



# Course Specification

(Bachelor)

Course Title: **Pharmacology-2**

Course Code: **PHCL 443**

Program: **Pharmaceutical Sciences**

Department: **Pharmacology**

College: **Pharmacy**

Institution: **Najran University**

Version: **Version-4**

Last Revision Date: **21/08/2024**



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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: (7th level/ 4th 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 (PHCL 342)**

#### 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"> <li>• Traditional classroom</li> <li>• E-learning</li> </ul> | -             | -          |
| 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:<br>Describe the pharmacological basis, mechanism of action, therapeutic uses and adverse reactions of Autacoids and related drugs, and Respiratory system including anti-asthmatic drugs, antitussives. Describe the pharmacological basis of drugs acting on the GIT and the central nervous system. | K1                                | Lectures  | Written Exams<br>Assignments     |
| 2.0  | Skills  |                                   |   |                                  |
| 2.1  | Summarize the pharmacological basis of proper selection and use of drugs in various disease conditions related to autacoids, respiratory system and GIT.  | S1                                | Lectures<br>Laboratory work<br>Case studies or multimedia instruction | Written Exams<br>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<br>Laboratory work<br>Case studies or multimedia instruction | Written Exams<br>Practical Exams |
| 3.0  | Values, autonomy, and responsibility  |                                   |   |                                  |



| Code | Course Learning Outcomes   | Code of PLOs aligned with program | Teaching Strategies           | Assessment Methods          |
|------|--|-----------------------------------|-------------------------------|-----------------------------|
| 3.1  | Demonstrate leadership, skills, in addition to accountability, confidence, and independent thinking to respond to routine or unanticipated circumstances.                                    | V1                                | Lectures<br>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) |

### 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                                | 1             |
| 5.  | Drug treatment of asthma  | 2             |
| 6.  | Antitussive and expectorant drugs                                 | 1             |
| 7.  | Drug treatment of peptic ulcer                                    | 2             |
| 8.  | Laxatives, antidiarrheal drug and antiemetics                     | 2             |
| 9.  | Introduction to CNS   | 1             |
| 10. | General anesthetics   | 2             |
| 11. | Skeletal muscle relaxants   | 1             |
| 12. | Local anesthetics   | 1             |
| 13. | Opioid analgesic and opioid antagonists                           | 2             |
| 14. | Non-steroidal anti-inflammatory drugs                             | 2             |
| 15. | Drug treatment of Gout  | 1             |
| 16. | Sedative and hypnotic Drugs                                       | 1             |
| 17. | Antiepileptic drugs   | 2             |
| 18. | Drug treatment of neurodegenerative diseases: Parkinsonism        | 1             |
| 19. | Drug treatment of neurodegenerative diseases: Alzheimer's Disease | 1             |
| 20. | Antipsychotic drugs and lithium                                   | 2             |





|       |                      |    |
|-------|----------------------|----|
| 21.   | 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 Peptic Ulcer.          | 2             |
| 4.    | Practical pharmacology of drugs acting on GIT    | 2             |
| 5.    | Practical pharmacology of General anesthesia     | 2             |
| 6.    | Practical pharmacology of Neuromuscular blockers | 2             |
| 7.    | Practical pharmacology of Analgesics             | 2             |
| 8.    | Practical pharmacology of Gout                   | 2             |
| 9.    | Practical pharmacology of sedative hypnotics     | 2             |
| 10.   | Small group discussion                           | 2             |
| 11.   | Practical pharmacology of Antiepileptic Drugs.   | 2             |
| 12.   | Practical pharmacology of Antiparkinsonian Drugs | 2             |
| 13.   | Practical pharmacology of Antipsychotic Drugs    | 2             |
| 14.   | Practical pharmacology of Antidepressant 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 <sup>th</sup> week           | 10%                                  |
| 2. | Midterm Exam              | 8 <sup>th</sup> week           | 20 %                                 |
| 3. | Practical Quiz            | 9 <sup>th</sup> week           | 5%                                   |
| 4. | Assignment                | 14 <sup>th</sup> Week          | 10%                                  |
| 5. | Students Observation card | Per semester                   | 5%                                   |
| 6. | Final Practical Exam      | 16 <sup>th</sup> week          | 10%                                  |
| 8. | Final Theoretical Exam    | 17 <sup>th</sup> week          | 40%                                  |



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

## E. Learning Resources and Facilities

### 1. References and Learning Resources

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

### 2. Required Facilities and equipment

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

## F. Assessment of Course Quality

| Assessment Areas/Issues                     | Assessor                                       | Assessment Methods         |
|---|--|----------------------------|
| Effectiveness of teaching                   | Program Leaders<br>Students                    | Direct<br>Indirect         |
| Effectiveness of Students assessment        | Faculty<br>Department council<br>Peer Reviewer | Direct<br>Direct<br>Direct |
| Quality of learning resources               | Students<br>Faculty                            | Indirect<br>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.      | 14460217-1071-00001             |
| DATE               | 21/08/2024                      |

