficient (bulk modulus).	Pressure	Aperance only	
3	2	; work and mechanical forms of work; power; the 1st law of thermodynamics; Boyles Charles law; practice exercises.	Heat and energy	Aperance only	
4	2	; reversible and irreversible process; entropy and enthalpy; inter energy; heat capacity and adiab process; the relation betw	The 2nd law of thermodynamics	Aperance only	

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		pressure, volume, and temperature adiabatic process.			
5	2	Kinetic theory of a gas; electromagnetic waves; Maxwell equations; physical optic	Fundamental of physics:	Aperance only	
6	2	law; planks law; Stefan- Boltz man law; Wien s law; Black body and Albedo; H transfer (radiati convection, conduction).	Radiation: Kirshoffs	Aperance only	
7	2	absorption of X-Ray; U.V and IR effects; medical and biolog effects of radiation; radiotherapy.	Production of X-Ray and X-I spectra;	Aperance only	
8					
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13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect) End of semester exam: 60 marks....

14. Learning & Teaching Resources

Required textbooks (curricular if any)	
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	

Course Description (44)

1. Course Title	Biopharmaceuticals and pharmaceuticals		
2. Course Code	404104		
3. Semester/Year	First semester / 2024-2025		
4. Description Preparation Date	29/9/2024		
5. Available Attendance Form	Attendance at college		
6. No. of Hours (Total)	4 hours (2 theoretical + 2 practical)		
7. No. of Credits (Total)	3		
8. Course Administrator Name	A. lecturer Ahmed hamed salman + A. lecturer Maha Hikmat Philip		
9. E-mail	Ahmed.s@albyan.edu.iq		
10. Course Objectives			
Knowledge	A1	Identify the physical properties of drugs and how to evaluate them laboratory	
	A2	Identify the mechanism of drug absorption within the body and the factors affecting it	
	A3	The difference between the single-compartment and multi-compartment models.	
	A4	Calculating the bioavailability of drugs	
Skills	B1	Drawing the standard curve for drugs	
	B2	Laboratory evaluation of drugs	
	B3	Study of aspirin degradation in the laboratory	
	B4	Calculating the shelf life of aspirin	
Values	C1	Conducting oral discussions with small groups of students b	
	C2	Doing presentations	
	C3	Reports and homework	
11. Teaching and Learning Strategies			
1.	Explaining and presenting the theoretical material using a visual projector.	4.	Discussing with students during theoretical and practical lectures to convey the idea of the lecture or laboratory in a smooth manner that facilitates the student's learning and understanding of the scientific material.
2.	Conducting practical experiments to apply the theoretical material practically.		
3.	Writing scientific reports related to practical experiments and conducting the necessary calculations for the experiments by students.		

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Introduction to biopharmaceuticals	Definition of biopharmaceutics and type patterns: one-compartment and two-compartment	1.Explaining and presenting the theoretical material using a visual project	Discussions and practical evaluation of results
2	2	Biopharmaceutical standards	Drug absorption and absorption mechanism	2. Use the whiteboard to illustrate mathematical operations	Discussions and practical evaluation of results
3	2	Types of absorption mechanism	Determining factors on the absorption mechanism	3. Conduct practical experiments to apply the theoretical material in a practical way	Discussions and practical evaluation of results
4	2	Physical factors and Chemicals affecting Dissolution speed	Characteristics of the drug and additives	4. Writing practical reports related to practical experiments	Discussions and practical evaluation of results
5	2	Complementary physical factors affecting chemical	The type of additives for the drug dose and type of drug doses	5. Discussing with students during lectures to convey the lecture idea smoothly	Semester exam
6	2	One cubicle	Single-chamber model after oral doses and glaucoma routes		Discussions and practical evaluation of results
7	2	Multi-compartment	Multi-compartment model Two-compartment model after oral doses and intravenous doses		Discussions and practical evaluation of results
8	2	Drug absorption kinetics	Zero-order and first-order absorption mechanism		Discussions and practical evaluation of results
9	2	Repeated drug doses	The time required to reach stability		Discussions and practical evaluation of results
10	2	Repeated drug doses	Medicine collection		Discussions and practical evaluation of results
11	2	Linear kinematics	Causes of linear motion		Discussions and practical evaluation of results
12	2	Bioavailability and valence	Types of bioavailability		Discussions and practical evaluation of results
13	2	Elimination of drugs from vital systems	Elimination via kidney and liver		Discussions and practical evaluation of results
14	2	Binding of the drug to protein	Kinetics of drug binding to protein		Discussions and practical evaluation of results

15	2	Dose regulation in case of renal failure	Regulation of drug dosage		Discussions and practical evaluation of results
					final exam

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect) End of semester exam: 60 marks....

14. Learning & Teaching Resources

Required textbooks
(curricular if any)

Shargel L., Yu AB., (Eds). Applied Biopharmaceutics and Pharmacokinetics

Main References
(sources)

Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 3ed Michael E. Aulton (Author). Churchill, Livingstone- Elsevier

Recommended Books & References
(Scientific Journals, Reports ...)

Websites or Electronic References

YouTube / Google scholar / USP / BP

Course Description (67)

1. Course Title	Pharmaceutical biotechnology	
2. Course Code	405214	
3. Semester/Year	Second semester / 2024-2025	
4. Description Preparation Date	29/9/2024	
5. Available Attendance Form	Attendance at college	
6. No. of Hours (Total)	One hour (Theoretical)	
7. No. of Credits (Total)	1	
8. Course Administrator Name	Asst.Prof Dr Mustafa Raad Abdel Baqi	
9. E-mail	Mustafa.raad@albayan.edu.iq	
10. Course Objectives		
Knowledge	A1	Knowledge about biotechnology products such as proteins
	A2	Obtain information on the basic principles of formulation and preparation of biotechnology products medicines Biopharmaceutical
	A3	To be able to formulate therapeutic proteins
	A4	Knowledge about freeze-drying technology and excipients used in protein formulation is provided by the Technology
Skills	B1	Solve problems during the preparation of pharmaceutical biotechnology products
	B2	Make presentations on specific topics
	B3	Writing scientific reports
	B4	Register in small groups
Values	C1	Discussions in small groups
	C2	presentations
	C3	small projects
11. Teaching and Learning Strategies		
1. Explaining and presenting the theoretical material using a visual projector.		
2. Discussing with students during theoretical and practical lectures to convey the idea of the lecture or laboratory in a smooth manner that facilitates the student's learning and understanding of the scientific material.		

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	Biotechnology, molecular biotechnology pharmaceutical biotechnology, biotechnology, pharmaceutical biotechnology products	Introduction to biotechnology	Explaining and presenting theoretical material using visual projector.	1. Conducting semester and final exams
3	3	Microbial Considerations Microbial Considerations Sterilization- Removal of Pyrogens Viral Contamination	Formulation of biotechnological products (according to biopharmaceutical considerations)	Explaining and presenting theoretical material using a visual projector.	2. Conducting short daily exams at each lecture.
7	3	Ingredients found in preparations Intravenous from genetically modified products 1. Solubility improvers 2. Anti-absorption and anti-adsorption	Excipients for parenteral products solubility enhancers - and anti-adsorption agents	Explaining and presenting theoretical material using a visual projector.	
8	1	3. Material components Buffer, 4. Preservatives 5. And anti-oxidants 6. Osmotic materials - Freeze-drying of proteins - The importance of freeze-drying Typical excipients in the formulation of proteins prepared by the freeze-dried method	- Insulating materials - Preservatives - Ripe materials	Explaining and presenting theoretical material using a visual projector.	
					Midterm exam
9	1	Intravenous methods of administration of proteins, Oral administration of proteins	Protein delivery and methods administration	Explaining and presenting theoretical material using a visual projector.	
10	1	Protein delivery: alternative methods protein administration	The potential pros and cons of different drug administration methods are different - Approaches used to enhance - bioavailability of proteins within the body	Explaining and presenting theoretical material using a visual projector.	
11	1	Pharmacokinetics and pharmacodynamics of Peptide and protein drugs	- Pharmacokinetics of protein therapeutics - Absorption of protein treatments and strategies To overcome the obstacles associated with the delivery of proteins via...	Explaining and presenting theoretical material using a visual projector.	

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			Oral, for intravenous versus subcutane proteins		
12	1	Distribution of therapeutic prot within the body	-Distribution mechanisms and circulati volumes for pharmacokinetics of therapeutic proteins - Distribution by administration mediated by receptors	Explaining and presenting theoretical material using a vi projector.	
13	1	Proteolysis - Proton treatments rele from the body	Protein metabolic processes through digestive system	Explaining and presenting theoretical material using a vi projector.	
14	1	Renal metabolism of protein And secretion processes	Glomerular filtration, tubular absorp and post-glomerular filtration absorptio	Explaining and presenting theoretical material using a vi projector.	
15	1	Via rendezvous receptors - Via di shuttle - Via receptors	Protein metabolism in the liver	Explaining and presenting theoretical material using a vi projector.	
					Final exam

1. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks...

2. Learning & Teaching Resources

Required textbooks (curricular if any)	Pharmaceutical biotechnology by J.A. Crommelin, Robert D. Syinder.
Main References (sources)	Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 3ed Michael E. Aulton (Author). Churchill, Livingstone- Elsevier
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	YouTube / Google scholar

Course Description (18)

1. Course Title	Physical pharmacy I	
2. Course Code	402103	
3. Semester/Year	First semester- 2024/2025	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance at the college	
6. No. of Hours (Total)	5 hours (3 theoretical + 2 practical)	
7. No. of Credits (Total)	4 credits	
8. Course Administrator Name	Asst. Prof. Dr Hassanien Sagban Taghi	
	Lecturer Zahraa Mustafa Lecturer Gailany Ismail	
9. E-mail	h.sagban@albayan.edu.iq zahraa.mu@albayan.edu.iq	
10. Course Objectives :		
In the theoretical part: understanding and applying quantitative and theoretical principles of different states of matter and ways to benefit from them in the fields of pharmacy. It also helps the pharmacist calculate the solubility, compatibility and biological activity of drugs. As a result of this knowledge, it will help in the development of new drugs and formulations as well as in improving various drug delivery methods.		
Knowledge	A1	A comprehensive overview of states of matter.
	A2	A comprehensive overview of thermodynamics
	A3	A comprehensive overview of electrolyte and non-electrolyte solutions.
	A4	A comprehensive overview of ionic balance and buffers.
Skills	B1	Solve mathematical problems related to the course.
	B2	Presentation of a topic on a specific subject.
	B3	Writing scientific reports.
	B4	Small group tasks

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Values	C1	Educating students on professional humanitarian work and promoting and consolidating professional and ethical values among students to practice the pharmacist profession.
	C2	Raising students in the culture of integrity and fighting corruption in all its forms
	C3	Training students to respect the rights of the beneficiaries of their profession, their culture, religion, gender, race, and training the students to respect the freedom of thought, expression and creativity of others
	C4	Developing students' sense of responsibility during the study period and during work and enhancing the spirit cooperation and teamwork upon request.

11. Teaching and Learning Strategies

1.	Using data show devices and showing lecture slides	4.	Surprise quizzes
2.	Giving homework	5.	Conducting scientific experiments, and writing reports
3.	Conducting scientific discussions in class and presenting seminars	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	States of matter	binding forces between molecules, gases, liquids, solid and crystalline matters.	Using the smart board and solving mathematical problems	discussion
2	3	States of matter	phase equilibria and phase rule	Using the smart board and solving mathematical problems	Short quiz
3	3	States of matter	thermal analysis	Using the smart board and solving mathematical problems	discussion
4	3	Thermodynamics	First law	Using the smart board and solving mathematical problems	discussion
5	3	Thermodynamics	Second law	Using the smart board and solving mathematical problems	discussion
6	3	Thermodynamics	Third law, free energy function and applications	Using the smart board and solving mathematical problems	discussion
7	3	Solutions of non-electrolytes	Solutions of non-electrolytes, properties, ideal and real colligative properties	Using the smart board and solving mathematical problems	discussion
8	3	Solutions of non-electrolytes	molecular weight determination.	Using the smart board and solving mathematical problems	discussion
9	3	Solution of electrolytes	properties, Arrhenius theory of dissociation, theory of strong	Using the smart board and solving mathematical	discussion

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			electrolytes, ionic strength	problems	
10	3	Solution of electrolytes	Debye-Huchle theory, coefficients expressing colligative properties.	Using the smart board and solving mathematical problems	discussion
11	3	Ionic equilibria	Ionic equilibria, modern theories of acids, bases and salts, acid-base equilibria	Using the smart board and solving mathematical problems	discussion
12	3	Ionic equilibria	calculation of pH, acidity constants, the effect of ionic strength and free energy.	Using the smart board and solving mathematical problems	discussion
13	3	Buffer solution	Buffered and isotonic solutions	Using the smart board and solving mathematical problems	discussion
14	3	Buffer solution	Buffer equation; buffer capacity	Using the smart board and solving mathematical problems	discussion
15	3	Buffer solution	methods of adjusting tonicity and pH; buffer and biological system.	Using the smart board and solving mathematical problems	discussion

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Martin's physical pharmacy and pharmaceutical sciences, Patrick J. Sinko . Wolters Kluwer. Lippincott Williams &Wilkins. Philadelphia. 2011.
Main References (sources)	Physicochemical Principles of Pharmacy by Alexander Taylor Florence and David Attwood
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	Medscape, PubMed, Google scholar research articles

Course Description (25)

1. Course Title	Physical pharmacy II	
2. Course Code	402210	
3. Semester/Year	second semester- 2024/2025	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance at the college	
6. No. of Hours (Total)	5 hours (3 theoretical + 2 practical)	
7. No. of Credits (Total)	4 credits	
8. Course Administrator Name	Asst. Prof. Dr Hassanien Sagban Taghi	
	Lecturer Gailany Ismail	
9. E-mail	h.sagban@albayan.edu.iq	
10. Course Objectives :		
<p>In the theoretical part: understanding and applying quantitative and theoretical principles of different states of matter and ways to benefit from them in the fields of pharmacy. It also helps the pharmacist calculate the solubility, compatibility and biological activity of drugs. As a result of this knowledge, it will help in the development of new drugs and formulations as well as in improving various drug delivery methods.</p>		
Knowledge	A1	Enabling students to collect and understand the degree of solubility and distribution phenomena.
	A2	Enabling students to collect and understand the degree of reactions and the effect of temperature and other factors on the reaction speed.
	A3	Enabling students to obtain the degree of viscosity of liquids and rheology.
	A4	Enabling students to obtain and understand the properties of surfaces and colloidal solutions
Skills	B1	Solve mathematical problems related to the course.
	B2	Presentation of a topic on a specific subject.
	B3	Writing scientific reports.

	B4	Small group tasks
Values	C1	Educating students on professional humanitarian work and promoting and consolidating professional and ethical values among students to practice the pharmacist profession.
	C2	Raising students in the culture of integrity and fighting corruption in all its forms
	C3	Training students to respect the rights of the beneficiaries of their profession, their culture, religion, gender, race, and training the students to respect the freedom of thought, expression and creativity of others
	C4	Developing students' sense of responsibility during the study period and during work and enhancing the spirit cooperation and teamwork upon request.

11. Teaching and Learning Strategies

1.	Using data show devices and showing lecture slides	4.	Surprise quizzes
2.	Giving homework	5.	Conducting scientific experiments, and writing reports
3.	Conducting scientific discussions in class and presenting seminars	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Solubility and distribution phenomena,	solvent-solute interactions, solubility of gases in liquids, solubility of liquids in liquids.	Using the smart board and solving mathematical problems	discussion
2	3	Solubility and distribution phenomena,	solubility of non-ionic solids in liquids	Using the smart board and solving mathematical problems	Short quiz
3	3	Solubility and distribution phenomena,	distribution of solutes between immiscible solvents	Using the smart board and solving mathematical problems	discussion
4	3	Kinetics	rate and orders of reactions	Using the smart board and solving mathematical problems	discussion
5	3	Kinetics	influence of temperature and other factors on reactions rate	Using the smart board and solving mathematical problems	discussion
6	3	Kinetics	decomposition of medicinal agents and accelerated stability analysis.	Using the smart board and solving mathematical problems	discussion
7	3	Rheology	Newtonian systems, thixotropy measurement	Using the smart board and solving mathematical problems	discussion
8	3	Rheology	Negative thixotropy,	Using the smart board and solving mathematical problems	discussion
9	3	Rheology	determination of thixotropy.	Using the smart board and solving mathematical problems	discussion

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10	3	Interfacial Phenomena	Differentiate among different types of interfaces and describe relevant examples in the pharmaceutical sciences.	Using the smart board and solving mathematical problems	discussion
11	3	Interfacial Phenomena	surface and interface tension measurements.	Using the smart board and solving mathematical problems	discussion
12	3	Interfacial Phenomena	Classify surface-active agents and appreciate their applications in pharmacy	Using the smart board and solving mathematical problems	discussion
13	3	Colloids	dispersed system and pharmaceutical application	Using the smart board and solving mathematical problems	discussion
14	3	Colloids	Types of colloidal systems, kinetic properties	Using the smart board and solving mathematical problems	discussion
15	3	Colloids	diffusion, zeta potential, solubilization.	Using the smart board and solving mathematical problems	discussion

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Martin's physical pharmacy and pharmaceutical sciences, Patrick J. Sinko . Wolters Kluwer. Lippincott Williams &Wilkins. Philadelphia. 2011.
Main References (sources)	Physicochemical Principles of Pharmacy by Alexander Taylor Florence and David Attwood
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	Medscape, PubMed, Google scholar research articles

Course Description (55)

1. Course Title	Industrial pharmacy 2		
2. Course Code	405102		
3. Semester/Year	The first / 2023-2024		
4. Description Preparation Date	20/9/2024		
5. Available Attendance Form	Attendance at college		
6. No. of Hours (Total)	(5) Five hours (3 theoretical + 2 practical)		
7. No. of Credits (Total)	4		
8. Course Administrator Name	Asst. Prof. Dr. Mustafa Raad Abdel Baqi + lecturer. Alaa Saleh		
9. E-mail	Mustafa.raad@albayan.edu.iq		
10. Course Objectives			
Knowledge	A1	Introducing students to methods of manufacturing pills and laboratory equipment used in the laborator pharmaceutical factory.	
	A2	Introducing students to the methods of manufacturing capsules, the raw materials and the various dev used for this.	
	A3	Introducing students to the techniques and devices used in grain evaluation	
	A4	Introducing students to the different methods of packaging pills and laboratory equipment used in laboratory or pharmaceutical factory.	
Skills	B1	Teaching students to acquire the skill of manufacturing grains and evaluating them using labora equipment	
	B2	Teaching students to acquire the skill of measuring drug release and pill disintegration using labora equipment in media similar to the media inside the body in the stomach and intestines.	
	B3	Teaching students to acquire the skill of controlling the release of medicine from the capsule	
	B4	Teaching students to acquire the skill of manufacturing capsules in more than one way	
Values	C1	Educating students on professional humanitarian work and promoting and consolidating professional ethical values among students to practice the profession of pharmacist.	
	C2	Developing students' sense of responsibility during the study period and during work, and enhancing spirit of cooperation and teamwork among students.	
	C3	Raising students in the culture of integrity and fighting corruption in all its forms	
	C4	Training students to respect the rights of the beneficiaries of their profession, their culture, religion, gen and race, and training students to respect the freedom of thought, expression, and creativity of others.	
11. Teaching and Learning Strategies			
1.	Explaining and presenting the theoretical material using a visual projector.	4.	Conducting practical experiments to apply the theoretical material practically.
2.	Use the whiteboard to illustrate some mathematical operations and illustrative diagrams.	5.	Writing scientific reports related to practical experiments and conducting the necessary calculations for the experiments by students.

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3.	Showing explanatory video clips showing the form and method of operation of the devices used in pharmaceutical laboratories during the pharmaceutical manufacturing process.	6.	Discussing with students during theoretical and practical lectures to convey the idea of the lecture or laboratory in a smooth and easy way
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12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Introduction to the grain industry	Introducing how to manufacture	1. Explaining and presenting theoretical material using a video projector.	1. Conducting semester and final exams
2	3	Grain industry	Various assessments of the grain industry	2. Use the whiteboard to illustrate some mathematical operations and illustrative diagrams.	2. Conduct short daily exams at the end of each lecture.
3	3	Grain evaluation	Determining factors for grain evaluation	3. Showing explanatory video clips showing the form and method of operation of the devices used in pharmaceutical laboratories during the pharmaceutical manufacturing process.	3. Conducting short oral and written exams in the laboratory.
4	3	Problems of the grain industry	Identify the most important obstacles and to get rid of them	4. Conducting practical experiments to apply the theoretical material practically.	4. Evaluation of reports for practical experiments.
5	3	Cereal packaging	Learn about the different methods of packaging grains	5. Writing scientific reports related to practical experiments and conducting the necessary calculations for the experiments for students.	
6	3	Quality control of grains	The most important tests to evaluate grains	6. Discussing with students during theoretical and practical lectures to convey the idea of the lecture in the laboratory in a smooth manner that facilitates the student's learning and understanding of the scientific material.	
7	3	Hard capsule manufacturing	Hard capsule manufacturing and evaluation		
8	3	Hard capsule evaluation	Different methods of evaluation		
9	3	Softgel manufacturing	Different manufacturing methods and their evaluation		

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10	3	Softgel evaluation	Learn about the different ways to eval capsules		
11	3	Microcapsule manufacturing	Manufacture of microcapsules using var methods And learn about its types		
12	3	Semi-solids	Learn about manufacturing methods factors		
13	3	Evaluation of semi-solids	Influencing its absorption and effectiveness		
14	3	Aerosol manufacturing	Learn about methods for evaluating s materials		
15	3	Aerosol evaluation	Methods of manufacturing aerosol		

13. Course Evaluation

Semester pursuit: 40 marks (20 theoretical aspect + 20 practical aspect)
End of semester exam: 60 marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	The Theory and Practice of Industrial Pharmacy by Leon Lachman 4th ed 2013
Main References (sources)	Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 3ed Michael E. Aulton (Author). Churchill, Livingstone Elsevier.
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	YouTube / Google scholar / USP / BP

Course Description (32)

1. Course Title		Pharmaceutical Technology 1	
2. Course Code		403103	
3. Semester/Year		1st Semester / 3rd stage / 2023-2024	
4. Description Preparation Date		20/9/2024	
5. Available Attendance Form		Attendance at college Laboratory	
6. No. of Hours (Total)		5 (3 theoretical + 2 practical)	
7. No. of Credits (Total)		4	
8. Course Administrator Name		Assist. lecturer. Gailani Ismael, Assist. lecturer Alaa Mahdi Salah	
9. E-mail		Gailani.ismael@albayan.edu.iq	
10. Course Objectives			
Knowledge	A1	The ability to perform calculations related to various pharmaceutical preparations.	
	A2	The ability to differentiate between different pharmaceutical dosage forms.	
	A3	The ability to select the ideal method and additives for preparing pharmaceutical dosage forms.	
	A4	The ability to choose the appropriate dosage form for active pharmaceutical ingredients.	
Skills	B1	Solving specific problems.	
	B2	Presenting the material in key points.	
	B3	Writing scientific reports.	
	B4	Small group tasks.	
Values	C1	Midterm and final exams.	
	C2	Short quizzes.	
	C3	Discussions within small groups.	
	C4	Assessment of laboratory reports.	
11. Teaching and Learning Strategies			
1.	explanation and presentation of the material using a visual projector.	4.	Facilitating discussion sessions for students.
2.	Conducting supporting scientific video presentations.	5.	
3.	Reports and practical assignments.	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Solutions	Solutions	The solution and its type	Discussions and practical result evaluation
2	3	+	Solubility and the factors affecting it	solubility and the factors affecting	Discussions and practical res evaluation
3	3	Solubility and factors affecting it	Solvents	Classifications of solutions	Discussions and practical res evaluation
4	3	Solvents	Aromatic solutions	Aqueous solutions and aromatic solutions	Discussions and practical res evaluation
5					Midterm exam
6	3	Syrups and sugar-based syrups	Syrups and sugar-based syrups	Syrups and sugar-based syrups	Discussions and practical res evaluation
7	3	Purification of solutions	Purification of solutions	Filtration of solutions	Discussions and practical res evaluation
8	3	Alcoholic preparations	Alcoholic preparations	Preparation of solutions, alcoholic solutions, and elixirs	Discussions and practical res evaluation
9	3	Elixirs	Elixirs	Preparation of solutions, alcoholic solutions, and elixirs	Discussions and practical res evaluation
10	3	Elixirs	Elixirs	Preparation of solutions, alcoholic solutions, and elixirs	Discussions and practical res evaluation
11	3	Extracted substances	Extraction and maceration	Using the smartboard and conducting scientific experiments	Discussions and practical res evaluation
12	3		Tinctures	Using the smartboard and solving mathematical problems	Discussions and practical res evaluation
13	3	Extracted substances	Colloidal solutions	Using the smartboard and conducting scientific experiments	Discussions and practical res evaluation
14	3	Tinctures	Colloidal solutions	Using the smartboard and solving mathematical problems	Discussions and practical res evaluation
15	3	Tinctures	Suspensions and emulsions	Using the smartboard	Discussions and practical res

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					evaluation
16	3	Colloidal solutions	Extraction and maceration	using the smartboard and conducting scientific experiments	Discussions and practical res evaluation
17	3	Colloidal solutions	Solutions	The solution and its type	Short exam
18					Final exam

13. Course Evaluation

..Semester pursuit:40marks(20theoreticalaspect+20practicalaspect)
Endofsemesterexam:60marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Ansel's pharmaceutical dosage forms and drug . Delivery 10 th Edition by loyd Allen (Author)
Main References (sources)	1- American pharmacy 2-. Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 3ed Michael E. Aulton (Author). Churchill, Livingstone- Elsevier
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	

Course Description (37)

1. Course Title		Pharmaceutical Technology 2	
2. Course Code		403209	
3. Semester/Year		2nd Semester / 3rd stage / 2023-2024	
4. Description Preparation Date		20/9/2024	
5. Available Attendance Form		Attendance at college Laboratory	
6. No. of Hours (Total)		5 (3 theoretical + 2 practical)	
7. No. of Credits (Total)		4	
8. Course Administrator Name		Assist. Lec. Ahmed H. Salman, Assist. Lec. Alaa M. Salah	
9. E-mail		Ahmed.s@albayan.edu.iq	
10. Course Objectives			
Knowledge	A1	The ability to perform calculations related to various pharmaceutical preparations.	
	A2	The ability to differentiate between different pharmaceutical dosage forms.	
	A3	The ability to select the ideal method and additives for preparing pharmaceutical dosage forms.	
	A4	The ability to choose the appropriate dosage form for active pharmaceutical ingredients.	
Skills	B1	Solving specific problems.	
	B2	Presenting the material in key points.	
	B3	Writing scientific reports.	
	B4	Small group tasks.	
Values	C1	Midterm and final exams.	
	C2	Short quizzes.	
	C3	Discussions within small groups.	
	C4	Assessment of laboratory reports.	
11. Teaching and Learning Strategies			
1.	explanation and presentation of the material using a visual projector.	4.	Facilitating discussion sessions for students.
2.	Conducting supporting scientific video presentations.	5.	
3.	Reports and practical assignments.	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Emulsions	The purpose of emulsions, methods preparing emulsions	Using the smartboard, conducting scientific experiments & solving mathematical problems.	Discussions and practical results evaluation
2	3	Emulsions	Emulsifying agents	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
3	3	Emulsions	HLB (Hydrophilic-Lipophilic Balance) system, stability of emulsions, creaming breaking	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
4	3	Collodions and collodions	Types of collodions and collodions	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
5				Using the smartboard, conducting scientific experiments & solving mathematical problems	Midterm exam
6	3	Suppositories	Types and formulas of suppository bases	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
7	3	Suppositories	Preparation of suppositories	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
8	3	Semi-solid dosage forms	Ointments, creams, and pastes	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
9	3	Semi-solid dosage forms	Types of ointment bases	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
10	3	Eye ointments	Eye ointments	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation

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11	3	Powders as a dosage form	Methods for reducing and determining the of solid materials	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
12	3	Powders and granules	Bulk and divided powders	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
13	3	Powders and granules	Benefits of powders	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
14	3	Capsules	Hard and soft gelatin capsules	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
15	3	Capsules	Problems in preparing solid dosage forms	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
16	3	Incompatibilities	Physical, chemical, and therapeutic incompatibilities	Using the smartboard, conducting scientific experiments & solving mathematical problems	Discussions and practical results evaluation
17	3	Emulsions	The purpose of emulsions, methods preparing emulsions	Using the smartboard, conducting scientific experiments & solving mathematical problems	Short exam
18					Final exam

13. Course Evaluation

Semesterpursuit:40marks(20theoreticalaspect+20practicalaspect)
Endofsemesterexam:60marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Ansel's pharmaceutical dosage forms and drug . Delivery 10 th Edition by loyd Allen (Author)
Main References (sources)	1- American pharmacy 2-. Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 3ed Michael E. Aulton (Author). Churchill, Livingstone- Elsevier
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	

Course Description (51)

1. Course Title	Pharmaceutical industry 1		
2. Course Code	404211		
3. Semester/Year	2nd Semester / Forth stage / 2023-2024		
4. Description Preparation Date	28/3/2024		
5. Available Attendance Form	Attendance at college Laboratory		
6. No. of Hours (Total)	5 (3 theoretical + 2 practical)		
7. No. of Credits (Total)	4		
8. Course Administrator Name	Assist. Prof. Mustafa Raad		
9. E-mail	Mustafa.raad@albayan.edu.iq		
10. Course Objectives			
Knowledge	A1	Introducing students to the basic operations during pharmaceutical manufacturing within pharmaceutical factories, which include mixing, grinding, drying, purification, filtration, calibration, and how to produce sustained-release medications and learning about their types.	
	A2	Introducing students to how effervescent tablets are manufactured and their characteristics as a dosage form in a practical applied manner within the laboratory.	
	A3	Educating students on the specifications and necessary properties of a drug and the impact of the materials that must be achieved before manufacturing.	
	A4	Acquainting students with the optimal methods for manufacturing long-term dosage forms of medications and how to evaluate them.	
Skills	B1	Educating students to acquire the skill of manufacturing effervescent tablets.	
	B2	Teaching students to acquire the skill of measuring the flow of solid powders using more than one method.	
	B3	Educating students to acquire the skill of calculating the necessary density for the flow of solid powders.	
	B4	Teaching students to acquire the skill of manufacturing long-term medicinal tablets and methods of evaluating them.	
Values	C1	Midterm and final exams	
	C2	Quizzes	
	C3	Discussions within small groups	
	C4	Seminar	
11. Teaching and Learning Strategies			
1.	Explanation and presentation of theoretical material using a visual projector.	4.	Facilitating discussion sessions for students.
2.	Conducting scientific video presentations.	5.	Quick questions during the lesson.
3.	Reports and homework assignments.	6.	Simple exams.

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Mixing (Part One)	Mixing of Liquids - Flow Properties	<p>1- Explanation and presentation of theoretical material using a visual projector.</p> <p>2- Utilizing a whiteboard for conducting and illustrating some mathematical operations and explanatory diagrams.</p> <p>3- Showcasing video clips that explain the shape and method of operation of the equipment used inside pharmaceutical factories during the drug</p>	Discussions and conducting short exams
2	3	Mixing (Part Two)	Mixing Mechanisms - Mixing Equipment		Discussions and conducting short exams
3	3	Mixing (Part Three)	Continuous and Batch Mixing of Liquids - Dynamics		Short exam
4	3	Grinding (Part One)	Mixing of Semi-Solid Substances - Mechanism of Mixing - Mixing Equipment for Semi-Solid Forms - Dough Mixers		Discussions and conducting short exams
5					Midterm exam
6	3	Grinding (Part Two)	Factors Influencing Grinding, Mill Techniques Selection, Grinding Techniques		Discussions and conducting short exams
7	3	Drying (Part One)	Moisture Measurement (Theory of Drying)		Discussions and conducting short exams
8	3	Drying (Part Two)	Drying of Solid Materials - Behavior of Solids During Drying / Drying Rate		Discussions and conducting short exams
9	3	Drying (Part Three)	Classification of Solid Materials Based on Drying Behavior - Types of Dryers - Specialized Drying Methods		Discussions and conducting short exams
10	3	Purification and Filtration (Part One)	Definition and Pharmaceutical Applications of Filtration - Filtration Theory - Filtration Media - Filtration Aids		Discussions and conducting short exams
11	3	Purification and Filtration (Part Two)	Filtration Equipment - Laboratory Filtration Processes - Safety Test - Filtration Equipment Selection		Discussions and conducting short exams
12	3	Calibration (Part One)	Checking the Integrity of the Method - Microbial Mortality Kinetics - Calibration Methods		Discussions and conducting short exams
13	3	Calibration (Part Two)	Thermal Methods - Non-Thermal Methods - Chemical Method - Surface Sanitization		Discussions and conducting short exams

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14	3	Sustained-Release Products (Part One)	Definition of Management Pathway Effect Formulation Preparations - Eye Medicine	manufacturing process.	Discussions and conducting short exams
15	3	Sustained-Release Products (Part Two)	Freeze-Dried Products - Long-acting Formulations - Formulation Development Compound Systems or Dissolving Systems		Discussions and conducting short exams
16	3	Sustained-Release Products (Part Three)	Selection of Solvents - Solubilization Added Materials		Discussions and conducting short exams
17	3	Mixing (Part One)	Containers - Quality Control		Short exam
18					Final exam

13. Course Evaluation

Semesterpursuit:40marks(20theoreticalaspect+20practicalaspect)
Endofsemesterexam:60marks

14. Learning & Teaching Resources

Required textbooks (curricular if any)	8. Shargel L., Yu AB., (Eds). Applied Biopharmaceutics and Pharmacokinetics
Main References (sources)	Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 3ed Michael E. Aulton (Author). Churchill, Livingstone- Elsevier
Recommended Books & References (Scientific Journals, Reports ...)	Pharmaceutic journal (MDPI) https://www.mdpi.com/journal/pharmaceutics
Websites or Electronic References	YouTube / Google Scholar /Medscape/ USP / BP

Course Description (10)

1. Course Title		Pharmaceutical calculation
2. Course Code		401209
3. Semester/Year		Second semester – 2024/2025
4. Description Preparation Date		2024
5. Available Attendance Form		Theoretical: two hours per week for 15 weeks. Practical: two hours per week for 15 weeks.
6. No. of Hours (Total)		2 hours theoretical + 2 hours practical
7. No. of Credits (Total)		3 credits
8. Course Administrator Name		Assistant lecturer: Maha Hikmat Philip Assistant lecturer: Ahmad Hamid Salman
9. E-mail		Maha.hikmat@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	Facilitate students' ability to identify the various categories of numbers and abbreviations frequently utilized in medical prescriptions, along with comprehending their significance.
	A2	Aid students in grasping the elements comprising a typical prescription, as well as the diverse unit systems and their interconnections.
	A3	Equip students with the knowledge and comprehension of instruments utilized in measuring weights and volumes.
	A4	Assist students in identifying the methods for calculating medication dosages grounded on various principles.
Skills	B1	Enable students to acquire the skill of writing scientific reports.
	B2	Enable students to possess pharmaceutical calculation abilities.
	B3	Enable students to possess the skills of working in laboratories and conducting scientific experiments.
	B4	Enable students to read and interpret all medical and pharmaceutical terms and symbols, also supporting pharmaceutical culture among students and within the community.
Values	C1	Educate students about professional humanitarian work and enhance and instill professional and ethical values in students for practicing the pharmacy profession.
	C2	Instill in students a culture of integrity and combatting corruption in all its forms.
	C3	Develop a sense of responsibility in students during their study and work period and promote a spirit of cooperation and teamwork among students.
	C4	Train students to respect the rights of beneficiaries of their profession, including their culture, religion, gender, and ethnicity, and to respect the freedom of thought, expression, and creativity of others.

11. Teaching and Learning Strategies

1.	Using the strategy of cooperation and assistance during the teaching process.	4.	Using websites and electronic references.
2.	Field visits to ministries and educational institutions related to the field.	5.	Assigning students tasks that require self-explanatory explanations in causal ways.
3.	Organizing seminars, courses, and workshops for students that promote spiritual values.	6.	Forming discussion groups during lectures.

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Distinguishing between different terms for balanced solutions.	Ionically balanced solutions and acidic solutions.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
2	2	Applying the basic principles of physics and chemistry in calculations related to balanced solutions.	Ionically balanced solutions and acidic solutions.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
3	2	Applying specific calculations for preparing balanced solutions.	Ionically balanced solutions and acidic solutions.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
4	2	Calculation of milliequivalents different formulas.	Miligram, milliequivalents, millimoles and milliosmoles.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
5	2	Conversion between Miligram and milliequivalents.	Miligram, milliequivalents, millimoles and milliosmoles.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
6	2	The calculations related to millimoles and milliosmoles problems.	Miligram, milliequivalents, millimoles and milliosmoles.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
7	2	The calculations related Milliequivalent problems.	Miligram, milliequivalents, millimoles and milliosmoles.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.

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				on white board.	
8	2	Performing calculations for diluting pharmaceutical solutions.	Changing product concentrations using concentrated solutions.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
9	2	Performing calculations for increasing the concentration of pharmaceutical solutions.	Changing product concentrations using concentrated solutions.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
10	2	Performing calculations for preparing and using concentrated standard solutions.	Changing product concentrations using concentrated solutions.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
11	2	Applications involving mixing solutions of different concentrations of pharmaceutical forms.	Changing product concentrations using concentrated solutions.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
12	2	Performing calculations for intravenous solutions for adults and children.	Intravenous solutions, injections, and rapid flow.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
13	2	Performing calculations for additives to intravenous solutions.	Intravenous solutions, injections, and rapid flow.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
14	2	Performing calculations for additives to intravenous solutions.	Intravenous solutions, injections, and rapid flow.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.
15	2	Application of specialized tables for the rapid flow of intravenous solutions.	Intravenous solutions, injections, and rapid flow.	Explaining information from the data show And solution of calculation on white board.	Group discussions and evaluation of results.

13. Course Evaluation	
Semester pursuit: 40 marks (20 marks for theoretical aspect + 20 marks for practical aspects) End of semester exam: 60 marks.	
14. Learning & Teaching Resources	
Required textbooks (curricular if any)	Ansel, "Pharmaceutical calculations", Wolters Kluwer. , 2010.
Main References (sources)	Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 3rd Michael E. Aulton (Author) Churchill, Elsevier
Recommended Books & References (Scientific Journals, Reports ...)	Elsevier
Websites or Electronic References	oogle scholar, science direct research gate, pubmed and academia

Course Description (2)

1. Course Title		Principles of Pharmacy
2. Course Code		401102
3. Semester/Year		First semester 2024/2025
4. Description Preparation Date		2024
5. Available Attendance Form		Theoretical
6. No. of Hours (Total)		2 hours
7. No. of Credits (Total)		2 credits
8. Course Administrator Name		Assistant lecturer: Maha Hikmat Philip
9. E-mail		Maha.hikmat@albyan.edu.iq
10. Course Objectives		
Knowledge	A1	Enable students to recognize the types of numbers, and abbreviations commonly used in medical prescriptions, and their meanings.
	A2	Enable students to understand the components of a standard prescription, different unit systems, and their relationship.
	A3	Enable students to acquire and understand tools for measuring weights and volumes.
	A4	Enable students to recognize how to calculate medication dosages based different principles.
Skills	B1	Enable students to possess pharmaceutical calculation abilities.
	B2	Enable students to acquire the skill of writing scientific reports.
	B3	Enable students to possess the skills of working in laboratories and conducting scientific experiments.
	B4	Enable students to read and interpret all medical and pharmaceutical terms and symbols, also supporting pharmaceutical culture among students and within the community.
Values	C1	Educate students about professional humanitarian work and enhance and instill professional and ethical values in students for practicing the pharmacy profession.
	C2	Instill in students a culture of integrity and combatting corruption in all its forms.
	C3	Train students to respect the rights of beneficiaries of their profession, including their culture, religion, gender, and ethnicity, and to respect the freedom of thought, expression, and creativity of others.
	C4	Develop a sense of responsibility in students during their study and work periods, and promote a spirit of cooperation and teamwork among students.

11. Teaching and Learning Strategies

1.	Using the strategy of cooperation and assistance during the teaching process.	4.	Forming discussion groups during lectures.
2.	Field visits to ministries and educational institutions related to the field.	5.	Assigning students tasks that require self-explanatory explanations in causal ways.
3.	Organizing seminars, courses, and workshops for students that promote spiritual values.	6.	Using websites and electronic references.

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Fundamentals measurements & calculation	Fundamentals measurements & calculation	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
2	2	Interpretation of prescriptions and medication orders	Translation of prescriptions and medication orders.	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
3	2	Interpretation of prescriptions and medication orders	Translation of prescriptions and medication orders.	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
4	2	The International System of Units	The International System of Units	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
5	2	The International System of Units	The International System of Units	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.

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				board.	
6	2	The Unified Measurement System and the Internal Conversion System	Common Systems of Measurement and internal conversion.	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
7	2	General considerations for the Unified Measurement System, Internal Conversion System, and Dosage Calculation	Conversion between measurement systems	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
8	2	Calculation of doses: general considerations.	Calculation of doses: general considerations.	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
9	2	Calculation of doses: patients parameters.	Calculation of doses: patients parameters.	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
10	2	Calculation of doses: patients parameters.	Calculation of doses: patients parameters.	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
11	2	Calculation of doses: patients parameters.	Calculation of doses: patients parameters.	Explaining information from the data show	Group discussions and evaluation of results.

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				and solution of calculations on white board.	
12	2	Density, specific gravity and specific volume	Density, specific gravity and specific volume	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
13	2	Density, specific gravity and specific volume	Density, specific gravity and specific volume	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
14	2	Reducing and enlarging formulas.	Reducing and enlarging formulas.	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
15	2	Reducing and enlarging formulas.	Reducing and enlarging formulas.	Explaining information from the data show and solution of calculations on white board.	Group discussions and evaluation of results.
					Final exam

13. Course Evaluation

30 marks for written exams throughout the semester and 70 marks for the final exam.

14. Learning & Teaching Resources

Required textbooks (curricular if any)	
Main References (sources)	Pharmaceutical Calculation, Howard C Ansel, 13th Edition 2010
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	Google scholar, science direct, research gate, pubmed and academia

Course Description (64)

1. Course Title		Advanced Pharmaceutical Analysis	
2. Course Code		405211	
3. Semester/Year		Second / fifth	
4. Description Preparation Date		2024	
5. Available Attendance Form		Formal attendance	
6. No. of Hours (Total)		3 hours over 15 weeks	
7. No. of Credits (Total)		4	
8. Course Administrator Name		Lecturer Dr. Haider Sultani	
9. E-mail		Haider.s@albayan.edu.iq	
10. Course Objectives			
Knowledge	A1	Ultraviolet (UV) spectroscopy	
	A2	IR spectroscopy	
	A3	NMR spectroscopy	
	A4	Mass spectroscopy	
Skills	B1	Illustration means	
	B2	Solve questions related to the course	
	B3	Follow up on external references	
	B4	Enhancing students' confidence by conducting scientific discussions using modern methods	
Values	C1	Asking questions about topics that can be discussed by students	
	C2	Asking questions that the student solves for the classroom	
	C3	Conduct quick intellectual tests	
	C4	Understanding the needs of the students to optimize the learning process	
11. Teaching and Learning Strategies			
1.	Lectures	4.	Conducting oral exams
2.	Reading methodical books	5.	Conducting surprise written tests
3.	Conducting scientific	6.	Conduct discussions among

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	discussions		students under the supervision of the responsible teacher
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The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Definition and application in the scientific and pharmaceutical field	Introduction to UV spectroscopy	Lectures	Pop quizzes and discussions
2	3	Definition and application in the scientific and pharmaceutical field	Sample preparation, Woodward rule & Beer Lambert law	Lectures	Pop quizzes and discussions
3	3	Definition and application in the scientific and pharmaceutical field	Introduction to IR spectroscopy	Lectures	Pop quizzes and discussions
4	3	Definition and application in the scientific and pharmaceutical field	Factors affecting IR spectroscopy	Lectures	Pop quizzes and discussions
5	3	Definition and application in the scientific and pharmaceutical field	Wave number of functional Groups and application of IR	Lectures	Pop quizzes and discussions
6	3	Definition and application in the scientific and pharmaceutical field	Introduction to NMR Spectroscopy	Lectures	Pop quizzes and discussions
7	3	Definition and application in the scientific and pharmaceutical field	Chemical shift for functional Groups and factors effecting it	Lectures	Pop quizzes and discussions

8	Mid-term Examination				
9	3	Definition and application in the scientific and pharmaceutical field	Types and number of signals, splitting patterns (j coupling value)	Lectures	Pop quizzes and discussions
10	3	Definition and application in the scientific and pharmaceutical field	Identification of unknown Compounds using NMR spectroscopy	Lectures	Pop quizzes and discussions
11	3	Definition and application in the scientific and pharmaceutical field	Introduction to Mass-Spectroscopy	Lectures	Pop quizzes and discussions
12	3	Definition and application in the scientific and pharmaceutical field	Basic terms (Molecular ion peak) And fragmentation rules	Lectures	Pop quizzes and discussions
13	3	Definition and application in the scientific and pharmaceutical field	Rearrangements in Mass spectroscopy	Lectures	Pop quizzes and discussions
14	3	Definition and application in the scientific and pharmaceutical field	Identification of unknown Compounds using Mass spectroscopy	Lectures	Pop quizzes and discussions
15	Final Examination				

Course Evaluation .12	
Distribution of the grade out of 100 (60 Final exam, 20 practical, 20 "interim grades) according to the tasks assigned to the student, such as daily preparation, .daily, oral, monthly, written exams, reports, etc	
Learning & Teaching Resources .13	
Required textbooks (curricular if any)	Spectrometric Identification of Organic Compounds by Silverstein, Bassler and .Morrill
Main References (sources)	Applications of absorption spectroscopy of organic compounds by Dyer JR; Organic chemistry by McMurry, 5th edition, Thomason learning CA, USA, 2000
Recommended Books & References (Scientific Journals, Reports ...)	يتوفر مراجع مساندة في محرك البحث google /https://www-keeler.ch.cam.ac.uk/lectures
Websites or Electronic References	https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Spectrpy/spectro.htm#content

Course Description (35)

1. Course Title	Organic pharmaceutical chemistry	
2. Course Code	403207	
3. Semester/Year	second / third	
4. Description Preparation Date	2024	
5. Available Attendance Form	Formal attendance	
6. No. of Hours (Total)	3	
7. No. of Credits (Total)	4	
8. Course Administrator Name	Lecturer Dr. Ameer Alwash	
9. E-mail	ameer.hussein@albayan.edu.iq	
10. Course Objectives		
Knowledge	A1	Know the biological effectiveness, if any, of the chemical composition
	A2	Know and study the functional groups of the drugs included in the study
	A3	Linking the chemical structure and biological effectiveness of drugs
	A4	Identify some types of medications, including methods of preparation and diagnosis, and explain how to avoid unwanted side effects from the drugs included in the study.
Skills	B1	Illustration means
	B2	Solve questions related to the course
	B3	Follow up on external references
	B4	Enhancing students' confidence by conducting scientific discussions using modern methods
Values	C1	Asking questions about topics that can be discussed by students
	C2	Asking questions that the student solves for the classroom
	C3	Conduct quick intellectual tests
	C4	

11. Teaching and Learning Strategies

1.	Lectures	4.	Conducting oral exams
2.	Reading methodical books	5.	Conducting surprise written tests
3.	Conducting scientific discussions	6.	Conduct discussions among students under the supervision of the responsible teacher

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3 theoretical hours	Definition and application of the scientific pharmaceutical field	General pathways of drug metabolism; Sites of drug biotransformation; Role of -cytochrome P450 mono oxidative biotransformation; Oxidative reactions; Reductive reactions; Hydrolytic reactions; Phase reactions	Lectures	Pop quizzes and discussions
2	3 theoretical hours	Definition and application of the scientific pharmaceutical field	Drug distribution	Lectures	Pop quizzes and discussions
3	3 theoretical hours	Definition and application of the scientific pharmaceutical field	General pathways of drug metabolism; Sites of drug biotransformation; Role of -cytochrome P450 mono oxidative biotransformation; Oxidative reactions; Reductive reactions; Hydrolytic reactions; Phase reactions	Lectures	Pop quizzes and discussions
4	3 theoretical hours	Definition and application of the scientific pharmaceutical field	Acid - Base properties	Lectures	Pop quizzes and discussions
5	3 theoretical hours	Definition and application of the scientific pharmaceutical field	General pathways of drug metabolism; Sites of drug biotransformation; Role of -cytochrome P450 mono oxidative	Lectures	Pop quizzes and discussions

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			biotransformation; Oxidative reactions; Reductive reactions; Hydrolytic reactions; Phase reactions		
6	3 theoretical hours	Definition and application of the scientific and pharmaceutical field	QSAR Model	Lectures	Pop quizzes and discussions
7	3 theoretical hours	Definition and application of the scientific and pharmaceutical field	General pathways of drug metabolism; Sites of drug biotransformation; Role of -cytochrome P450 mono-oxidative oxygenase biotransformation; Oxidative reactions; Reductive reactions; Hydrolytic reactions; Phase reactions	Lectures	Pop quizzes and discussions
8	Mid-term Examination				
9	3 theoretical hours	Definition and application of the scientific and pharmaceutical field	Molecular modeling Computer aided drug (Drug receptor and design) interaction: force involved	Lectures	Pop quizzes and discussions
10	3 theoretical hours	Definition and application of the scientific and pharmaceutical field	Factors affecting drug metabolism	Lectures	Pop quizzes and discussions
11	3 theoretical hours	Definition and application of the scientific and pharmaceutical field	Steric Features of drugs	Lectures	Pop quizzes and discussions
12	3 theoretical hours	Definition and application of the scientific and pharmaceutical field	Optical isomerism and biological activity Calculation of conformation	Lectures	Pop quizzes and discussions
13	3 theoretical hours	Definition and application of the scientific and pharmaceutical field	Three-dimensional structure activity relationship	Lectures	Pop quizzes and discussions

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		pharmaceutical field	databases and isosterism		
14	3 theoretical hours	Definition and application of the scientific pharmaceutical field	Drug-receptor interaction and subsequent events.	Lectures	Pop quizzes and discussions
15	Final Examination				

13. Course Evaluation

Distribution of the grade out of 100(60 Final exam, 20 practical, 20" interimgrades)according to the tasks assigned to the student, such as daily preparation,daily, oral, monthly, written exams, reports, etc

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Wilson and Gisvold's Textbook of Organic Medicinal John M. Beale, ed. ve and Pharmaceutical Chemistry 12 Jr., John H Block.
Main References (sources)	Wilson and Gisvold's Textbook of Organic Medicinal John M. Beale, ed. ve and Pharmaceutical Chemistry 12 Jr., John H Block.
Recommended Books & References (Scientific Journals, Reports ...)	Foye's Principles of Medicinal Chemistry by David A. Williams and Thomas L.Lemke
Websites or Electronic References	Google for searching practical pharmaceutical chemistry

Course Description (16)

1. Course Title	Organic chemistry II	
2. Course Code	402101	
3. Semester/Year	2023-2024	
4. Description Preparation Date	2024	
5. Available Attendance Form	attendance in the college	
6. No. of Hours (Total)	Three hours weakly for 15 weeks (theoretical) Two hours weakly for 15 weeks (practical)	
7. No. of Credits (Total)	4	
8. Course Administrator Name	Lecturer Ameer Alwash Assist. Lec. Baraa ghasan	
9. E-mail	Zeyad.Najmuldeen@albayan.edu.iq	
10. Course Objectives		
K n o w l e d g e	A1	Understand the concepts of organic chemistry
	A2	The chemistry of drugs one related scaffolds
	A3	Study the organic chemistry Functional groups
	A4	Organic Synthesis and reactions

Skills	B1	Organic chemistry lab analysis	
	B2	Functional group detection	
	B3	Identification of organic compounds	
	B4	Learning the best laboratory practice	
Values	C1	Team work among the working environment	
	C2	Preserve the environment	
	C3	Perfect self discipline	
	C4	Dealing with chemicals and laboratory devices	
11. Teaching and Learning Strategies			
1.	Quizzes	4.	Oral exams
2.	Reports	5.	Mid exam
3.	Focus group learning	6.	Final exam

11.Syllabus					
Evaluati on methods	Learnin g methods	Subjects	RLOs	Hours	Week
Quizzes	Lecture s	Benzene and aromatic compounds (Theory)	Synthesis and reaction	3	1
Quizzes	Lecture s	Electrophilic Aromatic Substitution	Synthesis and reaction	3	2
Quizzes	Lecture s	Phenol I	Synthesis and reaction	3	3
Quizzes	Lecture s	Phenol II	Synthesis and reaction	3	4
Quizzes	Lecture s	Carboxylic Acid I	Synthesis and reaction	3	5
Quizzes	Lecture s	Carboxylic Acid I	Synthesis and reaction	3	6
Quizzes	Lecture s	Functional Derivatives of Carboxylic acids I	Synthesis and reaction	3	7

			mid exam	1.5	8
Quizzes	Lectures	Functional Derivatives of Carboxylic acids II	Synthesis and reaction	3	9
Quizzes	Lectures	Aldehydes I	Synthesis and reaction	3	10
Quizzes	Lectures	Aldehydes II	Synthesis and reaction	3	11
Quizzes	Lectures	Ketone	Synthesis and reaction	3	12
Quizzes	Lectures	Amine I	Synthesis and reaction	3	13
Quizzes	Lectures	Amine II	Synthesis and reaction	3	14
			final Exam	3	15

13. Course Evaluation

Semester

40 marks (20 theoretical)& (20 practical)

60 marks final exam

14. Learning & Teaching Resources

Required textbooks

(curricular if any)

Organic" Boyd R.N and Morrison R.T. -
Hall, Prentice Edition th6 Chemistry"
. (1992) USA Inc.

Main References

(sources)

Organic" McMurry John
Thomson Edition th7 Chemistry"
. (2008) USA Inc. Learning,

Recommended Books & References

(Scientific Journals, Reports ...)

Scientific Journals And updated
knowledges

Websites or Electronic References

Search for organic chemistry

Course Description (23)

1. Course Title	Organic chemistry III	
2. Course Code	402208	
3. Semester/Year	2024-2025	
4. Description Preparation Date	2024	
5. Available Attendance Form	Physical attendance in the college	
6. No. of Hours (Total)	Two hours weakly for 15 weeks (theoretical) Two hours weakly for 15 weeks (practical)	
7. No. of Credits (Total)	3	
8. Course Administrator Name	Assist.lect.Zeyad duraid Najmuldeen Assist. Lec. Baraa ghasan	
9. E-mail	Zeyad.alhialy@albayan.edu.iq	
10. Course Objectives		
K n o w l e d g e	A1	Understand the concepts of heterocyclic organic chemistry
	A2	The chemistry of drugs one related heterocyclic scaffolds
	A3	Study the organic chemistry heterocyclic Functional groups
	A4	Organic heterocyclic compounds Synthesis and reactions
S	B1	heterocyclic Organic chemistry lab analysis

k i l s	B2	heterocyclic Functional group detection	
	B3	Identification of heterocyclic organic compounds	
	B4	Learning the best laboratory practice	
V a l u e s	C1	Team work among the working environment	
	C2	Preserve the environment	
	C3	Perfect self discipline	
	C4	Dealing with chemicals and laboratory devices	
11. Teaching and Learning Strategies			
1.	Quizzes	4.	Oral exams
2.	Reports	5.	Mid exam
3.	Focus group learning	6.	Final exam

.11 بنية المقرر					
Evaluation methods	Learning methods	Subjects	RLOs	Hours	Week
Quizzes	Lectures	Nomenclature of heterocyclic compounds	Synthesis and reaction	2	1
Quizzes	Lectures	Electrophilic Aromatic Substitution	Synthesis and reaction	2	2
Quizzes	Lectures	Pyrrole	Synthesis and reaction	2	3
Quizzes	Lectures	Furan and thiophene	Synthesis and reaction	2	4
Quizzes	Lectures	Six-membered ring heterocyclic	Synthesis and reaction	2	5
Quizzes	Lectures	Structure & reactions of pyridine.	Synthesis and reaction	2	6
Quizzes	Lectures	Saturated five-membered heterocyclic compounds.	Synthesis and reaction	2	7

			mid exam	1.5	8
Quizzes	Lectures	Functional Derivatives of Carboxylic acids II	Synthesis and reaction	2	9
Quizzes	Lectures	Heterocyclic of five member rings with two & three heteroatoms	Synthesis and reaction	2	10
Quizzes	Lectures	Heterocyclic of six member rings with two & three heteroatoms	Synthesis and reaction	2	11
Quizzes	Lectures	Fused Heterocyclic Compounds	Synthesis and reaction	2	12
Quizzes	Lectures	Quinolones	Synthesis and reaction	2	13
Quizzes	Lectures	Quinolones	and Synthesis reaction	2	14
			final Exam		15

13. Course Evaluation

Semester

40 marks (20 theoretical)& (20 practical)

60 marks final exam

14. Learning & Teaching Resources

Required textbooks

(curricular if any)

Organic" Boyd R.N and Morrison R.T. -
Hall, Prentice Edition th6 Chemistry"
. (1992) USA Inc.

Main References

(sources)

Organic" McMurry John
Thomson Edition th7 Chemistry"
. (2008) USA Inc. Learning,

Recommended Books & References

(Scientific Journals, Reports ...)

Scientific Journals And updated
knowledges

Websites or Electronic References

Search for organic chemistry

Course Description (54)

1. Course Title	Organic Pharm. Chemistry IV		
2. Course Code	405101		
3. Semester/Year	First / fifth		
4. Description Preparation Date	2024		
5. Available Attendance Form	Formal attendance		
6. No. of Hours (Total)	2		
7. No. of Credits (Total)	2		
8. Course Administrator Name	Lecturer Dr. Haider Sultani		
9. E-mail	Haider.s@albayan.edu.iq		
10. Course Objectives			
Knowledge	A1	Know the biological effectiveness, if any, of the chemical composition	
	A2	Know and study the functional groups of the drugs included in the study	
	A3	Linking the chemical structure and biological effectiveness of drugs	
	A4	Identify some types of medications, including methods of preparation and diagnosis and explain how to avoid unwanted side effects from the drugs included in the study	
Skills	B1	Illustration means	
	B2	Solve questions related to the course	
	B3	Follow up on external references	
	B4	Enhancing students' confidence by conducting scientific discussions using modern methods	
Values	C1	Asking questions about topics that can be discussed by students	
	C2	Asking questions that the student solves for the classroom	
	C3	Conduct quick intellectual tests	
	C4	Understanding the needs of the students to optimize the learning process	
11. Teaching and Learning Strategies			
1.	Lectures	4.	Conducting oral exams
2.	Reading methodical books	5.	Conducting surprise written tests
3.	Conducting scientific	6.	Conduct discussions among

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	discussions		students under the supervision of the responsible teacher
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The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Definition and application in the scientific and pharmaceutical field	Historical overview of Prodrugs and its progression	Lectures	Pop quizzes and discussions
2	2	Definition and application in the scientific and pharmaceutical field	Introduction of prodrugs	Lectures	Pop quizzes and discussions
3	2	Definition and application in the scientific and pharmaceutical field	Several examples of prodrugs are given	Lectures	Pop quizzes and discussions
4	2	Definition and application in the scientific and pharmaceutical field	Studying Wermuth classification Including examples of this type	Lectures	Pop quizzes and discussions
5	2	Definition and application in the scientific and pharmaceutical field	Studying prodrugs of functional Groups Including examples of this type	Lectures	Pop quizzes and discussions
6	2	Definition and application in the scientific and pharmaceutical field	Polymeric prodrugs and its Classification, several examples are given	Lectures	Pop quizzes and discussions
7	2	Definition and application in the scientific and pharmaceutical field	Bioprecursors prodrug and its Classification, several examples are give	Lectures	Pop quizzes and discussions
8	Mid-term Examination				

9	2	Definition and application in the scientific and pharmaceutical field	Introduction to Medicinal Chemistry and its importance	Lectures	Pop quizzes and discussions
10	2	Definition and application in the scientific and pharmaceutical field	Why the urgent need for the discovery of new drugs	Lectures	Pop quizzes and discussions
11	2	Definition and application in the scientific and pharmaceutical field	Combinatorial chemistry as an important tool in drug discovery	Lectures	Pop quizzes and discussions
12	2	Definition and application in the scientific and pharmaceutical field	Types of combinatorial chemistry Solid phase vs solution phase Techniques	Lectures	Pop quizzes and discussions
13	2	Definition and application in the scientific and pharmaceutical field	The role of computer aided drug design in drug discovery	Lectures	Pop quizzes and discussions
14	4	Definition and application in the scientific and pharmaceutical field	Report preparation and discussion	Lectures	Pop quizzes and discussions
15	Final Examination				

12. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

13. Learning & Teaching Resources

Required textbooks (curricular if any)	Wilson and Gisvold Textbook of Organic medicinal and pharmaceutical chemistry Delgado JN, Remers WA, (Eds); 12th ed, 2011
Main References (sources)	The Practice of Medicinal Chemistry 4th Edition by Camille Georges Wermuth, David Aldous, Pierre Raboisson & Didier Rognan, 2015
Recommended Books & References (Scientific Journals, Reports ...)	Fundamentals in Medicinal Chemistry, Gareth Thomas: Combinatorial Chemistry, Chapter 6
Websites or Electronic References	https://mcule.com/apps/1-click-docking http://www.swissdock.ch

Course Description (42)

1. Course Name	Organic Pharmaceutical Chemistry II	
2. Course Code	404102	
3. Semester/year	First/fourth semester	
4. Date this description was prepared	2024	
5. Available attendance forms	Official working hours	
6. Number of study hours (total)	three hours (over 15 weeks during the first semester)	
7. Number of units (total)	4	
8. Name of the course administrator	Assistant Lecturer ziyad duraid Assistant lecturer yaqen alhaq Fathallah Ghazi	
Email	ziyad@albayan.edu.iq	
9. Course objectives		
Knowledge	١أ	Knowing a group of compounds present in the body and similar drugs
	٢أ	Know and study the effective combinations of the drugs included in the study
	٣أ	Linking the chemical structure and biological effectiveness of drugs
	٤أ	Identify some types of drugs and the relationship of their chemical composition to their effectiveness, and explain how to avoid unwanted side effects from the drugs included in the study.
Skills	١ب	Means of illustration
	٢ب	Solve questions related to the course
	٣ب	Follow up on external sources
	٤ب	Enhancing students' confidence by conducting scientific discussions using modern methods
Value	١ج	Asking questions about topics that can be discussed by students
	٢ج	Asking questions that the student solves for the classroom
	٣ج	Conduct quick intellectual tests
	٤ج	The student must respect the opinions of his colleagues when discussing a topic

10. Teaching and learning strategies

.١	Lectures	٤.	Conducting oral exams
.٢	Reading methodical books	٥.	Conducting surprise written tests
.٣	Conducting scientific discussions	٦.	Conducting discussions among students under the supervision of the responsible teacher

Course structure .11

the week	hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
١	3 hours theory	definition and application in the scientific and pharmaceutical field	Cholinergic agents, cholinergic receptors and their subtypes.	Lectures	Pop quizzes and discussions
٢	3 hours theory	definition and application in the scientific and pharmaceutical field	Cholinergic agonists; stereochemistry and structure-activity relationships (SAR);	Lectures	Pop quizzes and discussions
٣	3 hours theory	definition and application in the scientific and pharmaceutical field	products; cholinesterase inhibitors.	Lectures	Pop quizzes and discussions
٤	3 hours theory	definition and application in the scientific and pharmaceutical field	Cholinergic blocking agent; structure-activity relationships (SAR); tropane alkaloid and analogues;	Lectures	Pop quizzes and discussions
٥	3 hours theory	definition and application in the scientific and pharmaceutical field	synthetic cholinergic blocking agents and products; ganglionic blocking agents (neuromuscular blocking agents).	Lectures	Pop quizzes and discussions
٦	3 hours theory	definition and application in the scientific and pharmaceutical field	Analgesic agents (SAR of morphine, SAR of meperidine type molecules; SAR of methadone type compounds; N-methylbenzomorphans,	Lectures	Pop quizzes and discussions
٧	3 hours theory	definition and application in the scientific and pharmaceutical field	antagonist type analgesics in benzomorphans). Analgesic receptors, endogenous opioids;	Lectures	Pop quizzes and discussions

٨	First mid-semester exam				
٩	3 hours theory	definition and application in the scientific and pharmaceutical field	Products; cough agents; Anti-inflammatory analgesics. Adrenergic agents (Adrenergic neurotransmitters);	Lectures	Pop quizzes and discussions
١٠	3 hours theory	definition and application in the scientific and pharmaceutical field	Adrenergic receptors; Drugs affecting Adrenergic neurotransmission;	Lectures	Pop quizzes and discussions
١١	3 hours theory	definition and application in the scientific and pharmaceutical field	empathomimetic agents; Adrenergic receptor antagonists.	Lectures	Pop quizzes and discussions
١٢	3 hours theory	definition and application in the scientific and pharmaceutical field	CNS depressant; Benzodiazepines and related compounds; Barbiturates; CNS depressant with skeletal muscle relaxant properties;	Lectures	Pop quizzes and discussions
١٣	3 hours theory	definition and application in the scientific and pharmaceutical field	Antipsycotics; Anticonvulsants.	Lectures	Pop quizzes and discussions
١٤	3 hours theory	definition and application in the scientific and pharmaceutical field	CNS Stimulants, Steroidal & nonsteroidal hormones	Lectures	Pop quizzes and discussions
١٥	Final exam for the first semester				

Course evaluation .12

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

Learning and teaching resources .13

Required prescribed books (Methodology, if any)	Wilson and Gisvold Textbook of Organic Medicinal and Pharmaceutical Chemistry; Delgado JN, Remers WA
Main references (Sources)	Organic pharmaceutical chemistry textbooks
Recommended supporting books and references (Scientific journals, reports....)	New research and articles
electronic references, Internet sites	Google for searching practical pharmaceutical chemistry

Course Description (48)

1. Course Name	Organic Pharmaceutical Chemistry III	
2. Course Code	404208	
3. Semester/year	Second /fourth stage	
4. Date this description was prepared	2024	
5. Available attendance forms	Official working hours	
6. Number of study hours (total)	three hours (over 15 weeks during the first semester)	
7. Number of units (total)	4	
8. Name of the course administrator	Assistant lec. Shahbaa Shafeeq Rzoqi Assistant lec. Ziad Duraid Najm Al-Din	
Email	Shahbaa.s@albayan.edu.iq	
9. Course objectives		
Knowledge	١أ	Know the different groups of antibiotics
	٢أ	Know and study the effective combinations of the drugs included in the study
	٣أ	Linking the chemical structure and biological effectiveness of drugs and improving effectiveness
	٤أ	Explain how to avoid unwanted side effects from the drugs studied
Skills	١ب	Means of illustration
	٢ب	Solve questions related to the course
	٣ب	Follow up on external sources
	٤ب	Enhancing students' confidence by conducting scientific discussions using modern methods
Values	١ج	Asking questions about topics that can be discussed by students
	٢ج	Asking questions that the student solves for the classroom
	٣ج	Conduct quick intellectual tests
	٤ج	The student must respect the opinions of his colleagues when discussing

	a topic		
10. Teaching and learning strategies			
١.	Lectures	٤.	Conducting oral exams
٢.	Reading methodical books	٥.	Conducting surprise written tests
٣.	Conducting scientific discussions	٦.	Conducting discussions among students under the supervision of the responsible teacher

Course structure .11

the week	hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	3 theoretical hours	definition and application in the scientific and pharmaceutical field	β -Lactam antibiotics (Penicillins)	Lectures	Pop quizzes and discussions
2	3 theoretical hours	definition and application in the scientific and pharmaceutical field	β-Lactamase inhibitors	Lectures	Pop quizzes and discussions
3	3 theoretical hours	definition and application in the scientific and pharmaceutical field	Cephalosporins and Monobactams.	Lectures	Pop quizzes and discussions
4	3 theoretical hours	definition and application in the scientific and pharmaceutical field	Aminoglycosides and Chloramphenicol;	Lectures	Pop quizzes and discussions
5	3 theoretical hours	definition and application in the scientific and pharmaceutical field	Tetracyclines; Macrolides; Lincomycins and Polypeptides;	Lectures	Pop quizzes and discussions
6	3 theoretical hours	definition and application in the scientific and pharmaceutical field	antiviral agents (properties of viruses, viral classification, products).	Lectures	Pop quizzes and discussions
7	3 theoretical hours	definition and application in the scientific and pharmaceutical field	Sulfonamides (chemistry, nomenclature, mechanism of action, resistance, toxicity, side effects, metabolism, protein binding, distribution and SAR); products;	Lectures	Pop quizzes and discussions

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		Sulfones.				
٨	First mid-semester exam					
٩	3 theoretical hours	Definition and application in the scientific and pharmaceutical field	Anti-neoplastic agents;	Lectures	Pop quizzes and discussions	
١٠	3 theoretical hours	Definition and application in the scientific and pharmaceutical field	Alkylating agents;	Lectures	Pop quizzes and discussions	
١١	3 theoretical hours	Definition and application in the scientific and pharmaceutical field	Antimetabolites;	Lectures	Pop quizzes and discussions	
١٢	3 theoretical hours	Definition and application in the scientific and pharmaceutical field	Antibiotics; Plant products	Lectures	Pop quizzes and discussions	
١٣	3 theoretical hours	Definition and application in the scientific and pharmaceutical field	Miscellaneous compounds. Monoclonal antibodies; Gene therapy of cancer.	Lectures	Pop quizzes and discussions	
١٤	3 theoretical hours	Definition and application in the scientific and pharmaceutical field	Hormones and related compounds; Future anti-neoplastic agents;	Lectures	Pop quizzes and discussions	
١٥	Final exam for the first semester					

Course evaluation .12

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

Learning and teaching resources .13

Required prescribed books (Methodology, if any)	Wilson and Gisvold Textbook of Organic Medicinal and Pharmaceutical Chemistry; Delgado JN, Remers WA
Main references (Sources)	Faye's Principles of Medicinal Chemistry by David A. Williams and Thomas L.Lemke.
Recommended supporting books and references (Scientific journals, reports....)	New research and articles
electronic references, Internet sites	Google for searching practical pharmaceutical chemistry

Course Description (3)

1. Course Title	Analytical chemistry	
2. Course Code	401103	
3. Semester/Year	First semester / First year	
4. Description Preparation Date	2024	
5. Available Attendance Form	Formal attendance	
6. No. of Hours (Total)	4	
7. No. of Credits (Total)	4	
8. Course Administrator Name	Lecturer Dr. Haider Namh Sultani Assistant lec. Shahbaa shafeeq rzoqi	
9. E-mail	Haider.s@albayan.edu.iq	
10. Course Objectives		
Knowledge	A1	provide students with a theoretical background in chemical principles that is essential to practice chemical analysis
	A2	enables students to be understanding the importance of judging the accuracy and precision of experimental data and techniques of quantitative analysis
	A3	Laboratory safety rules, glassware laboratory, prepare solutions from solids and liquids, volumetric analysis (Titration)
	A4	
Skills	B1	Illustration means
	B2	Solve questions related to the course
	B3	Follow up on external references
	B4	Enhancing students' confidence by conducting scientific discussions using modern methods
Values	C1	Asking questions about topics that can be discussed by students
	C2	Asking questions that the student solves for the classroom
	C3	Conduct quick intellectual tests
	C4	

11. Teaching and Learning Strategies

1.	Lectures	4.	Conducting oral exams
2.	Reading methodical books	5.	Conducting pop-quizzes
3.	Conducting scientific discussions	6.	Conduct discussions among students under the supervision of the responsible teacher

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3 theory hours	Definition and application in the scientific and pharmaceutical fields	Review of elementary concept important to analytical chemistry: strong and weak electrolytes, importance weight and concentration	Lectures	Pop-quizzes and Discussion
2	3 theory hours	Definition and application in the scientific and pharmaceutical fields	Review of elementary concept important to analytical chemistry: strong and weak electrolytes importance weight and concentration	Lectures	Pop-quizzes and Discussion
3	3 theory hours	Definition and application in the scientific and pharmaceutical fields	The evaluation to gravimetric data, definition of terms.	Lectures	Pop-quizzes and Discussion
4	3 theory hours	Definition and application in the scientific and pharmaceutical fields	The evaluation to gravimetric data, definition of terms	Lectures	Pop-quizzes and Discussion
5	3 theory hours	Definition and application in the scientific and pharmaceutical fields	An introduction to gravimetric analysis statistical analysis of data, rejection of data, precipitation methods	Lectures	Pop-quizzes and Discussion
6	3 theory hours	Definition and application in the scientific and pharmaceutical fields	An introduction to gravimetric analysis statistical analysis of data, rejection of data,	Lectures	Pop-quizzes and Discussion

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			precipitation methods		
Mid Examination					
8	3 theory hours	Definition and application in the scientific and pharmaceutical fields	The scope of application of gravimetric analysis , inorganic and organic precipitating agents	Lectures	Pop-quizzes and Discussion
9	3 theory hours	Definition and application in the scientific and pharmaceutical fields	The scope of application of gravimetric analysis , inorganic and organic precipitating agents	Lectures	Pop-quizzes and Discussion
10	3 theory hours	Definition and application in the scientific and pharmaceutical fields	An introduction to volumetric methods of analysis, volumetric calculations acid-base equilibria and PH calculations	Lectures	Pop-quizzes and Discussion
11	3 theory hours	Definition and application in the scientific and pharmaceutical fields	An introduction to volumetric methods of analysis, volumetric calculations acid-base equilibria and PH calculations	Lectures	Pop-quizzes and Discussion
12	3 theory hours	Definition and application in the scientific and pharmaceutical fields	neutralization titrations of complex systems	Lectures	Pop-quizzes and Discussion
13	3 theory hours	Definition and application in the scientific and pharmaceutical fields	neutralization titrations of complex systems	Lectures	Pop-quizzes and Discussion
14	3 theory hours	Definition and application in the scientific and pharmaceutical fields	calculation of PH in complex systems	Lectures	Pop-quizzes and Discussion
15	3 theory hours	Definition and application in the scientific and pharmaceutical fields	calculation of PH in complex systems	Lectures	Pop-quizzes and Discussion
Final Examination					

13. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

14. Learning & Teaching Resources

Required textbooks (curricular if any)	<p>– Fundamentals of Analytical chemistry by - Skoog and West 8th.ed.(2008).</p> <p>– Chemical Analysis in the Laboratory A Basic Guide, by I. Mueller-Harvey and R. M. Baker, ISBN 0-85404-646-1</p>
Main References (sources)	<p>– Modern Pharmaceutical Drug Analysis, by L. Zechmeister) - And L. Von Cholnoky, ISBN (13) : 978-81- 224-2718-9</p>
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	Google for searching practical analytical chemistry

Course Description (12)

1. Course Title		Organic Chemistry I
2. Course Code		401211
3. Semester/Year		Second semester/ first year
4. Description Preparation Date		2024
5. Available Attendance Form		Formal attendance
6. No. of Hours (Total)		4
7. No. of Credits (Total)		4
8. Course Administrator Name		Lecturer dr. Haider Namh Sultani Assistant lec. Shahbaa Shafeeq
9. E-mail		Haider.s@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	To enable students to understand the chemistry of carbon, and classification, properties, and reactions of organic compounds.
	A2	Understanding the basic structure and properties of alkanes, alkenes and alkynes, in addition to the principles of stereochemistry and features of aromatic compounds.
	A3	
	A4	
Skills	B1	Illustration means
	B2	Solve questions related to the course
	B3	Follow up on external references
	B4	Enhancing students' confidence by conducting scientific discussions using modern methods
Values	C1	Asking questions about topics that can be discussed by students
	C2	Asking questions that the student solves for the classroom
	C3	Conduct quick intellectual tests
	C4	
11. Teaching and Learning Strategies		

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1.	Lectures	4.	Conducting oral exams
2.	Reading methodical books	5.	Conducting pop-quizzes
3.	Conducting scientific discussions	6.	Conduct discussions among students under the supervision of the responsible teacher

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3 theory hours	Definition and application in the scientific and pharmaceutical fields	Introduction to organic chemistry	Lectures	Pop-quizzes and Discussion
2	3 theory hours	Definition and application in the scientific and pharmaceutical fields	Alkanes and methane	Lectures	Pop-quizzes and Discussion
3	3 theory hours	Definition and application in the scientific and pharmaceutical fields	Alkynes and dienes	Lectures	Pop-quizzes and Discussion
4	3 theory hours	Definition and application in the scientific and pharmaceutical fields	Alkynes and dienes	Lectures	Pop-quizzes and Discussion
5	3 theory hours	Definition and application in the scientific and pharmaceutical fields	Stereochemistry I & II	Lectures	Pop-quizzes and Discussion
6	3 theory hours	Definition and application in the scientific and pharmaceutical fields	Stereochemistry I & II	Lectures	Pop-quizzes and Discussion
Mid Examination					
8	3 theory hours	Definition application in scientific pharmaceutical fields	Alcohols and ethers.	Lectures	Pop-quizzes and Discussion
9	3 theory hours	Definition application in scientific	Alcohols and ethers.	Lectures	Pop-quizzes and Discussion

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		pharmaceutical fi			
10	3 theory hours	Definition application in scientific pharmaceutical fi	Alcohols and ethers.	Lectures	Pop-quizzes and Discussion
11	3 theory hours	Definition application in scientific pharmaceutical fi	Alcohols and ethers.	Lectures	Pop-quizzes and Discussion
12	3 theory hours	Definition application in scientific pharmaceutical fi	Alkyl halides.	Lectures	Pop-quizzes and Discussion
13	3 theory hours	Definition application in scientific pharmaceutical fi	Alkyl halides.	Lectures	Pop-quizzes and Discussion
14	3 theory hours	Definition application in scientific pharmaceutical fi	Cycloalkanes	Lectures	Pop-quizzes and Discussion
Final Examination					

13. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

14. Learning & Teaching Resources

Required textbooks (curricular if any)	1- Organic Chemistry by Robert T. Morrison and Robert N. Boyd. 2- Organic Chemistry by McCurry; 5 th ed. Thomson learning; CA, USA; 2000
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	
Websites or Electronic References	Google for searching practical organic chemistry

Course Description (62)

1. Course Name	Applied Therapeutics 2	
2. Course Code	405209	
3. Semester/year	Fifth stage students, second semester	
4. Date this description was prepared	2024-2025	
5. Available attendance forms	Attendance at college	
6. Number of study hours (total)	3 Theoretical	
7. Number of units (total)	2	
8. Name of the course administrator	Lect. Dr. Ekhlās Khammas Hasan	
Email	Ekhlās.k@albayan.edu.iq	
9. Course objectives		
Knowledge	A1	To be able to identify pathological conditions recorded in the patient's tympanum
	A2	-To be able to communicate with the patient in general diseases outpatient clinics
	A3	To be able to educate the patient regarding medications
	A4	To be able to match incorrect therapeutic methods with what is found in the sources
Skills	B1	Skills to identify new alternative medicines
	B2	Skills to determine the most important goal of treating common diseases
	B3	Enabling students to possess the skills to diagnose medical errors in the use and dispensing of medications

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	B4	Enabling students to possess the skills to use scientific research tools in the academic and scientific fields
Value	C1	Developing students' sense of belonging to and loyalty to the homeland
	C2	Educating students on professional humanitarian work and promoting and consolidating professional and ethical values among students to practice the profession of pharmacist.
	C3	Developing students' sense of responsibility during the study period and during work, and enhancing the spirit of cooperation and teamwork among students
	C4	Training students to respect the rights of the beneficiaries of their profession, their culture, religion, gender, and race, and training students to respect the freedom of thought, expression, and creativity of others.

10. Teaching and learning strategies

١.	Semester and final exams	٤.	Discussing the pathological conditions specific to each disease and the correct ways to treat them
٢.	Short exams during the lectures	٥.	
٣.	Discussions in small groups	٦.	

Course structure .11

the week	hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Adrenal gland diseases	Adrenal gland diseases	Data Show	theoretical exam, Class discussions
2	2	Thyroid diseases	Thyroid diseases	Data Show	theoretical exam, Class discussions
3	2	Alzheimer's disease	Alzheimer's disease	Data Show	theoretical exam, Class discussions
4	2	Fatigue and anxiety	Fatigue and anxiety	Data Show	theoretical exam, Class discussions
5	2	Depression diseases	Depression diseases	Data Show	theoretical exam, Class discussions
6	2	Schizophrenia	Schizophrenia	Data Show	theoretical exam, Class discussions
7	2	Contraceptives	Contraceptives	Data Show	theoretical exam, Class discussions
8	2	Menstrual disorder diseases	Menstrual disorder diseases	Data Show	theoretical exam, Class discussions
9	2	Hormone replacement therapy	Hormone replacement therapy	Data Show	theoretical exam, Class discussions
10	2	Introduction to cancer	Introduction to cancer	Data Show	theoretical exam, Class discussions
11	2	Blood cancers - acute leukemia	lood cancers - acute leukemia	Data Show	theoretical exam, Class discussions
12	2	Blood cancers - chronic leukemia	Blood cancers - chronic leukemia	Data Show	theoretical exam, Class discussions
13	2	breast cancer	breast cancer	Data Show	theoretical exam, Class discussions

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14	2	Prostate cancer	Prostate cancer	Data Show	Theoretical exam, class discussions
15	2	Negative effects of cancer treatments	Negative effects of cancer treatments	Data Show	Theoretical exam, class discussions
16	1	Antibiotic prophylaxis before Surgery	Antibiotic prophylaxis before surgery	Data Show	Theoretical exam, class discussions

12. Course evaluation	
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.	
13. Learning and teaching resources	
Required prescribed books (Methodology, if any)	Pharmacotherapy Principle and Practice 6 th editing
Main references (Sources)	Barbara G.Wells & Joseph T.Diririo, Pharmacotherapy ha book 7 th editing
Recommended supporting books and references (Scientific journals, reports....)	PubMed, pharmacy access.
electronic references, Internet sites	YouTube / Google scholar

Course Description (56)

1. Course Title		Applied Therapeutics I
2. Course Code		405103
3. Semester/Year		Fifth Year, First Semester
4. Description Preparation Date		2024
5. Available Attendance Form		Attendance at college
6. No. of Hours (Total)		3 hours theory per week
7. No. of Credits (Total)		3
8. Course Administrator Name		Lect. Dr. Ekhlās khammas hasan
9. E-mail		ekhlas.k@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	To be able to identify pathological conditions proven in the patient's prescription
	A2	To be able to communicate with the patient in general diseases outpatient clinics
	A3	To be able to educate the patient regarding medications
	A4	To be able to match incorrect therapeutic methods with what is found in reliable medical resources
Skills	B1	Skills to follow therapeutic methods
	B2	Skills to identify new alternative medications
	B3	Enabling students to possess the skills to identify medical errors in the use and dispensing of medications
	B4	Enabling students to acquire self-learning skills to acquire new information, skills and knowledge
Values	C1	Develop students' sense of belonging to and loyalty to their homeland
	C2	Raising students on humanitarian and professional work
	C3	Developing students' sense of responsibility during the period of study and work

C4

Enhancing the spirit of cooperation and teamwork among students

11. Teaching and Learning Strategies

1.	Explaining and presenting the theoretical material using a visual projector	4.	Writing scientific reports related to medical cases, correct treatment methods, and drug follow-up for students.
2.	Use the whiteboard to illustrate some mathematical operations and illustrative diagrams	5.	Discussing with students during theoretical lectures to convey the idea of the lecture in a smooth way that makes it easier for the student to learn and understand the scientific material.
3.	Showing explanatory video clips showing the form and method of operation of the equipment used in pharmaceutical laboratories during the pharmaceutical manufacturing process.	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	3	Atherosclerosis syndrome	Atherosclerosis syndrome	Whiteboard, data show	theoretical exam, Class discussions
2	3	Arrhythmia	Arrhythmia	Whiteboard, data show	theoretical exam, Class discussions
3	3	Blood clotting and thrombosis	Blood clotting and thrombosis	Whiteboard, data show	theoretical exam, Class discussions
4	3	Dyslipidemia	Dyslipidemia	Whiteboard, data show	theoretical exam, Class discussions
5	3	Shock	Shock	Whiteboard, data show	theoretical exam, Class discussions
6	3	Nervous system diseases	Nervous system diseases	Whiteboard, data show	theoretical exam, Class discussions
7	3	Liver Cirrhosis and viral hepatitis	Liver Cirrhosis and viral hepatitis	Whiteboard, data show	theoretical exam, Class discussions
8	3	Increased intraocular pressure - Nerve Fibrosis	Increased intraocular pressure - Nerve Fibrosis	Whiteboard, data show	theoretical exam, Class discussions
9	3	Acute kidney failure	Acute kidney failure	Whiteboard, data show	theoretical exam, Class discussions
10	3	Chronic kidney failure and dialysis	Chronic kidney failure and dialysis	Whiteboard, data show	theoretical exam, Class discussions
11	3	Parenteral nutrition	Parenteral nutrition	Whiteboard, data show	theoretical exam, Class discussions
12	3	Urinary incontinence and nocturnal urination in children	Urinary incontinence and nocturnal urination in children	Whiteboard, data show	theoretical exam, Class discussions
13	3	Interpretation of laboratory results	Interpretation of laboratory results	Whiteboard, data show	theoretical exam, Class discussions

14	3	Acid – base disorders Disorders of fluid and electrolytes	Acid – base disorders Disorders of fluid and electrolytes	Whiteboard, data show	theoretical exam, Class discussions
15	3	Inflammatory bowel diseases - Systemic lupus erythematosus	Inflammatory bowel diseases - Systemic lupus erythematosus	Whiteboard, data show	theoretical exam, Class discussions

13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير ... الخ

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Pharmacotherapy Principle and Practice 6 th edition
Main References (sources)	Barbara G.Wells & Joseph T.Diririo, Pharmacotherapy hand book 7 th edition
Recommended Books & References (Scientific Journals, Reports ...)	PubMed, pharmacy access.
Websites or Electronic References	YouTube / Google scholar

Course Description (49)

1. Course Title	Clinical Pharmacy II	
2. Course Code	404209	
3. Semester/Year	Fourth year students, 2nd semester	
4. Description Preparation Date	2024-2025	
5. Available Attendance Form	Attendance at college	
6. No. of Hours (Total)	2 theoretical + 2 practical	
7. No. of Credits (Total)	3	
8. Course Administrator Name	Asist.Lect. Ekhlās Khamas Hassan+ Asist Lect. Al-hussain Safaa	
9. E-mail	Ekhlās.k@albayan.edu.iq	
10. Course Objectives		
Sk Knowledge	A1	To be able to communicate with the patient and medical staff during the treatment stages
	A2	To be able to educate the patient regarding the medications given to them
	A3	To be able to overcome the difficulties and obstacles that hinder communication and drug education for patients and medical staff participating in the treatment stages.
	A4	To be able to read and dispense medical prescriptions
Sk	B1	Increasing communication skills with patients and medical staff during the

		treatment stages	
	B2	Increasing drug education skills for patients	
	B3	Increasing the skills of making sound decisions in giving correct drug consultations patients and overcoming all Obstacles that hinder the process of communication and drug education for patients and cooperation with the medical staff involved in Therapeutic stages.	
	B4	Enabling students to possess the skills of preparing pharmaceutical doses	
Values	C1	Developing students' sense of belonging to and loyalty to the homeland.	
	C2	Raising students to respect human dignity and professional humanitarian work.	
	C3	Promoting and consolidating professional and ethical values among students practicing the profession of pharmacist	
	C4	Raising students in a culture of integrity and fighting corruption in all its forms	
11. Teaching and Learning Strategies			
1.	Quizzes and oral exam.	4.	Midterm exam Final exam
2.	Encouraging reading books, research, and doing research Organizing conferences and seminars	5.	The Oski exam (a global system for testing students' speed of performance in reading and dispensing prescriptions, and a method dealing with patients)
3.	Participate in workshops	6.	Small and large discussion groups

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	1	Introduction	Introduction	ppt	theoretical exam, Class discussions
2	1	Patient care	Patient care	ppt	theoretical exam, Class discussions
3	2	Hypertension	Hypertension	ppt	theoretical exam, Class discussions
4	2	Cardiac infarction	Cardiac infarction	ppt	theoretical exam, Class discussions
5	2	Heart failure	Heart failure	ppt	theoretical exam, Class discussions
6	1	Cardiovascular disease	Cardiovascular disease	ppt	theoretical exam, Class discussions
7	2	asthma	asthma	ppt	theoretical exam, Class discussions
8	2	COPD	COPD	ppt	theoretical exam, Class discussions
9	2	DM	DM	ppt	theoretical exam, Class discussions
10	2	PUD	PUD	ppt	theoretical exam, Class discussions
11	1	Tuberculosis	Tuberculosis	ppt	theoretical exam, Class discussions
12	1	Meningitis	Meningitis	ppt	theoretical exam, Class discussions
13	1	Respiratory infections	Respiratory infections	ppt	theoretical exam, Class discussions

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14	2	Gastrointestinal infections	Gastrointestinal infections	ppt	Theoretical exam, class discussions
15	2	Rheumatoid arthritis	Rheumatoid arthritis	ppt	theoretical exam, Class discussions
16	2	Osteoarthritis	Osteoarthritis	ppt	theoretical exam, Class discussions
17	1	Infectious endocarditis	Infectious endocarditis	ppt	theoretical exam, Class discussions
18	2	Gout and osteoporosis	Gout and osteoporosis	ppt	theoretical exam, Class discussions
19	1	Urinary tract infection	Urinary tract infection	ppt	theoretical exam, Class discussions
20	2	Anemia	Anemia	ppt	theoretical exam, Class discussions

13. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, oral and written exam, reports, Mid-term and final exams, , etc.

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Roger Walker, Clive Edwards (eds), Clinical Pharmacy & Therapeutics
Main References (sources)	Roger Walker, Clive Edwards (eds), Clinical Pharmacy & Therapeutics
Recommended Books & References (Scientific Journals, Reports ...)	Articles
Websites or Electronic References	World health organization, FDA (U.S. Food and Drug Administration), NCBI

Course Description (43)

1. Course Title	Clinical Pharmacy I	
2. Course Code	404103	
3. Semester/Year	Fourth year students, first semester	
4. Description Preparation Date	2024	
5. Available Attendance Form	Attendance at college	
6. No. of Hours (Total)	2theoretical + 2 practical	
7. No. of Credits (Total)	3	
8. Course Administrator Name	lect.Dr. Ekhlal Khamas Hassan + Asist lect. Al-husseini Safaa	
9. E-mail	Ekhlal.k@albayan.edu.iq	
10. Course Objectives		
Skil Knowledge	A1	To be able to communicate with the patient and medical staff during the treatment stages
	A2	To be able to educate the patient regarding the medications given to them
	A3	To be able to overcome the difficulties and obstacles that hinder communication and drug education for patients and medical staff participating in the treatment stages.
	A4	To be able to read and dispense medical prescriptions
	B1	Increasing communication skills with patients and medical staff during

		treatment stages	
	B2	Increasing drug education skills for patients	
	B3	Increasing the skills of making sound decisions in giving correct drug consultations patients and overcoming all Obstacles that hinder the process of communication a drug education for patients and cooperation with the medical staff involved in Therapeutic stages.	
	B4	Enabling students to possess the skills of preparing pharmaceutical doses	
Values	C1	Developing students' sense of belonging to and loyalty to the homeland.	
	C2	Raising students to respect human dignity and professional humanitarian work.	
	C3	Promoting and consolidating professional and ethical values among students practicing the profession of pharmacist	
	C4	Raising students in a culture of integrity and fighting corruption in all its forms	
11. Teaching and Learning Strategies			
1.	Quizzes and oral exam.		4. Midterm exam Final exam
2.	Encouraging reading books, research, and doing research Organizing conferences and seminars		5. The Oski exam (a global system for testing students' speed of performance in reading and dispensing prescriptions, and a method dealing with patients)
3.	Participate in workshops		6. Small and large discussion groups

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Introduction to commur pharmacy	Introduction to commur pharmacy	ppt	theoretical exam, Class discussions
2	2	Respiratory problems	Respiratory problems	ppt	theoretical exam, Class discussions
3	2	Digestive system problems	Digestive system problems	ppt	theoretical exam, Class discussions
4	2	Practice child care	Practice child care	ppt	theoretical exam, Class discussions
5	2	Skin diseases	Skin diseases	ppt	theoretical exam, Class discussions
6	2	Women's health care	Women's health care	ppt	theoretical exam, Class discussions
7	2	Nervous system problems	Nervous system problems	ppt	theoretical exam, Class discussions
8	2	Eye problems	Eye problems	ppt	theoretical exam, Class discussions
9	2	Ear, nose and throat problems	Ear, nose and throat problems	ppt	theoretical exam, Class discussions
10	2	Oral health	Oral health	ppt	theoretical exam, Class discussions
11	2	Obesity and weight control	Obesity and weight control	ppt	theoretical exam, Class discussions
12	2	Pain and muscular system disorders The bone	Pain and muscular system disorders The bone	ppt	theoretical exam, Class discussions
13	2	Nicotine replacement therapy	Nicotine replacement therapy	ppt	theoretical exam,

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					Class discussions
14	2	Nutritional supplements	Nutritional supplements	ppt	Theoretical exam, class discussions
15	2	What's new in reclassify medicines	What's new in reclassify medicines	ppt	theoretical exam, Class discussions
16	2	Medication adherence and error	Medication adherence and errors	ppt	theoretical exam, Class discussions

13. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, oral and written exam, reports, Mid-term and final exams, , etc.

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Reference Text: Symptoms in the Pharmacy. A Guide to the Management of Common Illness, 6th .edition Lor waterfield, Community Pharmacy Hand Book, 5th edition
Main References (sources)	Symptoms in the Pharmacy. A Guide to the Management of Common Illness, 6th .edition, Community Pharmacy Hand Book, 5th edition
Recommended Books & References (Scientific Journals, Reports ...)	Articles
Websites or Electronic References	World health organization, FDA (U.S. Food and Drug Administration), NCBI

Course Description (63)

1. Course Title		Therapeutic Drug Monitoring
2. Course Code		405210
3. Semester/Year		Fifth year students / Second semester
4. Description Preparation Date		2025 - 2024
5. Available Attendance Form		Course system/Attendance at college
6. No. of Hours (Total)		2theoretical + 2 practical
7. No. of Credits (Total)		3
8. Course Administrator Name		Assist. Lect. Mohammed K. Abbood
9. E-mail		Mohammed.k@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	Ability to communicate effectively with patients and the medical team during treatment phases.
	A2	Enabling students to educate patients about the medications prescribed to them including explaining medication instructions in detail.
	A3	Developing students' skills to overcome challenges and obstacles that may hinder communication and drug education for patients and the medical team.
	A4	The ability to determine doses using medication control in a safe and effective manner.
Skills	B1	Develop communication skills with patients and the medical team during all stages of treatment.
	B2	Enhance medication education skills for patients to ensure their correct understanding of prescribed medications.
	B3	Enhancing sound decision-making skills in providing accurate drug consultations to patients, while excelling in dealing with the challenges facing drug communication and education processes.
	B4	Developing drug monitoring and follow-up skills for patients to ensure effectiveness of treatment.
Values	C1	Developing students' sense of belonging to and loyalty to the homeland.
	C2	Raising students to respect human dignity and professional humanitarian work.
	C3	Promoting and consolidating professional and ethical values among students practicing the profession of pharmacist

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C4	Raising students in a culture of integrity and fighting corruption in all its forms		
11. Teaching and Learning Strategies			
1.	Lectures	4.	Educational laboratories
2.	Hospital training	5.	Discussing cases
3.	Seminars	6.	

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Introduction	Introduction	ppt	theoretical exam, Class discussions
2	2	Review the basics of pharmacokinetics	Review the basics of pharmacokinetics	ppt	theoretical exam, Class discussions
3	2	Review the basics of pharmacodynamics	Review the basics of pharmacodynamics	ppt	theoretical exam, Class discussions
4	2	Review of clinical pharmacokinetic and clinical pharmacodynamic equations and calculations	Review of clinical pharmacokinetic and clinical pharmacodynamic equations and calculations	ppt	theoretical exam, Class discussions
5	2	Clinical pharmacokinetics and clinical pharmacodynamics in special types of patients	Clinical pharmacokinetics and clinical pharmacodynamics in special types of patients	ppt	theoretical exam, Class discussions
6	2	Clinical pharmacokinetics and clinical pharmacodynamics of antibiotics.	Clinical pharmacokinetics and clinical pharmacodynamics of antibiotics.	ppt	theoretical exam, Class discussions
7	2	Midterm exam	Midterm exam	ppt	theoretical exam, Class discussions
8	2	Clinical pharmacokinetics and clinical pharmacodynamics of cardiovascular disease drugs.	Clinical pharmacokinetics and clinical pharmacodynamics of cardiovascular disease drugs.	ppt	theoretical exam, Class discussions
9	2	Clinical pharmacokinetics and pharmacodynamics	Clinical pharmacokinetics and pharmacodynamics	ppt	theoretical exam, Class discussions
10	2	Clinical antiepileptic drugs.	Clinical antiepileptic drugs.	ppt	theoretical exam, Class discussions
11	2	Clinical pharmacokinetics and pharmacodynamics	Clinical pharmacokinetics and pharmacodynamics	ppt	theoretical exam, Class discussions

13. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, oral and written exam, reports, Mid-term and final exams, , etc.

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Reference Text: Roger Walker, Clive Edwards (eds), Clinical Pharmacy & Therapeutics.2012 Barbara G.Wells & Joseph T. Diriro, Pharmacotherapy hand book 7th Edition.
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	1) Articles. 2) Internet
Websites or Electronic References	

Course Description (65)

1. Course Title		Hospital Training
2. Course Code		405212
3. Semester/Year		Fifth year students
4. Description Preparation Date		2024
5. Available Attendance Form		Attendance at college and hospital
6. No. of Hours (Total)		4 hours per week
7. No. of Credits (Total)		2
8. Course Administrator Name		Assit. Lect. Ekhlās Khamas Hassan & Assit. Lect. Al-Hussein Safaa
9. E-mail		Ekhlās.k@albayan.edu.iq a.hussein@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	To be able to communicate with the patient and medical staff during treatment stages
	A2	To be able to educate the patient regarding the medications given to them
	A3	To be able to overcome the difficulties and obstacles that hinder communication and drug education for patients and medical staff participating in the treatment stages.
	A4	To be able to read and dispense medical prescriptions
Skills	B1	Increasing communication skills with patients and medical staff during treatment stages
	B2	Increasing drug education skills for patients
	B3	Increasing the skills of making sound decisions in giving correct drug consultations to patients and overcoming all Obstacles that hinder the process of communication and drug education for patients and cooperation with the medical staff involved in
	B4	

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Values	C1	Developing students' sense of belonging to and loyalty to the homeland.
	C2	Raising students to respect human dignity and professional humanitarian work.
	C3	Promoting and consolidating professional and ethical values among students practicing the profession of pharmacist
	C4	Raising students in a culture of integrity and fighting corruption in all its forms

11. Teaching and Learning Strategies

1.	Discussing case studies	4.	Written Exams
2.	Seminars	5.	Encouraging reading books, research, and doing research
3.	Oral Exams	6.	Small and large discussion groups

The Structure of the Course .12

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	4	Surgical Ward	Language of Surgery, Surgical Prophylaxis, Types of Surgical Operation, Thromboprophylaxis, Preoperative bowel preparation	Ppt. and Hospital Training	Theoretical exam, Class discussions
2	4	Surgical Ward	Intravenous fluid therapy, Blood transfusion and blood products, Preoperative prophylaxis against aspiration pneumonia, The control of pain, Nausea and vomiting, Constipation, Peri-operative care and diabetes	Ppt. and Hospital Training	Theoretical exam, Class discussions
3	4	Surgical Ward	Perioperative medication management, Peri-operative medication in patients with cardiovascular disease,	Ppt. and Hospital Training	Theoretical exam, Class discussions
4	4	Surgical Ward	Acute appendicitis, Gallstones, Common bile duct stones, Thyroidectomy	Ppt. and Hospital Training	Theoretical exam, Class discussions
5	4	Surgical Ward	Bowel Obstruction, Pancreatitis, Hernia, Guidelines on Parenteral Nutrition in Surgery.	Ppt. and Hospital Training	Theoretical exam, Class discussions
6	4	Gynecology and Obstetrics Ward	History of the Patient, Abortion, Teratogenicity of Drugs	Ppt. and Hospital Training	Theoretical exam, Class discussions
7	4	Gynecology and Obstetrics Ward	Common Complications of Pregnancy, Nausea and Vomiting, GERD, Mendelson's Syndrome, Obstetric Cholestasis.	Ppt. and Hospital Training	Theoretical exam, Class discussions
8	4	Gynecology and Obstetrics Ward	Diabetes mellitus in pregnancy, Pre-eclampsia, Preterm Labor, Prevention of Hemolytic Disease of the Newborn	Ppt. and Hospital Training	Theoretical exam, Class discussions
9	4	Gynecology and Obstetrics Ward	Toxoplasmosis, Labor, Induction and Augmentation of labour, Obstetric Hemorrhage	Ppt. and Hospital Training	Theoretical exam, Class discussions
10	4	Gynecology and	Caesarean Section, Ectopic Pregnancy, Heavy and Irregular Menstruation,	Ppt. and Hospital	Theoretical exam,

		Obstetrics Ward	Polycystic Ovarian Syndrome, Molar Pregnancy.	Training	Class discussions
11	4	Internal Medicine Ward	Hypertension (HTN), Heart Failure, Chronic Stable Angina	Ppt. and Hospital Training	Theoretical exam, Class discussions
12	4	Internal Medicine Ward	Acute Coronary Syndrome (ACS), Venous Thromboembolism, Stroke,	Ppt. and Hospital Training	Theoretical exam, Class discussions
13	4	Internal Medicine Ward	Atrial fibrillation, Cirrhosis and Portal Hypertension,	Ppt. and Hospital Training	Theoretical exam, Class discussions
14	4	Internal Medicine Ward	Upper gastrointestinal bleeding, Diabetes Mellitus	Ppt. and Hospital Training	Theoretical exam, Class discussions
15	4	Internal Medicine Ward	Acute kidney injury, chronic kidney disease	Ppt. and Hospital Training	Theoretical exam, Class discussions
16	4	Pediatrics Ward	Neonatal Jaundice, Neonatal Sepsis and Meningitis, Nephrotic syndrome, Hemolytic-Uremic Syndrome	Ppt. and Hospital Training	Theoretical exam, Class discussions
17	4	Pediatrics Ward	Infections	Ppt. and Hospital Training	Theoretical exam, Class discussions
18	4	Pediatrics Ward	Guillain–Barré syndrome, Cerebral palsy, Febrile convulsion,	Ppt. and Hospital Training	Theoretical exam, Class discussions
19	4	Pediatrics Ward	Kawasaki disease, Acute rheumatic fever, Congenital Heart Disease, Cystic Fibrosis	Ppt. and Hospital Training	Theoretical exam, Class discussions
20	4	Pediatrics Ward	Acute Gastroenteritis, Viral Hepatitis, Wilson’s disease, Diabetic ketoacidosis (DKA)	Ppt. and Hospital Training	Theoretical exam, Class discussions

Course Evaluation .13

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, oral and written exam, reports, Mid-term and final exams, , etc.

Learning & Teaching Resources .14

Required textbooks (curricular if any)	Pharmacotherapy Principle and Practice 6th edition Barbara G.Wells &Joseph T.Diririo, Pharmacotherapy hand book 7th edition .PubMed, pharmacy access
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	Current medical Diagnosis and Treatment, and guidelines.
Websites or Electronic References	World health organization, FDA, and NCBI, UpToDate.

Course Description (61)

1. Course Title		Pharmacoeconomics
2. Course Code		405208
3. Semester/Year		Fifth year students, second semester
4. Description Preparation Date		2024/2025
5. Available Attendance Form		Course system/Attendance at college
6. No. of Hours (Total)		2 theoretical * 15 weeks = 30 hours
7. No. of Credits (Total)		2
8. Course Administrator Name		Asst.Lect.Ahmed Alaa Hussein
9. E-mail		Ahmed.al@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	Enabling the graduate to communicate with patients and utilize all available means of communication with the patient, as well as with doctors throughout medical treatment phases.
	A2	Enabling the graduate to educate patients regarding the medications they are taking, including the pharmaceutical instructions provided to them, and overcoming all difficulties and barriers that prevent the delivery of the instructions to them.
Skills	B1	To be able to communicate with the patient and the medical team during the therapeutic stages.
	B2	To be able to educate the patient about the medications given to them.
	B3	To be able to overcome the difficulties and obstacles that hinder communication and pharmaceutical education for patients and the medical team involved in therapeutic stages.
	B4	To empower students to acquire and understand the economics of drugs and pharmaceutical policy.
Values	C1	Developing communication skills with the medical team during all stages

		treatment.
	C2	Empowering students to acquire self-learning skills to absorb new information and develop new skills and knowledge.
	C3	Using text editing, table, compound drawing, and laboratory equipment software Providing a comprehensive idea about the use of computers and their applications in the medical field.
	C4	Developing skills in prevention and epidemiological follow-up of patients ensure the effectiveness of the pharmacist's role in public health.
	C5	Empowering students to possess skills in using scientific research tools in the field of study and the scientific field.
	C6	Empowering students to acquire skills in dialogue, discussion, and listening to others, with respect for their opinions.

11. Teaching and Learning Strategies

1.	Quizzes and oral exam.	4.	Midterm exam Final exam
2.	Encouraging reading books, research, and doing research Organizing conferences and seminars	5.	The Oski exam (a global system for testing students' speed of performance in reading and dispensing prescriptions, and a method dealing with patients)
3.	Participate in workshops	6.	Small and large discussion groups

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Introduction and overview of semester	Introduction and overview of semester	ppt	Theoretical exam, class discussions
2	2	Basic principles pharmacoeconomics	Basic principles pharmacoeconomics	Ppt	Theoretical exam, class discussions
3	2	Cost analysis	Cost analysis	Ppt	Theoretical exam, class discussions
4	2	Cost analysis	Cost analysis	Ppt	Theoretical exam, class discussions
5	2	Cost analysis	Cost analysis	Ppt	Theoretical exam, class discussions
6	2	Cost-effectiveness analysis	Cost-effectiveness analysis	Ppt	Theoretical exam, class discussions
7	2	Cost-benefit analysis	Cost-benefit analysis	Ppt	Theoretical exam
8	2	Midterm exam	Midterm exam		Theoretical exam, class discussions
9	2	Cost-utility analysis	Cost-utility analysis	Ppt	Theoretical exam, class discussions
10	2	Critical evaluation of economic estimation	Critical evaluation of economic estimation	Ppt	Theoretical exam, class discussions
11	2	Drug-based vs. disease-based structures for pharmacoeconomic analysis	Drug-based vs. disease-based structures for pharmacoeconomic analysis	Ppt	Theoretical exam, class discussions
12	2	Clinical pharmacokinetics and Clinical pharmacodynamics immunosuppressants.	Clinical pharmacokinetics and Clinical pharmacodynamics immunosuppressants.	Ppt	Theoretical exam, class discussions
13	2	Project presentations	Project presentations	Ppt	Theoretical exam, class discussions

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14	2	Project presentations	Project presentations	ppt	Theoretical exam, class discussions
15	3	Final Exam	Final Exam		Theoretical exam

13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير الخ

14. Learning & Teaching Resources

Required textbooks (curricular if any)	1- Drummond MF, O'Brien B, Stoddart GL, 1 Torrance GW. Methods for the economic evaluation of health care programmes. 3rd ed.
Main References (sources)	Oxford: Oxford University Press, 2005.
Recommended Books & References (Scientific Journals, Reports ...)	Articles
Websites or Electronic References	

Course Description (45)

1. Course Title		Public Health
2. Course Code		404105
3. Semester/Year		Fourth year students, first semester
4. Description Preparation Date		2024/2025
5. Available Attendance Form		Course system/Attendance at college
6. No. of Hours (Total)		2 theoretical * 15 weeks = 30 hours
7. No. of Credits (Total)		2
8. Course Administrator Name		Asst.Lect.Ahmed Alaa Hussein
9. E-mail		Ahmed.al@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	Empowering the graduate to develop communication skills and interact with patients, health institutions, and to benefit from all available means to achieve effective communication with the patient, the Ministry of Health, educational institutions, and to interact with the medical team during various stages of medical treatment.
	A2	Providing the graduate with the ability to guide and educate patients about infectious and non-infectious diseases, including explaining the instructions given to them, and overcoming any difficulties or barriers that hinder the delivery of these instructions to them.
Skills	B1	Identifying common infectious diseases
	B2	Understanding the methods of diagnosing diseases
	B3	Understanding the body's defense mechanism against these diseases
	B4	Identifying the basic principles of pharmaceutical practices
Values	C1	Developing communication skills with the medical team during all stages of treatment.
	C2	Empowering students to acquire self-learning skills to absorb new information and develop new skills and knowledge.

	C3	Using text editing, table, compound drawing, and laboratory equipment software Providing a comprehensive idea about the use of computers and their applications in the medical field.
	C4	Developing skills in prevention and epidemiological follow-up of patients ensure the effectiveness of the pharmacist's role in public health.
	C5	Empowering students to possess skills in using scientific research tools in the field of study and the scientific field.
	C6	Empowering students to acquire skills in dialogue, discussion, and listening to others, with respect for their opinions.

11. Teaching and Learning Strategies

1.	Quizzes and oral exam.	4.	Midterm exam Final exam
2.	Encouraging reading books, research, and doing research Organizing conferences and seminars	5.	The Oski exam (a global system for testing students' speed of performance in reading and dispensing prescriptions, and a method dealing with patients)
3.	Participate in workshops	6.	Small and large discussion groups

12. The Structure of the Course

Week	Hours	RLOs	Topic/Subject Name	Learning Method	Evaluation Method
1	2	Introduction: The scope and concerns of public health, health care system in Iraq	Introduction: The scope and concerns of public health, health care system in Iraq	ppt	Theoretical exam, class discussions
2	2	Measuring, Monitoring, and Evaluating the Health of a Population	Measuring, Monitoring, and Evaluating the Health of a Population	ppt	Theoretical exam, class discussions
3	2	Population screening and public health	Population screening and public health	ppt	Theoretical exam, class discussions
4	2	Prevention and control of non-communicable diseases	Prevention and control of non-communicable diseases	ppt	Theoretical exam, class discussions
5	2	Principles of infectious disease control and National immunization plan of Iraq	Principles of infectious disease control and National immunization plan of Iraq	ppt	Theoretical exam, class discussions
6	2	Communicable diseases (infections through the gastro-intestinal tract, Infections through skin and mucous membranes, Infections through the respiratory tract)	Communicable diseases (infections through the gastro-intestinal tract, Infections through skin and mucous membranes, Infections through the respiratory tract)	ppt	Theoretical exam, class discussions
7	2	Mid Exam	Mid Exam		Theoretical exam
8	2	Prevention and control of public health hazards (Tobacco, alcohol, Public health aspects of illicit psychoactive drug use)	Prevention and control of public health hazards (Tobacco, alcohol, Public health aspects of illicit psychoactive drug use)	ppt	Theoretical exam, class discussions
9	2	Major health problems (Obesity, Physical activity and health,	Major health problems (Obesity, Physical activity and	ppt	Theoretical exam, class discussions

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		Public mental health and suicide, Dental public health, Sexually transmitted infections, Chronic hepatitis and other liver disease, Tuberculosis	health, Public mental health and suicide, Dental public health, Sexually transmitted infections, Chronic hepatitis and other liver disease, Tuberculosis		
10	2	Family health and Environmental health	Family health and Environmental health	ppt	Theoretical exam, class discussions
11	2	Pharmacy Practice and the health care system	Pharmacy Practice and the health care system	ppt	Theoretical exam, class discussions
12	2	Introduction to Pharmaceutical care and Pharmaceutical care planning	Introduction to Pharmaceutical care and Pharmaceutical care planning	ppt	Theoretical exam, class discussions
13	2	Community pharmacy management And Hospital pharmacy service	Community pharmacy management And Hospital pharmacy service	ppt	Theoretical exam, class discussions
14	2	Formulary management Regulatory affairs and Rational Use of Drugs	Formulary management Regulatory affairs and Rational Use of Drugs	ppt	Theoretical exam, class discussions
15	3	Final Exam	Final Exam		Theoretical exam

13. Course Evaluation

توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير الخ

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Lucas AO, Gilles HM, (Eds), Short Textbook of Public Health Medicine for the Tropic, (4th Ed), 2003
Main References (sources)	Public Health and Epidemiology at a Glance Margaret Somerville, K. Kumaran, Rob Anderson
Recommended Books & References (Scientific Journals, Reports ...)	1. Articles 2. Oxford Textbook of Global Public Health
Websites or Electronic References	World Health Organization (WHO) https://www.who.int

Course Description (40)

1. Course Title		Pharmacy Ethics
2. Course Code		403212
3. Semester/Year		2024-2025
4. Description Preparation Date		2024
5. Available Attendance Form		Official working hours
6. No. of Hours (Total)		1 hour per week (for 15 weeks during the first semester)
7. No. of Credits (Total)		One Unit
8. Course Administrator Name		Asist.Prof. Dr Atheer Sabah
9. E-mail		Atheer@albayan.edu.iq
10. Course Objectives		
Knowledge	A1	To be able to communicate with the patient and medical staff in therapeutic stages.
	A2	To be able to educate the patient regarding the medications given to them.
	A3	To be able to overcome the difficulties and obstacles that hinder communication and drug education for patients and medical staff participating in the treatment stages.
	A4	Enable students to acquire and understand communication skills and medical ethics.
Skills	B1	Increase communication skills with patients and medical staff in treatment stages.
	B2	Increase the skills of drug education for patients.
	B3	1 Increase the skills of making the right decision in giving the right drug consultations to patients and overcome all obstacles that hinder the process of communication and drug education for patients and cooperation with medical staff participating in the treatment stages
	B4	Enable students to acquire the skills of dialogue, discussion, listening to others and accepting their opinions
Values	C1	Supporting drug culture among students and members of society
	C2	Educating students to respect human dignity.
	C3	Educating students on humanitarian and professional work and enhancing the spirit of cooperation and teamwork among students.

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C4	Promote and consolidate professional and ethical values among students practice the profession of pharmacist.		
11. Teaching and Learning Strategies			
1.	Seminars	4.	Lectures
2.	Educational Labs	5.	Case Discussion
3.	Hospital Training	6.	Using the strategy of cooperation and assistance during the education process and conducting field visits to the relevant ministries and educational institutions

12. The Structure of the Course

Evaluation Method	Learning Method	Topic/Subject Name	RLOs	Hours	Week
Quiz, class discussions	PowerPoint	Introduction to Pharmacy Ethics Theoretical Considerations	Introduction to Pharmacy Ethics Theoretical Considerations	2	2-1
=	=	Code of Ethics for Pharmacy	Code of Ethics for Pharmacy	1	4-3
=	=	Common ethical considerations in the application of pharmaceutical care	Common ethical considerations in the application of pharmaceutical care	3	5
=	=	Relations between medical professionals	Relations between medical professionals	2	6
=	=	Ethical Decision Making	Ethical Decision Making	1	7
=	=	Ethical Problems Related to Clinical Pharmacy Research	Ethical Problems Related to Clinical Pharmacy Research	1	8
=	=	Ethical problems in the clinical application of the pharmacist	Ethical problems in the clinical application of the pharmacist	1	9-10

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=	=	Preventing drug misuse	Preventing drug misuse	1	11
		Case Studies in Pharmacy Ethics	Case Studies in Pharmacy Ethics	3	12-14

13. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports etc

14. Learning & Teaching Resources

Required textbooks (curricular if any)	Robert J. Cipolle, Linda M. Strand, Peter C. Morley. Pharmaceutical Care Practice: The Clinician's Guide, 2nd Edition Robert m. Veatch and Amy Haddad. Case -2 Studies in Pharmacy Ethics. second edition. Copyright © 2008 by Oxford University Press, Inc
Main References (sources)	
Recommended Books & References (Scientific Journals, Reports ...)	Internet , PowerPoint
Websites or Electronic References	