



National University of Sciences and Technology

Course Description

| Course Title | Course Code | Credit Hours |
|---------------------------------------|-------------|--------------|
| Systems Pharmacology and Therapeutics | BMS-843 | 3 – 0 |

TEXT BOOK:

- Katzung et al, Basic & Clinical Pharmacology (15th edition), Lange, 2020, (latest edition).
- Rang HP, Dale MM, Ritter JM, Flower R & Henderson, G, Rang & Dale's Pharmacology (10th edition), Churchill Livingstone, 2023, (latest edition).

REFERENCE BOOK

- N/a

COURSE OBJECTIVES:

This course is a beginning introduction to the study of pharmacology. The student will utilize the physical and social sciences as a framework for developing an understanding of drug action and usage. The names, indications, mechanism, dosage range, side effects and adverse effects of individual drugs will be discussed. The format of the course will be a combination of lecture, group discussion and case presentation. The students will also learn about the molecular interactions of drugs with their targets in the body, focusing on the actions of the drugs acting on the cardiorespiratory and nervous system which treat conditions such as angina and asthma and neurological disorders.

COURSE OUTLINES

- Introduction to pharmacology: History and scope
- Principles of chemotherapy
- Drug receptors interaction-agonist and antagonist
- Pharmacokinetics and Pharmacodynamics
- Molecular mechanism of drug action
- Pharmacology and inflammation treatment
- Chemotherapeutic drugs (antibiotics, antiviral, antifungal)
- Cancer Chemotherapy
- Cardiovascular drugs
- Central Nervous System Drugs
- Toxicology
- Ethical issues in clinical studies of drugs
- The Drug Development Process-Biopharmaceuticals and Chemotherapeutics

ASSESSMENTS

| Description | Percentage Weightage (%) |
|--------------------|--------------------------|
| Assignments | 05-10% |
| Quizzes | 10-15% |
| Mid Semester Exams | 30-40% |
| End Semester Exam | 40-50% |