

**Shobhit
University**

EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
Area Gangoh, Distt. Saharanpur (U.P.)
247341, India
Tel: +91 7830810052
E-mail: registrargangoh@shobhituniversity.ac.in
U: www.sug.ac.in

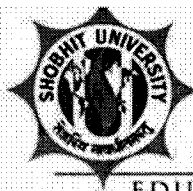
School of Pharmacy (AVIPS)
Master of Pharmacy (Pharmaceutical Chemistry)

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

Program Outcomes

Program Outcome		Statement
PO 1	Knowledge Application:	Graduates will apply advanced knowledge of pharmaceutical sciences to solve complex problems in drug development, formulation, and patient care.
PO 2	Research Proficiency	Graduates will demonstrate the ability to conduct independent research, critically analyze data, and contribute to scientific literature in the field of pharmacy.
PO 3	Clinical Judgment	Graduates will make informed clinical decisions based on evidence-based practices, optimizing therapeutic outcomes for patients.
PO 4	Communication Skills	Graduates will effectively communicate pharmaceutical information, both orally and in writing, to diverse audiences, including patients, healthcare professionals, and regulatory bodies.
PO 5	Ethical Standards	Graduates will adhere to ethical principles in all aspects of pharmaceutical practice, ensuring patient safety and promoting public health.
PO 6	Team Collaboration	Graduates will work effectively in interdisciplinary teams, contributing to comprehensive patient care and fostering collaboration among healthcare providers.
PO 7	Lifelong Learning	Graduates will exhibit a commitment to lifelong learning, seeking out continuing education opportunities to stay updated with advancements in the pharmaceutical field.
PO 8	Regulatory Knowledge	Graduates will understand and navigate the regulatory landscape governing pharmaceutical products, ensuring compliance with laws and guidelines.
PO 9	Patient-Centered Care	Graduates will provide patient-centered pharmaceutical care, considering individual patient needs, preferences, and values in their practice.
PO 10	Innovation and Entrepreneurship	Graduates will demonstrate the ability to innovate and explore entrepreneurial opportunities in the pharmaceutical industry, contributing to the development of new products and services.
PO 11	Research Methodology and Scientific Communication	Develop research skills to conduct independent studies, analyze scientific literature, and effectively communicate research findings in written and oral formats.





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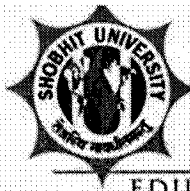
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PO 12	Drug Synthesis and Chemical Characterization	Acquire advanced skills in the synthesis, isolation, and characterization of pharmaceutical compounds, employing techniques such as chromatography, spectroscopy, and other analytical methods.
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Program Specific Outcomes (PSOs)

Program Specific Outcome	Statement
PSO 1	Advanced Chemical Knowledge: Graduates will demonstrate a thorough understanding of organic, inorganic, and medicinal chemistry principles as they apply to drug design and development.
PSO2	Synthesis and Characterization: Graduates will be skilled in the synthesis, purification, and characterization of pharmaceutical compounds using modern analytical techniques.
PSO 3	Drug Design and Development: Graduates will apply knowledge of structure-activity relationships (SAR) and molecular modeling to design and develop new pharmaceutical agents.
PSO 4	Analytical Method Development: Graduates will be proficient in developing and validating analytical methods for the quantitative and qualitative analysis of pharmaceutical substances.





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Course Outcomes (COs)

1st Semester

Course: Analytical Techniques

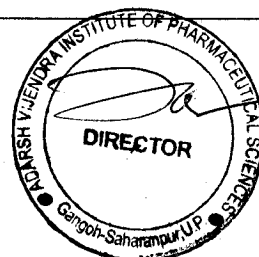
Course Outcomes	Statement
CO 1	The analysis of various drugs in single and combination dosage forms
CO 2	Theoretical and practical skills of the instruments

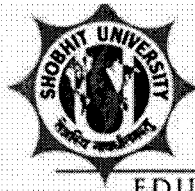
Course: Advanced Organic Chemistry-I

Course Outcomes	Statement
CO 1	The principles and applications of retrosynthesis
CO 2	The mechanism & applications of various named reactions
CO 3	The concept of disconnection to develop synthetic routes for small target molecule.
CO 4	The various catalysts used in organic reactions
CO 5	The chemistry of heterocyclic compounds

Course: Advanced Medicinal Chemistry

Course Outcomes	Statement
CO 1	Different stages of drug discovery
CO 2	Role of medicinal chemistry in drug research
CO 3	Different techniques for drug discovery
CO 4	Various strategies to design and develop new drug like molecules for biological targets
CO 5	Peptidomimetics





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Course: Chemistry of Natural Products

Course Outcomes	Statement
CO 1	Different types of natural compounds and their chemistry and medicinal importance
CO 2	The importance of natural compounds as lead molecules for new drug discovery
CO 3	The concept of rDNA technology tool for new drug discovery
CO 4	General methods of structural elucidation of compounds of natural origin
CO 5	Isolation, purification and characterization of simple chemical constituents from natural source

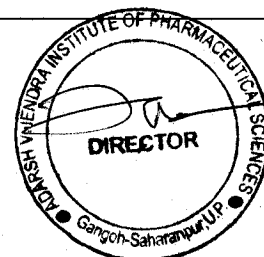
**Course Outcomes (COs)
2nd Semester**

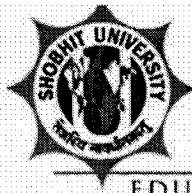
Course: Advanced Spectral Analysis

Course Outcomes	Statement
CO 1	Interpretation of the NMR, Mass and IR spectra of various organic compounds
CO 2	Theoretical and practical skills of the hyphenated instruments
CO 3	Identification of organic compounds

Course: Advanced Organic Chemistry-II

Course Outcomes	Statement
CO 1	The principles and applications of Green chemistry
CO 2	The concept of peptide chemistry.
CO 3	The various catalysts used in organic reactions
CO 4	The concept of stereochemistry and asymmetric synthesis.





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Course: Computer Aided Drug Design

Course Outcomes	Statement
CO 1	Role of CADD in drug discovery
CO 2	Different CADD techniques and their applications
CO 3	Various strategies to design and develop new drug like molecules.
CO 4	Working with molecular modeling softwares to design new drug molecules
CO 5	The in silico virtual screening protocols

Course: Pharmaceutical Process Chemistry

Course Outcomes	Statement
CO 1	The strategies of scale up process of a pis and intermediates
CO 2	The various unit operations and various reactions in process chemistry

