**Learning labs**

- Laboratory Methods (Multidisciplinary Experiments)
- Project work & Dissertation

**Elective II**

- Chemistry of Biomolecules
- Frontiers in Organic Chemistry
- Green and Environment Chemistry

## RESEARCH ORIENTATION

Research orientation is the unique feature of Jain University's M.Sc. program where each M.Sc. student is tagged to an existing research laboratory to involve into the research activities in frontier areas of Chemistry / Material Science / Nanotechnology.

## CAREER OPPORTUNITIES

Postgraduates in M.Sc. Chemistry can find various jobs in both public and private sector organizations. Major employment areas recruiting graduates in M.Sc. Chemistry are given below:

- Pharmaceutical Companies
- Agrochemical Industry
- Petrochemical Industry
- Toiletry Industry
- Chemical Manufacturers
- Food Processing Firms
- Paint Manufacturing Companies
- Plastics Industries
- Educational Institutes
- Independent Laboratories
- Environmental Law, Patent Law Firms
- Space Exploration Agencies
- Forensic Science Department
- Ceramics Industry
- Paper Industry
- Military Systems Department

**Jain University**
**Centre for Nano and Material Sciences**
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Use your QR app to scan the code and connect online

Concept & Design, Office of Strategic Communications & Human Resources, Jain University 18 - 1705

Centre for Nano and Material Sciences
**JAIN** UNIVERSITY
Declared as Deemed-to-be University u/s 3 of the UGC Act,1956

Awarded **Graded Autonomy** by University Grants Commission

**#InspireImpact**

# M.Sc.

## Master of Science in Chemistry

Delve into the crux of Chemistry

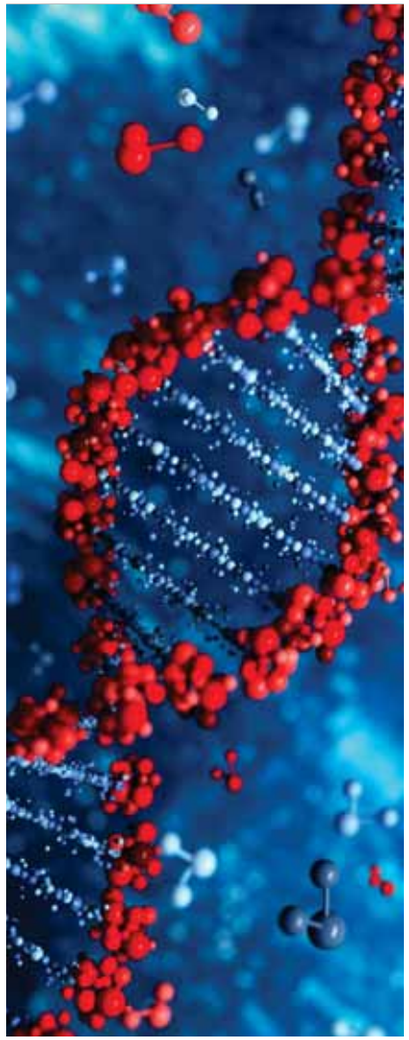
www.jainuniversity.ac.in

## ABOUT JAIN UNIVERSITY

Jain University is ranked among top universities in India by India Today Nielson Best Universities Survey. It offers innovative programs under UG, PG, and research levels, which are managed and imparted by sharp-minded faculty members who mentor over 11,091 students nationally and globally.

At Jain University, UG and PG aspirants have an opportunity to fulfill an education requirement among a wide variety of elective courses, interdisciplinary certificate programs and be a part of research activities undertaken by the university in diverse fields.

## ABOUT CENTRE FOR NANO AND MATERIAL SCIENCES (CNMS)



Centre for Nano and Material Sciences (CNMS) is a research center established by Jain University, Bangalore. The center offers a complete platter of all the frontier areas of Chemistry under the mentorship of faculty with definitive expertise.

Some of the major areas of research concerns include Nano Science, Catalysis, Organic Electronics, Bioinorganic and Clinical Chemistry, Electrochemistry, Analytical Chemistry, Drug Discovery, Heterogeneous Catalysis for Energy ($H_2$ production), Medicinal and Organometallic Chemistry, Low dimensional materials, Energy Storage and Conversion Materials, Graphene and 2D materials, Chemical and Biosensors, Nano-probes for Bio-imaging and membrane Sciences etc. In each of these research subjects, young research fellows pursuing their doctoral program are encouraged and guided, to adopt innovative and unique approaches.

The faculty members are from reputed institutes who attract substantial financial support for their research activities from governmental and private funding agencies. The center offers a vibrant atmosphere to students and faculty to nurture the spirit of scientific quest and to pursue cutting-edge research in a highly encouraging environment.

## ABOUT THE M.Sc. IN CHEMISTRY

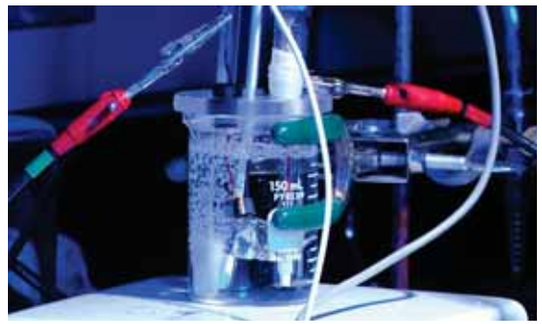
The Master of Science in Chemistry is a 2 years (4 semesters) degree course. The course attempts to bring the student the best research experiences in chemistry with prime importance given to Organic, Inorganic, Physical and Analytical branches of Chemistry.

Emerging topics like Nanotechnology, Environment Chemistry, Green Chemistry, Industrial Chemistry, Bio-analytical Chemistry and other interface branches are also touched upon to expose students to create an interesting balance between new trends and strong foundations of fundamentals of Chemistry.

**Program Code** : 044
**Course Code** : 4416
**Duration** : 2 years (4 semesters)
**Total credits** : 90

**Eligibility**
The minimum qualification required is a bachelor's degree from a recognized University / Institution having Chemistry as a major subject. Those who are due to appear in the qualifying examination can also apply.

## PROGRAM FEATURES



- Opportunity to understand projects with renowned research institutes such as IITs, IISc, CSIR labs and foreign universities.
- Advanced training on handling modern sophisticated instruments such as BET, FESEM, AFM, FTIR, MS, PXRD etc.
- Opportunity to interact with and attend invited talks of Eminent Scientists from National / International Universities / Research Organizations.
- Be a part of an active research community with access to useful and advanced facilities.
- Industry-ready skills to help students make a career in scientific laboratories / industries research institutions or any other public bodies.
- An excellent foundation for students wishing to undertake subsequent doctoral research work and competitive exams such as NET, GATE etc.
- Each student will be tagged to an existing research laboratory to involve into the research activities in the frontier areas of Chemistry / Material Science / Nanotechnology.

## PROGRAM CURRICULUM

**Semester I**
- Inorganic Chemistry - I
- Organic Chemistry - I
- Physical Chemistry - I
- Spectroscopy - I

**Learning labs**
- Inorganic Chemistry - I
- Organic Chemistry - I

**Semester II**
- Inorganic Chemistry - II
- Organic Chemistry - II
- Physical Chemistry - II
- Spectroscopy - II

**Learning labs**
- Physical Chemistry - I
- Organic Chemistry - II

**Semester III**
- Inorganic Chemistry - III
- Physical Chemistry - III

**Learning labs**
- Inorganic Chemistry - II
- Physical Chemistry - II
- Designing of the project

**Elective I**
- Applied Chemistry
- Pharmaceutical and Industrial Chemistry
- Nano Technology

**Semester IV**
- Analytical Chemistry
- Organic Chemistry - III