

## Programme outcomes in Chemistry

Purpose of undergraduate Chemistry is to provide the key knowledge and laboratory resources to prepare students for careers as professionals in the field of chemistry, Biotechnology and industry

The main programme outcomes are

1. Firm foundation of students in fundamentals and applications of current theories and principles in everyday life
2. Designing of scientific Experiments, record and analysis of results
3. Communication of results in oral written and electronic format with Scientists and Public
4. To explore new areas of research in Chemistry and applied fields of science and technology
5. Role To develop ability to observe analyse and interpret make rational decisions and solve problems
6. of chemistry in society and its use as a basis for ethical behavior in issues of safe handling of chemicals, environmental issues and uses in health and medicine
7. Chemistry is an integral activity for addressing social economic and environmental problems
8. Application of knowledge and technical skills in industries as effective technologists, operation of analytical instruments and identifying problems and their solutions

### List of course outcomes (Chemistry)

Course Code	Title	Outcomes	Credit
CHEM101 TH	Atomic Structure, Bonding , General organic Chemistry and Aliphatic Hydrocarbon	To impart theoretical understanding and basic concepts of organic Chemistry. Name of functional group and different class organic compound	4
CHEM101PR	Atomic Structure,	Basic practical skills in volumetric	2

	Bonding , General organic Chemistry and Aliphatic Hydrocarbon	and organic analysis	
CHEM102 TH	States of Matter , Chemical Kinetics and functional Organic chemistry	Basic principal of physical chemistry and complete knowledge of periodic tables, atomic structure inorganic chemistry	4
CHEM102PR	States of Matter , Chemical Kinetics and functional Organic chemistry	Understanding of concepts of purification like distillation, crystallization, determination of melting point and boiling point	2
CHEM201TH	Solution phase equilibrium conductance electro chemistry and organic chemistry	Understanding concepts of Solutions Phase Equilibrium and critical solutions Knowledge of different aspects of electrochemistry Preparation and properties of organic compound Detail study of carbohydrates	4
CHEM201 PR	Solution phase equilibrium conductance electro chemistry and organic chemistry	Determination of distribution coefficient of different solutions Conductance determination Preparation of organic compounds	2
CHEM202TH	Main Group elements and chemical energetics	Detail study of s&p block elements and properties of noble gases Different aspects of chemical and ionic equilibrium	4
CHEM202PR	Main Group elements and chemical energetics	Analysis of inorganic mixture and determination of heat capacity and PH measurement	2
CHEM203SEC	Analytical Chemistry	To learn the analysis of water and soil sample Food adulteration by lab method	4
CHEM204SEC	Fuel chemistry and Chemistry of Cosmetics & perfumes	knowledge of petro chemicals, perfume and cosmetics Knowledge of different types of chromatographic technique Knowledge of composition preparation and structure of essential oils	4
CHEM301TH	Polynuclear Hydrocarbons, Dyes, UV,IR and NMR spectroscopy	Preparation and properties of poly aromatic hydrocarbons, dyes and their application in pharmaceuticals and agricultural products	4

		Detail study of UV,IR and NMR with application in structure identification and characterization	
CHEM301PR	Polynuclear Hydrocarbons, Dyes, UV,IR and NMR spectroscopy		2
CHEM305 TH	Polymer Chemistry	Detail knowledge of polymer Principals of polymerization Synthesis and applications Properties ( Mechanical and Physical) Knowledge of conducting polymers	4
CHEM305PR	Polymer Chemistry	Preparation of polymers by different methods Measurement of physical properties of polymers	2
CHEM307SEC	CHEMICAL TECHNOLOGY & Society & Business skills in chemistry	Principles of chemistry as applied in chemical industry such as biotechnology ,cement factories, fertilizers factories Students gets information regarding the scaling up of chemical reactions to industry level. Familiarity of apparatus used in industry. Knowledge of IPR business management.	4
CHEM 308 SEC	Pesticide & Pharmaceutical chemistry	Students to know about different pesticides their application, preparation and side effects. Knowledge of Green pesticides their synthesis and how they are able to reduce the environmental pollution. Synthesis of different categories of drugs , their application and their side effects.	4