B. PHARMA PROGRAM

About Program

Bachelor of Pharmacy (B.Pharma.) is a four-year undergraduate program that provides knowledge about the methods and processes of medication preparation as well as how medicine and drugs are dispensed. Anyone interested in becoming a pharmacist must complete this course in order to gain a thorough and in-depth understanding of this science.

The programme is structured into eight semesters based on study and practical sessions in which students acquire valuable knowledge about science and legislation related to pharmaceutical production, distribution, and sales. After completing the course, students will be able to work as a professional pharmacist or start their own manufacturing facility. A pharmacy degree offers a wide range of career opportunities, and it is projected to grow in popularity in the coming years since there is a high demand for healthcare professionals who can create pharmaceuticals to treat a variety of diseases and deficits.

Because of its unique teaching methods, **Era University** stands out among other institutions, and as more aspiring students choose this program, its reputation as one of the **best B. Pharmacy colleges in Lucknow** strengthens.

PROGRAM OBJECTIVE

- To prepare pharmacy graduates with a strong foundation in fundamental principles and a high level of academic skill in pharmaceutical sciences and technologies.
- To instil in students the ability to think critically and analytically in order to recognise, develop, and solve problems in the pharmaceutical industry, regulatory agencies, hospital pharmacy, and community pharmacy.
- To train students to acquire an ability to solve, analyse and interpret data generated from Formulation Development, Quality Control & Quality Assurance
- To teach written and spoken communication skills so as to successfully explain the outcomes of pharmacological problems.
- To help develop an aptitude for lifelong learning and continuous professional development
- To increase awareness of the importance of pharmaceutical sciences and technology in providing people with a high-quality life

ELIGIBILITY

-
-
-

COURSE DURATION
CAREER PATHWAYS

-
-
-
-

CURRICULUM OVERVIEW

HUMAN ANATOMY AND PHYSIOLOGY-I

Imparts fundamental knowledge on the structure and functions of the various systems of the human body.

PHARMACEUTICAL ANALYSIS

Explains the fundamentals of analytical chemistry and principles of chemical analysis of drugs.

PHARMACEUTICS- I

Provides basic knowledge of preparatory pharmacy, as well as the art and science of preparing various conventional dosage forms.

PHARMACEUTICAL INORGANIC CHEMISTRY

States the monographs of inorganic drugs and pharmaceuticals

COMMUNICATION SKILLS

These sessions help young pharmacy students communicate effectively with customers, doctors, nurses, dentists, physiotherapists, and other health professionals. Students will acquire the soft skills necessary to work as a team player and deliver benefits to the pharmaceutical industry

REMEDIAL BIOLOGY

Helps students to learn and understand the components of living world, structure and functional system of plant and animal kingdom.

REMEDIAL MATHEMATICS

This is an introductory course in mathematics and deals with an introduction to Partial Fraction, Logarithm, Matrices and Determinant, Analytical Geometry, Calculus, Differential Equation and Laplace transform.

BIOCHEMISTRY

Biochemistry is concerned with gaining a thorough understanding of the chemical processes associated with living cells at the molecular level. The subject's scope is to provide biochemical facts and principles in order to comprehend metabolism in physiological and pathological settings.

PATHOPHYSIOLOGY

Pathophysiology is the study of disease causes and the body's responses to these disease-causing agents. This course is intended to provide a thorough understanding of the relevant aspects of pathology in diverse situations, as well as pharmaceutical applications and basic pathophysiological mechanisms.

COMPUTER APPLICATIONS IN PHARMACY

This subject introduces Database, Database Management System and Computer Application in clinical studies.

ENVIRONMENTAL SCIENCES

The scientific study of the environment and the status of its inherent or induced changes on organisms is known as environmental sciences. It encompasses not only the study of the environment's physical and biological aspects, but also social and cultural issues, as well as man's impact on the environment.

PHYSICAL PHARMACEUTICS

The module covers the physical and physicochemical properties of dosage

forms/formulations, as well as the principles involved. The subject's theoretical and practical components assist students gain a better understanding of numerous aspects of formulation research and development, as well as stability studies of pharmaceutical dosage forms.

PHARMACEUTICAL MICROBIOLOGY

Microorganisms of all kinds are studied, mainly for the manufacture of alcohol antibiotics, vaccines, vitamins, and enzymes, among other things.

PHARMACEUTICAL ENGINEERING

This subject aims to provide students with a basic understanding of the art and science of numerous unit operations utilized in the pharmaceutical business .

PHARMACEUTICAL ORGANIC CHEMISTRY

The classification and nomenclature of simple organic compounds, structural isomerism, reaction intermediates, important physical properties, reactions, and methods of manufacture are all covered in this subject. The module also places a strong emphasis on reaction mechanisms and orientation.

MEDICINAL CHEMISTRY

This module is meant to provide students with a foundational understanding of drug structure, chemistry, and therapeutic usefulness. The focus of the subject is on structure-activity relations, The chemistry, mechanism of action, metabolism, adverse effects, therapeutic usage, and manufacture of significant medications.

PHARMACOGNOSY AND PHYTOCHEMISTRY I

It involves the fundamentals of Pharmacognosy like scope, classification of crude drugs, their identification and evaluation, phytochemicals present in them and their medicinal properties.

INDUSTRIAL PHARMACY

It enables the learner to comprehend and appreciate the influence of pharmaceutical additives and different pharmaceutical dose forms on the drug product's performance.

PHARMACOLOGY

This subject is designed to provide students with a fundamental understanding of the various aspects (classification, mechanism of action, therapeutic effects, clinical uses, side effects, and contraindications) of drugs that act on various body systems.

PHARMACEUTICAL JURISPRUDENCE

Imparts basic knowledge on important legislations related to the profession of pharmacy in India.

HERBAL DRUG TECHNOLOGY

Provides knowledge of the fundamentals of the herbal medicine industry, including raw material quality, quality criteria for herbal pharmaceuticals, herbal cosmetics, natural sweeteners, nutraceuticals, and so on. Good Manufacturing Practices (GMP), patenting, and regulatory concerns for herbal medications are also covered in this module.

BIOPHARMACEUTICS AND PHARMACOKINETICS

Aimed to educate about mutual effect of body (ADME) on the drug and drug on the body. The knowledge of PK and PD helps in product development, planning of dose and dosage regimen, and solving the problem of ADR.

PHARMACEUTICAL BIOTECHNOLOGY

Biotechnology has a long promise to revolutionize the biological sciences and technology. It is basically a research-based subject, leading to new biological revolutions in diagnosis, prevention and cure of diseases and new & cheaper pharmaceutical drugs.

PHARMACEUTICAL QUALITY ASSURANCE

The subject covers various aspects of quality control and quality assurance including important aspects like cGMP, QC tests, documentation, quality certifications and regulatory affairs of pharmaceutical industries.

INSTRUMENTAL METHODS OF ANALYSIS

Provides fundamental knowledge of spectroscopic and chromatographic principles and instrumentation. It also places a strong emphasis on theoretical and practical expertise of modern analytical instruments used in drug testing.

PHARMACY PRACTICE

Pharmacy practice is the future of pharmacy. Students are taught multiple skills such as drug distribution, drug information, and therapeutic drug monitoring for improved patient care in order to practice Hospital Pharmacy successfully. Students learn skills such as dispensing pharmaceuticals, responding to minor ailments by providing appropriate safe medication, and patient counseling in a community pharmacy setting to improve patient care.

NOVEL DRUG DELIVERY SYSTEMS

This subject is designed to introduce the concept behind design and development of novel and targeted drug delivery systems. It deals with the criteria for selection of drugs and polymers for the development of a Novel drug delivery systems, their formulation and evaluation.

BIOSTATISITCS AND RESEARCH METHODOLOGY

Descriptive Statistics, Graphics, Correlation, Regression, Logistic Regression Probability Theory, Sampling Technique, Parametric Tests, Non-Parametric tests and ANOVA are covered in this module. Introduction to Design of Experiments, Phases of Clinical trials, Observational and Experimental studies, SPSS, R and MINITAB statistical software's and analysis of the statistical data using Excel**.**

SOCIAL AND PREVENTIVE PHARMACY

The aim of the subject is to introduce students to a number of health issues and their challenges and also educate about the various national health programs and the roles of the pharmacist in these contexts.

PHARMA MARKETING MANAGEMENT

The aim is to teach students about marketing principles, tactics, and applications in

the pharmaceutical industry. Marketing management knowledge and skills prepare people for tough roles in sales and product management.

PHARMACEUTICAL REGULATORY SCIENCE

The subject imparts fundamental knowledge on the regulatory requirements for approval of new drugs, and drug products in regulated markets of India & other countries like US, EU, Japan, Australia, and UK etc. It prepares students to learn in detail on the regulatory requirements, documentation requirements, and registration procedures for marketing the drug products.

PHARMACOVIGILANCE

Students learn about development of pharmacovigilance as a science, basic terminologies used in pharmacovigilance and global scenario of pharmacovigilance in addition to the skills of classifying drugs, diseases and adverse drug reactions.

QUALITY CONTROL AND STANDARDIZATION OF HERBALS

Various methods and guidelines for evaluation and standardization of herbs and herbal drugs are covered under this topic. The subject also provides an opportunity to learn GMP, GAP and GLP in traditional system of medicines.

COMPUTER AIDED DRUG DESIGN

This subject is designed to provide detailed knowledge of rational drug design process including various techniques and software used in rational drug design process.

CELL AND MOLECULAR BIOLOGY (Elective subject)

Cell and Molecular Biology is a **branch** of biology that studies cells Structure, cell organelle, environment, their life cycle and functions. This is done both on a microscopic and molecular level. Cell biology research encompasses both the great diversity of single-celled organisms like bacteria and protozoa, as well as the many specialized cells in multi-cellular organisms such as humans, plants, and sponges.

PHARMACOLOGICAL SCREENING METHODS

The subject is designed to impart the basic knowledge of preclinical studies in experimental animals including design, conduct and interpretations of results.

ADVANCED INSTRUMENTATION TECHNIQUES

The use of instrumental methods in drug analysis, both qualitative and quantitative, is discussed. The topic emphasizes theoretical and practical knowledge of modern analytical instruments used for drug testing, as well as advanced knowledge of the principles and instrumentation of spectroscopic and chromatographic hyphenated techniques.

DIETARY SUPPLEMENTS AND NUTRACEUTICALS

This foundational topic is essential for understanding the need and requirements for dietary supplements among various population groups. This module seeks to provide a knowledge of the concepts that support the theoretical applications of dietary supplements.