



Course Specification

(Bachelor)

Course Title: **Pharmacology-2**

Course Code: **342 PHL-3**

Program: **Pharmaceutical Sciences**

Department: **Pharmacology**

College: **Pharmacy**

Institution: **Najran University**

Version: **1**

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

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A. General information about the course:

1. Course Identification

1. Credit hours: (3 (2+1))

2. Course type

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

3. Level/year at which this course is offered: (6th level/ 3rd year)

4. Course general Description:

This course provides students with the basic concepts of pharmacology of autacoids, including histamine and antihistaminic and antiserotonin drugs, angiotensins, eicosanoids and modulating drugs. In addition, it involves studying the pharmacological basis of respiratory and gastrointestinal drugs. The course involves studying the pharmacological basis of drugs affecting the central nervous system. The practical sessions include training the students on solving clinical cases and use critical thinking to choose the proper choice for therapeutic applications of drugs.

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

Pharmacology-1 (341 PHL-3)

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

None

7. Course Main Objective(s):

Students after completion of this course will be:

- Aware by the pharmacological principles of autacoids.
- Acquainted with the pharmacological principles of drugs acting on the respiratory system.
- Aware by the pharmacological principles of drugs acting on the gastrointestinal system.
- Conversant with the pharmacological principles of drugs acting on the central nervous system.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	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	30
3.	Field	-
4.	Tutorial	-
5.	Others (specify)	-
Total		60

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 of this course will be able to: Describe the pharmacological basis, mechanism of action, therapeutic uses of Autacoids and related drugs, Respiratory system including anti asthmatic drugs, antitussives. Describe the pharmacological basis, of drugs acting on the CNS (anesthetics, psychotropic drugs, opioid analgesics, NSAIDs, and treatment of depression, anxiety, Alzheimer's disease, Parkinsonism, and Epilepsy).	K1	Lectures	Written exams with multiple choice questions (MCQs) and short-answer questions (Quizzes, Mid-term and Final exams)
2.0	Skills			
2.1	Summarize the pharmacological basis of proper selection and use of drugs in various		Lectures Laboratory work	Written exams with multiple choice questions (MCQs)



Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
	disease conditions related to autacoids, and respiratory system. To use critical thinking, case-solving and decision making skills.	S1	Case studies or multimedia instruction	and short-answer questions (Quizzes, Mid-term and Final exams) Practical Exams
2.2	To use critical thinking, case-solving and decision making skills in proper selection of drugs for each disease condition related to the central nervous system.	S2	Lectures Laboratory work Case studies or multimedia instruction Group discussion	Written exams with multiple choice questions (MCQs) and short-answer questions (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.	Autacoids; Histamine and antihistaminic drugs	1
2.	Serotonin and anti-serotonin drugs	1
3.	Angiotensin and kinins; and drug affecting it	1
4.	Eicosanoids and drugs affecting it	2
5.	Drug treatment of asthma	2



6.	Antitussive and expectorant drugs	1
7.	Introduction to CNS	1
8.	General anesthetics	2
9.	Skeletal muscle relaxants	2
10.	Local anesthetics	1
11.	Opioid analgesic and opioid antagonists	2
12.	Non-steroidal anti-inflammatory drugs	2
13.	Drug treatment of Gout	2
14.	Sedative and hypnotic Drugs	2
15.	Antiepileptic drugs	2
16.	Drug treatment of neurodegenerative diseases: Parkinsonism and Alzheimer's Disease	2
17.	Antipsychotic drugs and lithium	2
18.	Antidepressant drugs	2
Total		30

No	List of Topics (Practical)	Contact Hours
1.	Practical pharmacology of Autacoids	2
2.	Practical pharmacology of Bronchial Asthma-1	2
3.	Practical pharmacology of Bronchial Asthma-2	2
4.	Practical pharmacology of General anesthesia	2
5.	Practical pharmacology of Neuromuscular blockers	2
6.	Practical pharmacology of Analgesics	2
7.	Practical pharmacology of sedative hypnotics drugs	2
8.	Practical pharmacology of Antiepileptic Drugs.	2
9.	Practical pharmacology of Antiparkinsonian Drugs	2
10.	Practical pharmacology of Antipsychotic Drugs	2
11.	Practical pharmacology of Antidepressant Drugs	2
12.	Practical pharmacology of Neuromuscular blockers	2
13.	Practical pharmacology of Analgesics	2
14.	Practical pharmacology of sedative hypnotics drugs	2
15.	Revision	2
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	20 %
3.	Practical Quiz	9 th week	5%
4.	Student Activity/Assignment/Presentation	14th Week	5%
5.	Students Observation card	Per semester	10%
6.	Final Practical Exam	16 th week	10%
7.	Final Theoretical Exam	17 th week	40%
8.	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

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