

**Course Specifications**

<b>University</b>	Beni-Suef
<b>Faculty</b>	Pharmacy
<b>Dept.</b>	Medicinal chemistry

**1-Course Info.****Programme(s) on which the course is given:** Bachelor in Pharmacy**Course Name and code No.:** Pharmaceutical chemistry 2 (802)**Academic year/ Level:** 2018/2019, level 4, semester 2**Credit hours:** Lecture (3) hour + Practical (1) hour**2-Overall Aim of the Course**

The student should be able to identify the major structural, chemical, analytical and pharmacological characteristics of certain drug classes (antibiotics, antineoplastics, antivirals, antifungals, anti-infectives, antimycobacterials and synthetic antibacterials).

**3-Intended Learning Outcomes of the course (ILOs)****a. Knowledge and understanding**

After completing this course, the student should be able to:

- a1. Describe the synthesis, chemical properties, mode of action, assay, metabolism and adverse side effects of the drugs related to the topics covered by this course.
- a2. Explain the relationship between molecular structure and its biological action, particularly in drugs related to the topics covered by this course.
- a3. Interpret the physicochemical parameters of the drug that affect drug-receptor interactions.

**b. Professional and Practical Skills**

- b1. Simulate appropriate experiments to identify various active constituents.
- b2. Assess some drugs covered in this course quantitatively.

**c. Intellectual Skills**

- c1. Predict metabolism and pharmacological activity/potency of individual drugs that covered in this course based on the contribution of their functional groups to their structures.
- c2. Apply chemical knowledge to the development and analysis of drugs.

**d. General and Transferable Skills**

- d1. Adapt proper oral and written communication, data analysis and interpretation.
- d2. Integrate effectively as part of a team.
- d3. Set realistic plan work to meet target within deadlines.
- d4. Use equipment in the laboratory properly and safely.

**4-Course Contents**

Topics	No. of hours	
	Tutorial / Practical	Lecture
Antibiotics		9

Topics	No. of hours	
	Tutorial / Practical	Lecture
Synthetic antibacterial agents		6
Antineoplastic agents		6
Antiviral agents		3
Antifungal agents		3
Antimycobacterial agents		3
Antiprotozoal agents		3
Antiseptic and disinfectant agents		3
Quantitative determination of : hydrogen peroxide solution	1	
zinc content in prisoline zinc eye drops	1	
ofloxacin tablets	1	
cyclophosphamide	1	
isonicotinic acid hydrazide	1	
salicylic acid	1	
sulfamethoxazole and trimethoprim		
di-iodohydroxyquine in enteroquine tablets	1	
ampicillin	1	
calcium gluconate	1	
Drug identification of : nalidixic acid chloroquine diphosphate grisofulvin	1	
erythromycin tetracyclin oxytetracyclin	1	
ampicillin amoxicillin cephalexin	1	
Total	12	36

**5- Teaching and learning Methods**

- 1-Lectures.
- 2-Practical laboratory sections.
- 3-Problem solving and working in groups

**6- Student Assessment Methods**

**a-Methods**

1. Laboratory work (practical sections activities and other assignments delivered as reports and oral presentations) and quiz to assess the theoretical aspects of experimental work.
2. Practical examination to assess gained practical skills.
3. Written exam to assess knowledge and understanding of theoretical information as well as higher intellectual skills.
4. Oral examination to assess acquired knowledge and higher intellectual skills.

**b- Assessment Schedule**

Assessment	Week
Assessment 1: written quizzes 1 & 2	Week 3,7
Assessment 2: Practical Exam 1&2 and practical Quiz	Week: 10 & 12
Assessment 3: Final Written and Oral Exam.	

**c- Weighting of Assessment Marks**

Type of assessment	Marks	Weight (%)
Practical Exam	70	35%
Final Written Exam	100	50%
Final Oral Exam	30	15%
<b>Total</b>	<b>200</b>	<b>100%</b>

**7-List of References****a. Notes**

- 1-Practical notes
- 2-Reference books

**b. Mandatory Books**

- 1-Foye, W.O.; "Principles of Medicinal Chemistry", 4<sup>th</sup> edition, Lippincott Williams & Wilkins, U.S.A.
- 2-Patrick, G. L.; "An introduction to medicinal Chemistry", 3<sup>rd</sup> Edition, Oxford University Press, 2005

**c. Suggested Books**

- 1-Abraham, D.J.; "Burger's Medicinal Chemistry", 6<sup>th</sup> edition, John Wiley & sons, New Jersey, 2003.
- 2-Delgado, J.N. and Remers, W.A.; "Wilson and Gisvold's Textbook of Organic Medicinal and Pharmaceutical Chemistry", 11<sup>th</sup> edition, Lippincott Williams & Wilkins, U.S.A., 2004

**d. Journals**

- 1-European journal of medicinal chemistry.
- 2-Journal of American chemical society

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