

Course Specification Student Version

| | |
|----------------------|---------------------------------------|
| Course Title: | Introduction to Dental Pharmacology-1 |
| Course Code: | PHL 311 |
| Department: | Basic Medical Sciences |
| Program: | Bachelor of Dentistry |
| College: | Vision College in Riyadh |
| Institution: | Vision College in Riyadh |
| Revised: | July 2025 |

A. Course Identification

| |
|---|
| 1. Credit hours: 2 (2+ 0+ 0) |
| 2. Level/year at which this course is offered: Level 5/Year 3 |
| 3. Pre-requisites for this course (if any): None |
| 4. Co-requisites for this course (if any): None |

B. Teaching Methods

| | |
|---|----------------------|
| 1 | Interactive Lectures |
| 2 | Assignments |

C. Course Description and Main objective

1. Course Description

This course presents an overview of general pharmacological principles. It discusses the conceptual basis of drug action, pharmacodynamic mechanisms, pharmacokinetic processes and drug-drug interactions encountered clinically, particularly in dental practice. The course includes a systematic study of the effects of drugs on different organ systems and disease processes, the mechanisms by which drugs produce their therapeutic and toxic effects, and the factors influencing their absorption, distribution and biological actions.

2. Course Main Objective

The main purpose of this course is two-folds. First, to provide the undergraduate dental students with a solid foundation in the basic concepts and scientific underpinning of pharmacology. Second, to provide students with a comprehensive introduction to the pharmacological actions, uses, and side effects of the many classes of clinically important drugs currently used in dental practice.

2. Course Objectives:

By the end of this course, students should be able to:

1. Explain the fundamentals of pharmacology, pharmacokinetics, Pharmacodynamics, and therapeutics related to dental patient care.
2. Identify factors that cause interpatient variability in drug disposition and drug response.
3. Recognize action, rationale for use, drug interactions, common and/or life-threatening side effects and dental implications for commonly prescribed medications in dentistry.
4. Formulate appropriate evidence-based patient's centered management strategies.
5. Recognize the importance of ethical and professional responsibilities in the dentistry profession.

D. Course Content

| No. | List of Topics |
|-----|--|
| 1 | Introduction to Pharmacology |
| 2 | Routes of Drug Administration |
| 3 | Pharmacokinetics |
| 4 | Pharmacodynamics |
| 5 | Drug Interactions |
| 6 | Adverse Drug Reactions |
| 7 | Drug Dosage & Factors Modifying Drug Action |
| 8 | Drugs Affecting the Autonomic Nervous System |
| 9 | Drugs Acting on Central Nervous System (CNS) <ul style="list-style-type: none"> Local Anesthetics General Anesthetics Skeletal Muscle Relaxants Sedative-Hypnotics-Anxiolytics Antiepileptics- Antidepressants |
| 10 | Antiseptics & Disinfectants |
| 11 | Drugs and Aids with Specific Application in Dental Disorders |

E. Assessment tools

| # | Assessment task | Percentage of Total Assessment Score |
|---|--------------------|--------------------------------------|
| 1 | Quizzes | 10% |
| 2 | Assignments | 30% |
| 3 | Midterm Exam | 20% |
| 4 | Final Written Exam | 40% |
| | Total | 100% |

F. Learning Resources

| | |
|-------------------------------------|---|
| Required Textbooks | 1. Essentials of Pharmacology for Dentistry (English, Paperback, Tripathi KD, 4 th Edition) |
| Essential Reference Material | 1. Vanderah T.W. (2024), Katzung's Basic & Clinical Pharmacology, 16e. McGraw Hill. Access Medicine . 2. Whalen K. (2022), Lippincott Illustrated Reviews: Pharmacology, 8e. Wolters Kluwer. |
| Electronic Material | LMS resources 1. Drug Bank Online 2. Medical Pharmacology 3. Drugs.com |