

**Shobhit  
University**

EDUCATION EMPOWERS

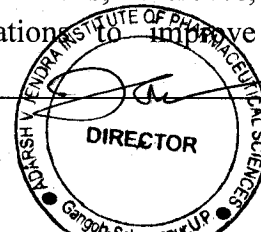
Babu Vijendra Marg, Adarsh Institutional  
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**School of Pharmacy (AVIPS)  
Master of Pharmacy (Pharmacology)**

Program Outcomes, Program Specific Outcomes & Course Outcomes  
(POs, PSOs& COs)

**Program Outcomes**

Program Outcome		Statement
PO 1	Knowledge of Drug Mechanisms	Understand the pharmacokinetics and pharmacodynamics of various drug classes and how they interact with biological systems.
PO 2	Clinical Application	Apply pharmacological principles in clinical settings to optimize drug therapy and improve patient outcomes.
PO 3	Safety and Efficacy	Evaluate the safety, efficacy, and potential side effects of medications, including understanding drug interactions and contraindications.
PO 4	Research Skills	Conduct and interpret pharmacological research, including the ability to critically analyze scientific literature and apply findings to practice.
PO 5	Ethical Considerations	Understand ethical issues related to pharmacotherapy, including informed consent, drug regulation, and the implications of new therapies.
PO 6	Patient-Centered Care	Develop communication skills to educate patients about their medications, including dosage, administration, and potential side effects.
PO 7	Interprofessional Collaboration	Work effectively as part of a healthcare team to ensure comprehensive patient care and medication management.
PO 8	Therapeutic Drug Monitoring and Personalized Medicine	Learn the techniques for monitoring drug concentrations, assessing therapeutic outcomes, and implementing personalized drug therapy based on genetic and clinical factors.
PO 9	Interdisciplinary Collaboration	Foster collaboration with healthcare professionals, including physicians, nurses, and pharmacists, to ensure the safe and effective use of medications in patient care.
PO 10	Patient Education and Communication	Develop communication skills to educate patients and healthcare teams on the safe use of medications, adherence, side effects, and lifestyle modifications to improve therapeutic outcomes.





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PO 11	Innovation and Emerging Therapies	Stay abreast of the latest advancements in pharmacology, such as biologics, gene therapy, and novel drug delivery systems, preparing students to contribute to the development of new therapies.
PO 12	Pharmacoeconomics and Drug Regulation	Gain insight into the economic and regulatory aspects of pharmacology, including drug approval processes, healthcare policies, and cost-effectiveness analysis.

## Program Specific Outcomes (PSOs)

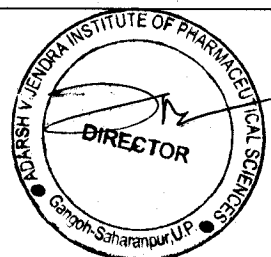
Program Specific Outcome	Statement
PSO 1	Advanced Pharmaceutical Knowledge: Graduates will demonstrate a deep understanding of drug development processes, including formulation, synthesis, and quality control of pharmaceutical products.
PSO2	Clinical Pharmacy Skills: Graduates will apply clinical knowledge to assess patient medication regimens, provide pharmaceutical care, and contribute to interdisciplinary healthcare teams.
PSO 3	<b>Research Methodology:</b> Graduates will be proficient in research methodologies, enabling them to design, conduct, and analyze pharmaceutical research effectively, including clinical trials and drug studies.
PSO 4	Pharmacokinetics and Pharmacodynamics: Graduates will understand the principles of pharmacokinetics and pharmacodynamics, applying this knowledge to optimize drug therapy for diverse patient populations.

## Course Outcomes (COs)

### 1<sup>st</sup> Semester

#### Course: Modern Pharmaceutical Analytical Techniques

Course Outcomes	Statement
CO 1	Chemicals and Excipients
CO 2	The analysis of various drugs in single and combination dosage forms
CO 3	Theoretical and practical skills of the instruments





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**Course: Advanced Pharmacology - I**

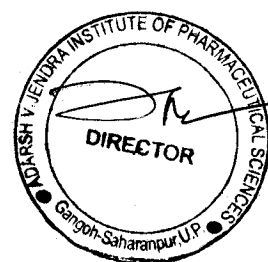
Course Outcomes	Statement
CO 1	Discuss the pathophysiology and pharmacotherapy of certain diseases
CO 2	Explain the mechanism of drug actions at cellular and molecular level
CO 3	Understand the adverse effects, contraindications and clinical uses of drugs used in treatment of diseases

**Course: Pharmacological and Toxicological Screening Methods-I**

Course Outcomes	Statement
CO 1	Appraise the regulations and ethical requirement for the usage of experimental animals.
CO 2	Describe the various animals used in the drug discovery process and good laboratory practices in maintenance and handling of experimental animals
CO 3	Describe the various newer screening methods involved in the drug discovery process
CO 4	Appreciate and correlate the preclinical data to humans

**Course: Cellular and Molecular Pharmacology**

Course Outcomes	Statement
CO 1	Explain the receptor signal transduction processes.
CO 2	Explain the molecular pathways affected by drugs.
CO 3	Appreciate the applicability of molecular pharmacology and biomarkers in drug discovery process.
CO 4	Demonstrate molecular biology techniques as applicable for pharmacology





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## Course Outcomes (COs)

### 2<sup>nd</sup> Semester

#### Course: Advanced Pharmacology- II

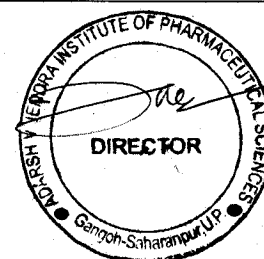
Course Outcomes	Statement
CO 1	Explain the mechanism of drug actions at cellular and molecular level
CO 2	Discuss the Pathophysiology and pharmacotherapy of certain diseases
CO 3	Understand the adverse effects, contraindications and clinical uses of drugs used in treatment of diseases

#### Course: Pharmacological and Toxicological Screening Methods-II

Course Outcomes	Statement
CO 1	Explain the various types of toxicity studies.
CO 2	Appreciate the importance of ethical and regulatory requirements for toxicity studies.
CO 3	Demonstrate the practical skills required to conduct the preclinical toxicity studies.

#### Course: Principles of Drug Discovery

Course Outcomes	Statement
CO 1	Explain the various stages of drug discovery.
CO 2	Appreciate the importance of the role of genomics, proteomics and bioinformatics in drug discovery
CO 3	Explain various targets for drug discovery.
CO 4	Explain various lead seeking method and lead optimization
CO 5	Appreciate the importance of the role of computer aided drug design in drug discovery





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## Course: Clinical Research and Pharmacovigilance

Course Outcomes	Statement
CO 1	Explain the regulatory requirements for conducting clinical trial
CO 2	Demonstrate the types of clinical trial designs
CO 3	Explain the responsibilities of key players involved in clinical trials
CO 4	Execute safety monitoring, reporting and close-out activities
CO 5	Explain the principles of Pharmacovigilance
CO 6	Detect new adverse drug reactions and their assessment
CO 7	Perform the adverse drug reaction reporting systems and communication in Pharmacovigilance

