

M.Phil Pharmacology Program
Faculty of Pharmacy, Bahauddin Zakariya University, Multan.
Scheme of studies for M.Phil course work in Pharmacology.

M.Phil. Pharmacology comprises of four semester (50 credit hours) i.e. two years programme. The first two semester (25 credit hours) i.e. one year consist of a course work whereas the 3rd and 4th semester (25 credit hours) i.e. one year is devoted for research work. The syllabi / courses of reading during the first semester are outlined below.

1st Semester (12 Credit Hours)

Course No.	Title of Course	Credit Hours
PHL-701	General Pharmacology	3
PHL-702	Applied Pharmacology-I	3
PHL-703	Biochemical Pharmacology	3
PHL-704	Biochemical Techniques	3

2nd Semester (13 Credit Hours)

Course No.	Title of Course	Credit Hours
PHL-751	Applied Pharmacology-II	3
PHL-752	Neuro –Pharmacology	3
PHL-753	Microbiology	3
PHL-754	Seminar in Pharmacology	1
PHL-755	Biostatistics	3

3rd and 4th Semester (25 Credit Hours)

Course No.	Title of Course	Credit Hours
PHL-801	Thesis	25

Description of Courses

Courses for M.Phil. Pharmacology 1st Semester

PHL-701 General Pharmacology

Pharmacokinetics, Pharmacodynamics, Pharmacological Screening & Standardization, Pharmacokinetics, Toxicity testing. Adverse drug reactions, Drug Interactions, Hypersensitivity (Drug Allergy) Toxicology

PHL-702 Applied Pharmacology-I

Antibacterial, Anti-fungals, Anti-virals, Anti-Protozoals, Anthelmintics, NSAIDs, Anti-gout, Chelating agents, NSAIDs Corticosteroids, Immunomodulators, Contraceptives, Abortifacients and Chemical Mediators.

PHL-703 Biochemical Pharmacology

Transcription & translation of genes, mutagenicity, & carcinogenicity. Drug action and membranous macromolecules (proteins, carbohydrates and phospholipids). Neurohumoral transmission & signal transduction. Eicosanoids, histamine, serotonin, bradykinins and other mediators of inflammation. Pituitary, adrenal, thyroid, ovarian and testicular hormones.

PHL-704 Biochemical Techniques

Separation, Purification and characterization of proteins, nucleic acids and phospholipids, Sequencing & synthesis of nucleic acids & Peptides, Study of Drugs Metabolism & Relevant enzymes, Radio Immuno Assay, Radiolabeling, Fluorescent Spectroscopy, Immunodetection. Cytokines & Immunomodulators.

Courses for M.Phil. Pharmacology 2nd Semester

PHL-751 Applied Pharmacology

Autonomic Nervous System (ANS), Drugs Acting on GIT, Anti-emetics, Drugs acting on Respiratory System, Drugs acting on CVS, Diuretics, Hypolipidemics, Anticoagulants, and Thrombolytic, Hemostatics, Histamine & Anti-Histamines,

PHL-752 Neuro -Pharmacology

Drug Addiction, CNS Stimulants, CNS Depressants, Psychotomimetics, Narcotic Analgesics, Neuroleptics, Anti-depressants, Anti- Parkinsonians, Anti-epileptics, General & Local Anesthetics and Special Topics

PHL-753 Microbiology

Bacterial cell culture, isolation, identification and maintenance of pure culture. Immunology, vaccines, sera, toxins and anti-toxins. Diseases of Protozoal, bacterial, fungal and viral origin.

PHL-753 Seminar in Pharmacology

Faculty and student participation in discussion of current research and development appeared in pharmacological in Mechanism of action, Structure activity relationships, Pharmacokinetics and Therapeutics of natural and synthetic products.

PHB-755 Bio-statistics

Various definitions of Biostatistics, Application of statistics in biological and Pharmaceutical sciences. Statistics data collection, presentation and tabulation of data. Frequency Distribution and its formations, types of frequency curves.

Measures of central tendency: Such as Mean, Mode, Median quantities decides of grouped and ungrouped Pharmaceutical data.

Measures of Dispersion: Such as Range, mean deviation, Standard deviation and Variance. Standard error, Co-efficient of variation, skewness and kurtosis of pharmaceutical data.

