



# IILM UNIVERSITY

Greater Noida



**Ph.D. Program**  
**SCHOOL OF SCIENCES (SOSC)**

# Ph.D. (Chemistry)

NEP (National Education Policy) 2020-enabled curriculum

## DEPARTMENT of CHEMISTRY AND ENVIRONMENTAL SUSTAINABILITY

### List Of Faculty Members

Sr. No	Name	Designation	Research Expertise
1	Dr. Arvind Kumar Jain	Prof. & Dean of Student Welfare, Dean of School of Sciences	Nanotechnology, analytical chemistry, and sustainable materials
2	Dr. Priyanka Bhatnagar	Associate Professor & HOD	Organic Synthesis, Green Chemistry & Sustainable Chemical Processes
3	Dr. Soumya Aggarwal	Assistant Professor	Decoding biomolecular interactions, particularly protein–ligand and DNA–ligand systems, using advanced thermodynamic, spectroscopic, and computational approaches to support drug discovery and molecular design.
4	Dr. Sanjoy Gorai	Assistant Professor	Climate Research
5	Dr. Kirti Nagarkoti	Assistant Professor	Natural Products Chemistry
6	Dr. Nidhi Rai	Assistant Professor	Material sciences, Nanomaterials and environmental remediation
7	Dr. Geetika Patel	Assistant Professor	Sustainable methodology for organic synthesis, Hybrid Nanocatalysis, photocatalyst, Green synthesis of bio-active molecules

# **IILM University, Greater Noida**

IILM University provide students with an education that is both intellectually stimulating and practically relevant. We equip learners with the knowledge, skills, and experiences needed to achieve their full potential and make a meaningful difference in the world. Through a wide range of innovative programs, we prepare students for successful careers while inspiring them to create a positive social impact. True to our values, we foster an inclusive and diverse learning community that is deeply committed to responsibility, leadership, and lifelong learning.

## **School of Sciences**

The School of Sciences at IILM University, Greater Noida offers a unique blend of academic rigor, interdisciplinary learning, and industry relevance. With programs such as BSc Forensic Science, B Sc Mathematics with Data Sciences, M Sc Industrial Chemistry, M Sc Mathematics with Data Science, MSc Forensic Science, PhD Chemistry, PhD Mathematics, PhD Forensic Science, PhD Physics etc., the school equips students with strong theoretical foundations and practical skills. Supported by modern laboratories, research opportunities, internships, and skill-based workshops, students gain real-world exposure and hands-on experience from the very beginning of their academic journey.

Set in a vibrant 26-acre green campus, the school fosters holistic development through cultural events, student clubs, sports, and leadership activities. Highly qualified faculty with PhD backgrounds bring both academic expertise and industry insights to the classroom, while strong industry linkages, global alumni connections, and a legacy of 30+ years ensure excellent career pathways. In essence, the School of Sciences is where curiosity meets innovation and students are empowered to become scientists, researchers, and leaders of tomorrow.

## **About the Program**

The Ph.D. in Chemistry program at the Department of Chemistry and Environmental Sustainability, School of Sciences, IILM University, Greater Noida, is designed to develop advanced research skills and in-depth knowledge in the field of chemical sciences. This doctoral program focuses on original research that contributes to the advancement of scientific understanding and practical applications in chemistry and related disciplines.

Under the guidance of experienced faculty, scholars engage in rigorous research across various areas of chemistry such as organic chemistry, inorganic chemistry, physical chemistry, analytical chemistry, environmental chemistry, materials science, and related interdisciplinary fields. The program encourages critical thinking, problem-solving, and the application of innovative experimental and computational techniques to address complex chemical challenges. The core of the Ph.D. program is the development of an original research thesis that adds to existing knowledge or offers new perspectives in the field. Scholars are trained to design research studies, conduct advanced laboratory experiments, analyze data, and present their findings effectively in academic and professional forums. The program also emphasizes ethical research practices, laboratory safety, scientific integrity, and clear communication of results. Upon completion, candidates are required to defend their research work before an expert panel.

Graduates of the Ph.D. program are well-prepared for careers in academia, advanced research, chemical and pharmaceutical industries, environmental agencies, policy-making bodies, and

leadership roles in government and private sectors. The program aims to produce highly skilled researchers and subject experts who contribute to the growth and development of chemical sciences at national and international levels.

## Course Eligibility

M.Sc. Chemistry/related domain with 55% marks.

## Duration

Minimum 3 years (1 Year Course Work + 2 Years Research Work)

## Mode of Selection

Selection to the Ph.D. Programme in Chemistry shall be made through a two-stage process:

- **Entrance Examination:** Eligible candidates shall be required to appear in the University Entrance Examination / accepted national-level eligibility test as per UGC norms.
- **Interview / Viva-Voce:** Candidates shortlisted on the basis of the entrance examination shall be called for a personal interview / viva-voce before the duly constituted Selection Committee.

The final selection shall be based on the combined performance in the entrance examination and interview, in accordance with UGC regulations and University norms.

## Program Highlights

### Major Types of Course to be taught

- The Ph.D. coursework shall comprise University Core Courses in **Semester I**, focusing on Research Methodology, Research and Publication Ethics, and Statistics and Computer Application.
- **Semester II** shall include domain-specific courses, covering advanced concepts and recent developments in Chemistry and the chosen area of specialization, such as organic chemistry, inorganic chemistry, physical chemistry, analytical chemistry, environmental chemistry, materials science, nanotechnology, computational chemistry, and other emerging interdisciplinary areas relevant to the research topic.

The coursework will be designed in accordance with UGC guidelines, which mandate a minimum of 14 credits, to ensure strong research aptitude and subject expertise before commencement of doctoral research.

## Career Option

The Ph.D. in Chemistry program opens up advanced career opportunities in research, academia, and industrial sectors. Graduates gain specialized knowledge and strong research expertise,

making them suitable for senior and leadership roles across diverse domains of chemical sciences.

They can work as Chemists, Research Scientists, Academic Faculty, Analytical Scientists, Industrial Chemists, Environmental Consultants, and Policy Advisors. They may also take up roles in specialized areas such as organic synthesis, materials science, nanotechnology, pharmaceutical chemistry, environmental chemistry, and computational chemistry. Ph.D. graduates are employed in universities, research institutions, R&D laboratories, pharmaceutical and chemical industries, environmental agencies, government organizations, international agencies, and private consultancy firms.

The program also prepares candidates for independent research, innovation, consultancy, and advisory roles, contributing to advancements in chemical sciences and their applications in industry, sustainability, healthcare, and technology.

## Job Profile after Ph.D., Chemistry

<b>Government Sectors</b>	<b>Private Sectors</b>
Government Research Laboratories (CSIR, DRDO, ISRO)	Pharmaceutical Companies
Public Sector Units (ONGC, IOCL, BHEL)	Chemical and Petrochemical Industries
Central & State Pollution Control Boards	Private R&D Laboratories
Government Universities & Colleges	Private Universities & Institutions
Quality Control & Testing Laboratories	Food & Beverage Industries
Environmental Monitoring Agencies	Cosmetics & Consumer Goods Companies
Defence Research Organizations	Materials & Nanotechnology Firms
Drug Control Department	Healthcare & Biotech Companies
Government Hospitals (Research Wings)	Industrial Consultancy Services
Forensic & Analytical Labs	Product Development & Innovation Firms





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