



Course Specification

(Bachelor)

Course Title: **Pharmacology-4**

Course Code: **442 PHL-2**

Program: **Pharmaceutical Sciences**

Department: **Pharmacology**

College: **Pharmacy**

Institution: **Najran University**

Version: **1**

Last Revision Date: **24/12/2023**



Table of Contents

A. General information about the course:	3
B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods	4
C. Course Content	5
D. Students Assessment Activities	6
E. Learning Resources and Facilities	7
F. Assessment of Course Quality	7
G. Specification Approval	8





A. General information about the course:

1. Course Identification

1. Credit hours: (2 (2+0))

2. Course type

A. ☐ University ☐ College ☐ Department ☐ Track ☒ Program
B. ☒ Required ☐ Elective

3. Level/year at which this course is offered: (8th level/ 4th year)

4. Course general Description:

This course provides students with the basic concepts of cancer chemotherapy, immunotherapy and targeted therapy, the immunomodulating drugs and monoclonal antibodies-based therapy. In addition to studying drugs affecting blood, anticoagulants and drug treatment of anemias. Moreover, studying the drugs affecting GIT, used in treatment of peptic ulcer, diarrhea, constipation and vomiting. Furthermore, the course discuss treatment of special conditions including male sexual dysfunctions, obesity, androgenic alopecia and acne.

5. Pre-requirements for this course (if any):

Pharmacology-3 (441 PHL-3)

6. Co-requisites for this course (if any):

None

7. Course Main Objective(s):

Students after completion this course will be:

- Aware by the different recent therapeutic options for treatment of malignancies.
- Acquainted with the immunomodulating drugs and monoclonal antibodies.
- Conversed with the classification, mechanism of action, therapeutic uses, of drugs used in treatment of diseases affecting blood, and GIT.
- Oriented by the drug treatment of important special cases like obesity, male sexual dysfunction, androgenic alopecia and acne.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100%
2	E-learning	-	-
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 	-	-
4	Distance learning	-	-

3. Contact Hours (based on the academic semester)





No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	-
3.	Field	-
4.	Tutorial	-
5.	Others (specify)	-
Total		30

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Students after completion this course will be able to: Outline the basic principles of cancer chemotherapy and immunopharmacology, drugs affecting blood and GIT in addition to drug treatment of obesity, male sexual dysfunctions, androgenic alopecia and acne.	K1	Lectures	Written exams with multiple choice questions (MCQs) and short-answer questions (Quizzes, Mid-term and Final exams)
2.0	Skills			
2.1	Evaluate the possible application different therapeutic options of cancer and immunological disorders and blood.	S1	Lectures Laboratory work Case studies or multimedia instruction	Written exams with multiple choice questions (MCQs) and short-answer questions (Quizzes, Mid-term and Final exams) Practical Exams
2.2	Evaluate the possible pharmacological action, mechanism of drug affecting GIT and drugs used in treatment of obesity, male sexual dysfunctions,	S2	Lectures Laboratory work Case studies or multimedia instruction Group discussion	Written exams with multiple choice questions (MCQs) and short-answer questions





Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
	androgenic alopecia and acne.			(Quizzes, Mid-term and Final exams) Practical Exams
3.0	Values, autonomy, and responsibility			
3.1	Demonstrate leadership, skills, in addition to accountability, confidence, and independent thinking to respond to routine or unanticipated circumstances.	V1	Lectures Practice sessions	Observation card
3.2	Professional use of computer in preparing reports, assignments, and oral presentations and to be skilled in the use of electronic library and internet resources for self-directed learning.	V2	Lectures	Assignments (using rubrics) Presentations (using rubrics)

C. Course Content

No	List of Topics (Theory)	Contact Hours
1.	Introduction to Cancer Chemotherapy	1
2.	Cytotoxic Drugs	2
3.	Pathway-Targeted Therapies: Monoclonal antibodies	1
4.	Protein Kinase Inhibitors, and Various Small Molecules	1
5.	Hormones and Related Agents in the Therapy of Cancer	2
6.	Anticancer protocols and Toxicities	1
7.	Immunopharmacology: Immunosuppressive drugs	1
8.	Immunopharmacology: Immune Globulins and Vaccines	1
9.	Blood: Anticoagulants & Thrombolytics	2
10.	Iron, Vit B12 and Folic acid deficiency anemias	2
11.	Agents Affecting Mineral Ion Homeostasis and Bone Turnover	2
12.	Drug treatment of peptic ulcer: Antisecretory drugs	1
13.	Drug treatment of peptic ulcer: acid neutralizing and mucosal protectives	1
14.	Laxatives and antidiarrheal drugs	2
15.	Antiemetic and prokinetic drugs	1





	Special Systems Pharmacology	
16.	Ocular Pharmacology	2
17.	Drug treatment of obesity	1
18.	Drug treatment of male sexual dysfunctions	2
19.	Drug treatment of Androgenic alopecia	1
20.	Drug treatment of Psoriasis	2
21.	Drug treatment of Acne Vulgaris	1
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz	5 th week	10%
2.	Midterm Exam	8 th week	25 %
3.	Practical Quiz	9 th week	5%
4.	Student Activity/Assignment/Presentation	14th Week	5%
5.	Students Observation card	Per semester	5%
6.	Final Theoretical Exam	17 th week	50%
7.	Total		100%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	B. Katzung. Basic & Clinical Pharmacology. 15th Edition by B.G. Katzung.
Supportive References	1. Goodman& Gilman: Pharmacological Basis of Therapeutics. 14 th Edition. 2. Katzung-Trevor. Basic & Clinical Pharmacology. 4th Edition. 3. Rang & Dale's: Pharmacology. 9 th Edition.
Electronic Materials	1. Pub Med 2. Science direct. 3. Medscape. 4. www.dlaf.nu.edu.sa
Other Learning Materials	1. Ex-pharm. 2. Drug metabolism Model. 3. Pharmacodynamics and drug receptor Model. 4. Microsoft word software.

2. Required Facilities and equipment





Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	1. Suitable lecture room equipped with data show and internet and sufficient number of seats. 2. Suitable laboratories equipped with health and safety tools, internet, and enough seats. 3. Blackboard collaborative system for e-learning in NU.
Technology equipment (projector, smart board, software)	1. Data show. 2. Computer software listed above. 3. Internet and Wifi- access
Other equipment (depending on the nature of the specialty)	1. Expharm 2. Pharmacal software 3. Different drug dosage forms. 4. Drug samples demonstration lab

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Program Leaders Students	Direct Indirect
Effectiveness of Students assessment	Faculty Department council Peer Reviewer	Direct Direct Direct
Quality of learning resources	Students Faculty	Indirect Direct
The extent to which CLOs have been achieved	Faculty	Direct
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	PHARMACOLOGY DEPARTMENT COUNCIL
REFERENCE NO.	COUNCIL NO. 5, 1445-1446 H
DATE	24/12/2023

