

Republic of Yemen
Ministry of Higher Education & Scientific Research
21 September University for Medicals and Applied Sciences



Faculty of Clinical Pharmacy

Bachelor of Pharm. D.

Course Specification of

Medicinal Chemistry-II

Course Code. (02.04.250)

2021-2022



T4: This Template is Developed and Approved by CAQA-Yemen, 2023

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Prof. Ali G. Al-kaf	Prof.. Mukhtar Al-Gharafi	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

I. General Information:

1.	Course Title:	Medicinal Chemistry-II			
2.	Course Code:	02.04.250			
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours
			Lecture	Tutorial/Seminar	Lab Clinical
		3	2		2 --
4.	Level/ Semester at which this Course is offered:	Leve 3 – Semester 2			
5.	Pre –Requisite (if any):	Medicinal chemistry I			
6.	Co –Requisite (if any):	Pharmacology II			
7.	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm D			
8.	Language of Teaching the Course:	English			
9.	Location of Teaching the Course:	Faculty of Clinical Pharmacy			
10.	Prepared by:	Dr. Ali Alkaf			
11	Date and Number of Approval by Council:				

II. Course Description:

This course is the second part of (Medicinal chemistry) courses which are designed to provide knowledge and skills in chemistry of medicinal agents (drugs). It deals with the chemical synthesis, structure activity relationship (SAR), pharmacophore molecules, mechanism of action, and metabolism of drugs used for CNS disturbances, infections and cancer and endocrinal drug. Also, their practical part concerns with physicochemical properties, chemical, chromatographic or spectroscopy identification of some drugs used for CNS disturbances, endocrinal system infections and cancer.

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III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:		Referenced PILOs	
A. Knowledge and Understanding:		I, P or M/A	PILOs
a1	Discuss structure activity relationship of selected course drugs.	I	A3
a2	Describe the basic principles of mechanism of action for active groups in pharmaceutical chemistry.	I	A3
B. Intellectual Skills:			
b1	Design medicinal compounds according to chemical structure and pharmacological activity.	P	B2
b2	Compare different medicinal compounds by identification tests and assay.	P	B2.
C. Professional and Practical Skills:			
c1	Identify the relationship between structure and activity according to different functional groups.	P	C1
c2	Prepare (synthesize) new medicinal compounds.	P	C2
D. Transferable Skills:			
d1	Search efficiently for required medical information in professional medical references and sites.	A	D3
d2	Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day.	A	D1, D2
I= Introduced, P=Practiced or M/A= Mastered/Advanced			

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:			
Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
a1	Design medicinal compounds according to chemical structure and pharmacological activity.	- Lecture - Instructor – student Interactive - Office hour	- Exam - Assignment - Quiz
a2	Compare different medicinal compounds by identification	- Lecture - Instructor – student Interactive	- Exam - Assignment

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	tests and assay.	▪ Office hour	▪ Quiz
(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
b1	Design medicinal compounds according to chemical structure and pharmacological activity.	▪ Lecture ▪ Instructor – student Interactive ▪ Exercises ▪ Solving Problem Methods	▪ Problem-Solving Exercises. ▪ Assignment ▪ Quiz
b2	Compare different medicinal compounds by identification tests and assay.	▪ Lecture ▪ Instructor – student Interactive ▪ Exercises ▪ Solving Problem Methods	▪ Problem-Solving Exercises. ▪ Assignment ▪ Quiz
(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
c1	Identify the relationship between structure and activity according to different functional groups.	▪ Lecture ▪ Instructor – student Interactive ▪ Self-Learning	▪ Exam ▪ Assignment ▪ Quiz
c2	Prepare (synthesize) new medicinal compounds.	▪ Lecture ▪ Instructor – student Interactive ▪ Self-Learning	▪ Exam ▪ Assignment ▪ Quiz
(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
d1	Search efficiently for required medical information in professional medical references and sites.	▪ Self-Learning ▪ Instructor – student Interactive ▪	▪ Presentation Assignment
d2	Present clearly and effectively scientific topic in, a staff meeting or the yearly scientific day.	▪ Self-Learning ▪ Instructor – student Interactive ▪	▪ Exam ▪ Assignment ▪ Presentation

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IV. Course Contents:

A. Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	Drugs used for CNS disorders	a1, a2, b1, b2, c1	- Chemistry of neurotransmitters in CNS. - Chemistry, synthesis, structure-activity relationship and metabolism of: - Sedatives , hypnotic and anxiolytics. - Antiepileptic drugs. - Drugs used for parkinsonism. - Narcotic analgesic and Non-narcotic analgesic , NSAIDs. - General anaesthetic and local anaesthetic. - Antidepressant drugs	5	10
2	Midterm Exam	a1, a2, b1, b2,	-	1	2
2	Chemotherapeutic drugs	a1, a2, b1, b2, d1, d2	- Antibacterials β-lactam and related antibiotics : Penicillins, , Cephalosporins, Carbapenems, monobactams, ...etc. Protein synthesis inhibitors ; macrolides, lincosamides, aminoglycosides, tetracyclines Nucleic acid synthesis inhibitors Quinolones, sulfonamides, trimethoprim - Other antibiotics - Anti-tubercular & anti-leprotic drugs - Antiprotozoals	4	8
				1	2
				1	4

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			Anti-malarial drugs - Antamoebics, anti giardias and antitrichomonas, antitrypanosomals, others		
			- Anthelmintic drugs - Drugs that used in treatment of worms infestation - Antifungal drugs - Drugs used in treatment of fungal infections	1	2
3	Drugs for cancer	a1, a2, b1, b2, d1, d2	- Antimetabolites : methotrexate, 5-fluorouracil, 6-mercaptopurine - Alkylating agents: nitrogen mustards, alkyl sulphonates, nitrosurea - Natural products: antibiotics, plant alkaloids, enzymes, interferons - Hormones and hormones antagonists - Radioactive isotopes - Miscellaneous: cisplatin, mitotane , etc	2	2
	Midterm Exam	a1, a2, b1, b2,		1	2
Number of Weeks /and Units Per Semester				16	32

B. Practical Aspect (Lab/Clinical) (if any):

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: amoxicillin	1	2	c1, c2
2	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: cefixime	1	2	c1, c2
3	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: of: tetracycline	1	2	c1, c2

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No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
4	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: ciprofloxacin	1	2	c1, c2
5	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: miconazole	1	2	c1, c2
6	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: zidovudine	1	2	c1, c2
7	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: metronidazole	1	2	c1, c2
8	Midterm Exam	1	2	
9	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of:: chloroquine	1	2	c1, c2
10	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Tramadol.	1	2	c1, c2
11	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Ibuprofen.	1	2	c1, c2
12	Pharmacopeial physicochemical pssroperties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Paracetamol.	1	2	c1, c2
13	Synthesis of drugs	2	4	c1, c2
14	Purification of drugs.	1	2	c1, c2
15	- Final Exam	1	2	c1, c2
Number of Weeks /and Units Per Semester		16	32	

C. Tutorial Aspect (if any):

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
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No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	NA			
2				
3				
Number of Weeks /and Units Per Semester				

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Assignment 1	6 th	2.5	a1, a2, b1, b2, d2
2	Assignment 2:	12 th	2.5	a 1, a 2, b 1, b2, c 1, c2,
Total				5

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	6th, 12th	5	5%	a1, a 2, b1, b2, c 1, c2,
2	Practical Reports	2 nd -13 th	5	5%	a1, a 2, b 1, b2, c 1, c2, d2
3	Midterm Exam (Theory)	Week 7	15	20%	a 1, a 2, b 1, b2
	Midterm Exam (Practical)	Week 7	10	10%	c1, c2
4	Final Practical Exam	14 th	15	15%	c1, c2
5	Final Exam (Theory)	Week 16	50	50%	a1, a2, b1, b2
Total			100	100%	

IX. Learning Resources:

1- Required Textbook(s):

1- Wilson and Gisvold's. (2004).Textbook of Organic Medicinal and Pharmaceutical Chemist

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	ed.-New York.;980 2- Al-kaf and Al-rahawi (2014). Textbook of Medicinal and Pharmaceutical Chemistry. -2nd .- Al-jil Al-jadid Publishers.Yemen;522
2- Essential References.	
	1. Al-kaf Ali Gamal (2017). Medicinal Chemistry. -3rd .-Hail centre Publisher.Yemen;383. 2. David A. Williams and Thomas L.Lemke.Foye's (2008). Principles of Medicinal Chemistry.6ed.-USA
3- Electronic Materials and Web Sites etc.	
	1 - www.pubmed.com 2. www.drugs.com 3. www.drugdesign.com/web/ 4. https://www.rti.org/service-capability/drug-discovery-and-development

X. Course Policies: (Based on the Uniform Students' By law (2007))

1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply

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with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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Faculty of Clinical Pharmacy

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Course Plan (Syllabus) of **Medicinal Chemistry-II**

Course Code. 02.04.250

I. Information about Faculty Member Responsible for the Course:						
Name of Faculty Member:		Office Hours				
Location & Telephone No.:						
E-mail:		SAT	SUN	MON	TUE	WED THU

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II. Course Identification and General Information:

1.	Course Title:	Medicinal chemistry II				
2.	Course Code:	02.04.250				
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours	
			Lecture	Tutorial/ Seminar	Lab	Clinical
			2		2	--
4.	Level/ Semester at which this Course is offered:	3 rd Level / 2 nd Semester				
5.	Pre –Requisite (if any):	Medicinal chemistry I				
6.	Co –Requisite (if any):	Pharmacology II				
7.	Program (s) in which the Course is Offered:	Bachelor of Pharmacy				
8.	Language of Teaching the Course:	English				
9.	Location of Teaching the Course:	Faculty of Medical Sciences				
10.	Prepared by:					
11	Date and Number of Approval by Council:					

III. Course Description:

This course is the second part of (Medicinal chemistry) courses which are designed to provide knowledge and skills in chemistry of medicinal agents (drugs). It deals with the chemical synthesis, structure activity relationship (SAR), pharmacophore molecules, mechanism of action, and metabolism of drugs used for CNS disturbances, infections and cancer and endocrinal drug. Also their practical part concerns with **physicochemical properties, chemical, chromatographic or spectroscopy identification of some** drugs used for CNS disturbances, endocrinal system infections and cancer.

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IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

A. Knowledge and Understanding:

- | | |
|----|---|
| a1 | Discuss structure activity relationship of selected course drugs. |
| a2 | Describe the basic principles of mechanism of action for active groups in pharmaceutical chemistry. |

B. Intellectual Skills:

- | | |
|----|--|
| b1 | Design medicinal compounds according to chemical structure and pharmacological activity. |
| b2 | Compare different medicinal compounds by identification tests and assay. |

C. Professional and Practical Skills:

- | | |
|----|--|
| c1 | Identify the relationship between structure and activity according to different functional groups. |
| c2 | Prepare (synthesize) new medicinal compounds. |

D. Transferable Skills:

- | | |
|----|---|
| d1 | Search efficiently for required medical information in professional medical references and sites. |
| d2 | Present clearly and effectively scientific topic in a tutorial, a staff meeting or the yearly scientific day. |

I= Introduced, P=Practiced or M/A= Mastered/Advanced

V. Course Contents:

A. Theoretical Aspect:

خطأ! لم يتم العثور على مصدر المرجع.

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	Drugs used for CNS disorders	a1, a2, b1, b2, c1	- Chemistry of neurotransmitters in CNS.	5	10

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			- Chemistry, synthesis, structure-activity relationship and metabolism of: - Sedatives , hypnotic and anxiolytics. - Antiepileptic drugs. - Drugs used for parkinsonism. - Narcotic analgesic and Non-narcotic analgesic , NSAIDs. - General anaesthetic and local anaesthetic. - Antidepressant drugs - Antidepressant drugs		
2	Midterm Exam	a1, a2, b1, b2,	-	1	2
2	Chemotherapeutic drugs	a1, a2, b1, b2, d1, d2	- Antibacterials β-lactam and related antibiotics : Penicillins, , Cephalosporins, Carbapenems, monobactams, ...etc. Protein synthesis inhibitors ; macrolides, lincosamides, aminoglycosides, tetracyclines Nucleic acid synthesis inhibitors Quinolones, sulfonamides, trimethoprim - Other antibiotics	4	8
			- Anti-tubercular & anti-leprotic drugs	1	2
			- Antiprotozoals - Anti-malarial drugs - Antamoebics, anti giardias and antitrichomonas antitrypanosomals, others	1	4

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			- Anthelmintic drugs Drugs that used in treatment of worms infestation Antifungal drugs - Drugs used in treatment of fungal infections	1	2
3	Drugs for cancer	a1, a2, b1, b2, d1, d2	- Antimetabolites : methotrexate, 5-fluorouracil, 6-mercaptopurine - Alkylating agents: nitrogen mustards, alkyl sulphonates, nitrosurea - Natural products: antibiotics, plant alkaloids, enzymes, interferons - Hormones and hormones antagonists - Radioactive isotopes - Miscellaneous: cisplatin, mitotane , etc	2	2
	Midterm Exam	a1, a2, b1, b2	•	1	2
Number of Weeks /and Units Per Semester				16	32

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Number of Weeks	Contact Hours
1	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: amoxicillin	1	2
2	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: cefixime	1	2
3	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: of: tetracycline	1	2
4	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: ciprofloxacin	1	2
5	Pharmacopeial physicochemical properties, chemical, chromatographic or	1	2

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No.	Tasks/ Experiments	Number of Weeks	Contact Hours
	spectroscopy identification of: miconazole		
6	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: zidovudine	1	2
7	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: metronidazole	1	2
8	Midterm Exam	1	2
9	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of:: chloroquine	1	2
10	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Tramadol.	1	2
11	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Ibuprofen.	1	2
12	Pharmacopeial physicochemical pssroperties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Paracetamol.	1	2
13	Synthesis of drugs	2	4
14	Purification of drugs.	1	2
15	- Final Exam	1	2
Number of Weeks /and Units Per Semester		16	32

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: amoxicillin	1	2	c1, c2
2	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: cefixime	1	2	c1, c2
3	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: of: tetracycline	1	2	c1, c2
4	Pharmacopeial physicochemical properties, chemical,	1	2	c1, c2

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No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	chromatographic or spectroscopy identification of: ciprofloxacin			
5	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: miconazole	1	2	c1, c2
6	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: zidovudine	1	2	c1, c2
7	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: metronidazole	1	2	c1, c2
8	Midterm Exam	1	2	
9	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: chloroquine	1	2	c1, c2
10	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Tramadol.	1	2	c1, c2
11	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Ibuprofen.	1	2	c1, c2
12	Pharmacopeial physicochemical pssroperties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Paracetamol.	1	2	c1, c2
13	Synthesis of drugs	2	4	c1, c2
14	Purification of drugs.	1	2	c1, c2
15	- Final Exam	1	2	c1, c2
Number of Weeks /and Units Per Semester		16	32	

No.	Tasks/ Experiments	Number of Weeks	Contact Hours
1	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: amoxicillin	1	2
2	Pharmacopeial physicochemical properties, chemical, chromatographic or	1	2

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No.	Tasks/ Experiments	Number of Weeks	Contact Hours
	spectroscopy identification of: cefixime		
3	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: of: tetracycline	1	2
4	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: ciprofloxacin	1	2
5	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: miconazole	1	2
6	Pharmacopeial physicochemical properties, chemical, chromatographic or spectroscopy identification of: zidovudine	1	2
7	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: metronidazole	1	2
8	Midterm Exam	1	2
9	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of:: chloroquine	1	2
10	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Tramadol.	1	2
11	Pharmacopeial physicochemical properties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Ibuprofen.	1	2
12	Pharmacopeial physicochemical pssroperties , chemical , chromatographic or spectroscopy identification of: CNS drugs: Paracetamol.	1	2
13	Synthesis of drugs	2	4
14	Purification of drugs.	1	2
15	- Final Exam	1	2
Number of Weeks /and Units Per Semester		16	32

No.	Tutorial	Number of Weeks	Contact Hours
1	NA		

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No.	Tutorial	Number of Weeks	Contact Hours
2			
3			
Number of Weeks /and Units Per Semester			

VI. Teaching Strategies of the Course:

- Lecture
- Instructor – student Interactive
- Exercises
- Presentation
- Office hours
- Seminar
- Assignment
- Self-Learning

VII. Assessment Methods of the Course:

خطأ! لم يتم العثور على مصدر المرجع.

- Assignments
- Quiz
- Exam
- Oral Presentation

VIII. Assignments:

No.	Assignments	Week Due	Mark
1	Assignment 1	6th	2.5
2	Assignment 2:	12th	2.5
Total			

IX. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
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1	Assignments	6th, 12th	5	5%	a1, a 2, b1, b2, c 1, c2,
2	Practical Reports	2 nd -13 th	5	5%	a 1, a 2, , c 1, c2, d2
3	Midterm Exam (Theory)	Week 7	15	20%	a 1, a 2, b 1, b2
	Midterm Exam (Practical)	Week 7	10	10%	c1, c2
4	Final Practical Exam	14 th	15	15%	c1, c2
5	Final Exam (Theory)	Week 16	50	50%	a1, a2, b1, b2
Total			100	100%	

X. Learning Resources:

1- Required Textbook(s):

- 3- Wilson and Gisvold's. (2004).Textbook of Organic Medicinal and Pharmaceutical Chemistry. -New York.;980
- 4- Al-kaf and Al-rahawi (2014). Textbook of Medicinal and Pharmaceutical Chemistry. -2nd .- Al-jil Al-jadid Publishers.Yemen;522

2- Essential References.

3. Al-kaf Ali Gamal (2017). Medicinal Chemistry. -3rd .-Hail centre Publisher.Yemen;383.
4. David A. Williams and Thomas L.Lemke.Foye's (2008). Principles of Medicinal Chemistry.6ed.-USA

3- Electronic Materials and Web Sites etc.

- 1 - www.pubmed.com
2. www.drugs.com
3. www.drugdesign.com/web/
4. <https://www.rti.org/service-capability/drug-discovery-and-development>

XI. Course Policies: (Based on the Uniform Students' Bylaw (2007))

1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality:

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	No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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