

# BSc Chemistry Honours Syllabus PDF

## BSc Chemistry Core Subjects

Every area of study at the undergraduate level comprises some core and elective subjects. When talking about the BSc Chemistry syllabus, one cannot miss out on mentioning the core topics that are taught in the program. *Organic, Inorganic and Physical Chemistry* are the major divisions of Chemistry and thus form an essential part of the degree program. Here are the key core subjects under the BSc Chemistry syllabus:

- Organic Chemistry: This branch of chemistry studies the properties, reactions, structure and preparation of a varied range of carbon-containing compounds which are mostly referred to as organic compounds.
- Inorganic Chemistry: Focusing on inorganic compounds, this subject peruses these compounds in terms of their structure, properties and reactions to chemical elements and compounds except for organic compounds.
- Physical Chemistry: It studies the reaction and properties of matter on a molecular and atomic level along with focusing on how chemical reactions occur. Further, it also explores the macroscopic and particulate phenomena in chemical systems and a wide range of concepts of Physics.
- Analytical Chemistry: This subject studies the separation, identification and quantification of chemical compounds.

Tabulated below are some of the subdivisions of the above-mentioned subjects.

Subjects	Topics
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## Inorganic Chemistry

Atomic Structure  
Catalysis by Organometallic Compounds  
Bioinorganic Chemistry  
Lanthanoids and Actinoids  
Noble Gases  
Transition Elements  
Chemistry of s and p Block Elements  
Periodicity of Elements  
Inorganic Polymers  
General Principles of Metallurgy  
Oxidation-Reduction  
Organometallic Compounds

## Organic Chemistry

Carbohydrates, Dyes, and Polymers  
Polynuclear Hydrocarbons  
Stereochemistry  
Heterocyclic Compounds  
Carboxylic Acids and their Derivatives  
Concept of Energy in Biosystems  
Nucleic Acids, Amino Acids, Peptides, and Proteins  
Chemistry of Halogenated Hydrocarbons  
Organic Spectroscopy  
Chemistry of Aliphatic Hydrocarbons  
Aromatic Hydrocarbons  
Enzymes and Lipids  
Alkaloids and Terpenes

## Physical Chemistry

Solid State Ionic and Phase Equilibria  
Molecular Spectroscopy  
Chemical Thermodynamics  
Gaseous State  
Solutions and Colligative Properties  
Conductance  
Liquid State  
Electrical and Magnetic Properties of Atom and Molecules  
Chemical Kinetics  
Quantum Chemistry  
Surface Chemistry

Analytical Chemistry

Introduction Analysis of Soil Analysis  
 Water Analysis of Food Products  
 Optical Methods of Analysis  
 Qualitative and Quantitative Aspects of Analysis  
 Chromatography

## BSc Chemistry Syllabus

The BSc Chemistry Honours syllabus will vary from university to university. Let's quickly glance at the general syllabus for this program which is split into 6 semesters:

### First Year

Semester I	Semester II
English Communication / Environmental Science	English Communication / Environmental Science
Inorganic Chemistry - I	Organic Chemistry - I
Inorganic Chemistry - I Lab	Organic Chemistry - I Lab
Physical Chemistry - I	Physical Chemistry - II
Physical Chemistry - I Lab	Physical Chemistry - II Lab
GE - 1	GE - 2

### Second Year

Semester III	Semester IV
Inorganic Chemistry - I	Inorganic Chemistry-III
Inorganic Chemistry - I Lab	Inorganic Chemistry-III Lab
Organic Chemistry-II	Organic Chemistry-III

Organic Chemistry-II Lab	Organic Chemistry-III Lab
Physical Chemistry-III	Physical Chemistry-IV
Physical Chemistry-III Lab	Physical Chemistry-IV Lab
SEC-1	SEC -2

### Third Year

Semester V	Semester VI
Organic Chemistry-IV	Inorganic Chemistry-IV
Organic Chemistry-IV Lab	Inorganic Chemistry-IV Lab
Physical Chemistry-V	Organic Chemistry-V
Physical Chemistry-V Lab	Organic Chemistry-V Lab
DSE-1	DSE-3
DSE-2	DSE-4
DSE-2 Lab	DSE-4 Lab