Shobhit University
EDUCATION EMPOWERS

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

Master of Pharmacy (Pharmaceutics)

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

Program Outcomes

Program Outcome		Statement
PO 1	Pharmaceutical Knowledge Application	Graduates will apply advanced knowledge of pharmaceutics to develop, formulate, and evaluate pharmaceutical products effectively.
PO 2	Research Competence	Graduates will demonstrate the ability to design and conduct independent research in pharmaceutics, utilizing appropriate methodologies and analytical techniques.
PO 3	Formulation Development Skills	Graduates will be skilled in developing various drug delivery systems, optimizing formulations for different routes of administration.
PO 4	Analytical Proficiency	Graduates will utilize advanced analytical techniques to assess the quality and stability of pharmaceutical formulations, ensuring compliance with regulatory standards.
PO 5	Clinical Application	Graduates will apply their knowledge of pharmacokinetics and pharmacodynamics to optimize drug therapy and improve patient outcomes.
PO 6	Regulatory Compliance	Graduates will understand and navigate regulatory requirements and guidelines affecting pharmaceutical development and commercialization.
PO 7	Ethical Standards	Graduates will uphold ethical principles in research and practice, ensuring patient safety and adherence to professional standards.
PO 8	Communication Skills	Graduates will effectively communicate complex pharmaceutical concepts and research findings to a variety of audiences, including healthcare professionals and regulatory agencies.

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PO 9	Collaborative Teamwork	Graduates will work effectively in interdisciplinary teams, contributing to collaborative problem-solving and enhancing healthcare delivery.
PO 10	Commitment to Lifelong Learning	Graduates will demonstrate a commitment to lifelong learning, actively engaging in professional development and staying updated on advancements in pharmaceutics.
PO 11	Self-Management and Independent Learning	Develop self-management skills and the ability to engage in independent learning, enabling the graduate to keep up with advancements in pharmaceutical sciences and take responsibility for their continuous education.
PO 12	Entrepreneurial and Leadership Abilities	Foster entrepreneurial and leadership skills necessary to start or manage pharmaceutical companies, lead research projects, or contribute to innovation in drug development, ensuring effective team management and business success.

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	Research Methodology: 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.

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Course Outcomes (COs)
1st 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

Course: Drug Delivery Systems

Course Outcomes	Statement
CO 1	The various approaches for development of novel drug delivery systems.
CO 2	The criteria for selection of drugs and polymers for the development of delivering system
CO 3	The formulation and evaluation of Novel drug delivery systems.

Course: Modern Pharmaceutics

Course Outcomes	Statement
CO 1	The elements of preformulation studies.
CO 2	The Active Pharmaceutical Ingredients and Generic drug Product development
CO 3	Industrial Management and GMP Considerations.
CO 4	Optimization Techniques & Pilot Plant Scale Up Techniques
CO 5	Stability Testing, sterilization process & packaging of dosage forms.

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Course: Regulatory Affairs

Course Outcomes	Statement
CO 1	The Concepts of innovator and generic drugs, drug development process
CO 2	The Regulatory guidance's and guidelines for filing and approval process
CO 3	Preparation of Dossiers and their submission to regulatory agencies in different countries
CO 4	Post approval regulatory requirements for actives and drug products
CO 5	Submission of global documents in CTD/ eCTD formats
CO 6	Clinical trials requirements for approvals for conducting clinical trials
CO 7	Pharmacovigilence and process of monitoring in clinical trials

Course: Molecular Pharmaceutics (Nanotechnology & Targeted DDS) (NTDS)

Course Outcomes	Statement
CO 1	The various approaches for development of novel drug delivery systems.
CO 2	The criteria for selection of drugs and polymers for the development of NTDS
CO 3	The formulation and evaluation of novel drug delivery systems.

Course: Advanced Biopharmaceutics & Pharmacokinetics

Course Outcomes	Statement
CO 1	The basic concepts in bio pharmaceutics and pharmacokinetics.
CO 2	The use raw data and derive the pharmacokinetic models and parameters the best describe the process of drug absorption, distribution, metabolism and elimination.
CO 3	The critical evaluation of biopharmaceutic studies involving drug product equivalency.
CO 4	The design and evaluation of dosage regimens of the drugs using pharmacokinetic and biopharmaceutic parameters.
CO 5	The potential clinical pharmacokinetic problems and application of basics of pharmacokinetic

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Course: Computer Aided Drug Development

Course Outcomes	Statement
CO 1	History of Computers in Pharmaceutical Research and Development
CO 2	Computational Modeling of Drug Disposition
CO 3	Computers in Preclinical Development
CO 4	Optimization Techniques in Pharmaceutical Formulation
CO 5	Computers in Market Analysis
CO 6	Computers in Clinical Development
CO 7	Artificial Intelligence (AI) and Robotics
CO 8	Computational fluid dynamics(CFD)

Course: Cosmetics and Cosmeceuticals

Course Outcomes	Statement
CO 1	Key ingredients used in cosmetics and cosmeceuticals.
CO 2	Key building blocks for various formulations.
CO 3	Current technologies in the market
CO 4	Various key ingredients and basic science to develop cosmetics and cosmeceuticals
CO 5	Scientific knowledge to develop cosmetics and cosmeceuticals with desired Safety, stability, and efficacy.

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