

Programmes

Master of Science in Chemistry (for 2 Years)

Course Intensity: Full Time Programme

Duration: 2 years

About the programme:

This course imparts basic and applied knowledge in the various branches in Chemistry with an aim to produce good academics, researchers and professionals in the field. Master's degree course in chemistry deals with the studies of the chemistry and its applications in various fields. It deals with in-depth knowledge of tools and techniques used in the pharmaceutical, medicinal, synthetic, organic, inorganic and analytical chemistry. These techniques may include various spectroscopic techniques like NMR, IR, UV, Raman Spectroscopy, Mass spectrometer and many more that are also used to analyse novel natural and synthetic products. The curriculum is designed in a way that students are given hands on experience to work in various R & D sectors, industries and research labs. It imparts deep knowledge of concepts of subjects like reaction mechanisms and quantum chemistry that may be applied by physical scientists and bio scientists, biochemistry, drug chemistry, chemical reactions and chemical skills.

Eligibility: 3-year undergraduate program in Science with Chemistry.

Tuition fee per annum: 46000

Exam fee per annum: 15000

Programme Objectives (POs):

1. PO1: Apply the knowledge of organic, inorganic, physical, and analytical chemistry to the solution of complex chemical problems in industry and academia.

2. PO2: Identify, formulate, research literature, and analyze chemical problems to arrive at substantiated conclusions using principles of chemical and physical sciences and design solutions for complex chemical synthesis and new reaction pathways with valid conclusions.
3. PO3: Create, select, and apply appropriate techniques, resources, and modern analytic tools including prediction and modeling of chemical reactions with an understanding of the limitations.
4. PO4: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional industrial practice.
5. PO5: Understand the impact of the chemical solutions in societal and environmental contexts, and demonstrate the knowledge with sustainable manner and commit to professional ethics and responsibilities and norms of the industrial and scientific community, function effectively as an individual, and as a member or leader in multidisciplinary settings.
6. PO6: Communicate effectively with the scientific community and with society at large. Be able to comprehend and write effective reports documentation. Make effective presentations, and give and receive clear instructions.
7. PO7: Demonstrate knowledge and understanding of scientific and management principles and apply these to one's own work, as a member and leader in a team. Manage projects in multidisciplinary environments.
8. PO8: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological and scientific change.

Programme Specific Outcomes (PSOs):

1. PSO1: Comprehend the need, significance and methodologies of chemical process their alignment with nature and conducive in cultivating skills for successful carrier in research, industry and as an entrepreneurship.

2. PSO2: Explore scientific skills with a sustainable approach to develop new innovative solutions for emerging problems by providing new knowledge in organic, inorganic, physical and analytical chemistry.

Programme Educational Objectives (PEOs):

1. PEO1: Nurture the needs of industries/laboratories related to chemistry including pharmaceutical/analytical chemistry.
2. PEO2: Demonstrate information literacy skills for acquiring knowledge of chemistry, as a chemist/researcher and also as a life-long learner.
3. PEO3: Communicate effectively the scientific information and research results in written and oral formats, to both professional scientists and to the public.

Program Structure:

<https://drive.google.com/drive/u/1/folders/1cmdYvnI7HMH2wzrapvzF4rJNfhDo-Bn1>