MSc in Geology at Department of Geology, St. Xavier's College- Mumbai.
2025-27

ONLINE APPLICATIONS ARE INVITED FROM UNDERGRADUATES IN GEOLOGY OR EARTH SCIENCES FOR ADMISSION TO THE POSTGRADUATE PROGRAM IN GEOLOGY.

Last date for submission of application: 20th May 2025

The Selection Process

The M.Sc Geology (Autonomous) program has an intake capacity of 20. Applications process is completely online. St. Xavier's College being a minority institution, seats on merit are reserved for the Christian community. The remaining seats are open for admission based on merit. Government of Maharashtra rules with regards to minority reservation apply.

For the academic year 2025-26 admissions to the MSc - Geology program will be based on merit of cumulative all six semester marks/GPA in Geology only. For those whose final semester results are pending, geology marks/GPA till the 5th semester will be considered. Aspiring candidates should upload clearly readable copies of all their semester marksheets where required as per the online application process.

Eligibility:

Graduates with a degree from a UGC recognised University/College with a major subject as Geology (50% or more credits have been acquired in geology or earth sciences courses OR 50% or more courses attempted during the BSc are in geology /earth sciences) can apply. Graduates from colleges affiliated to other Universities (other than Mumbai) will need the eligibility certificate from the University of Mumbai.

List of Courses:

The courses offered at the post graduate program (four semesters) in Geology have been designed by keeping the present-day industry requirements in mind. A dissertation in the III and IV semester is aimed at exposing the learner to present day trends of research in the subject.

Courses offered

- Stratigraphy and Geology of India
- Geochemistry
- Advanced Gemmology (elective)
- Mineralogy: Descriptive and Optical
- Remote Sensing and Image Processing (elective)
- Igneous Petrology
- Metamorphic Petrology
- Sedimentary Petrology
- Palaeontology(Micro and Invertebrate Palaeontology)
- Hydrogeology
- Geophysics
- Energy Resources
- Oceanography and Marine Geology
- Engineering Geology
- Economic Geology
- Geostatistics (elective)
- Contaminated Site Management and Remediation (elective)

- Geological Fieldwork: Planning and Execution
- Geological Mapping and Field Techniques (field training)
- Research Methodology in Earth Sciences
- Practical Course: Pertinent to the above-mentioned theory courses
- Dissertation (two semesters)

Scheme of Evaluation:
The post graduate program in geology will carry a weightage of 88 credits
Every theory course is 3 credits and practical of 1 credit each.
Fieldwork component is for 6 credits.
The Dissertation comprises 6 credits. The Dissertation entails field work, lab work, report, presentation and viva voce.

Evaluation
Theory and Practical Courses:
Continuous Internal Assessment - 40 %
End Semester Examination – 60 %

Fees for the Course per year*:

M.Sc. Part I	Rs. 22,000
M.Sc. Part II	Rs. 22,000

* not inclusive of expenses related to fieldwork and research project..

Facilities in the Department:
Apart from the standard laboratory equipment required for experiments and investigations in Earth Sciences, the Department has research grade petrological microscopes and recently procured new student petrological microscopes. The rock and mineral section cutting unit is well equipped with machines and trained manpower for preparing rock and mineral thin sections. Five microscopes have been exclusively procured for ore-microscopy studies. For sedimentology work, a sieve shaker with a standard set of sieves and good binocular zoom microscopes are available. Ground water exploration work is done using the Electrical Resistivity and Sounding system. The department has licensed software for the GIS and Remote Sensing work. Modern surveying equipment such as GPS, Theodolite, Auto Level, Total Station along with all accessories is available for detailed field mapping. Two drones with capability of capturing aerial photographs along with standard accessories were procured a few years ago. The Department was recently gifted a portable Radiation counter (Geiger Muller Counter) and a portable short wave UV lamp for mineral exploration. Facilities for wet and dry chemical analysis of rocks and standard equipment for measuring load bearing capacity of rocks (unconfined compressive strength) is available. Over the span of more than 100 years, the Department has established a formidable collection of rocks and mineral specimens from around the world. A well-stocked rock thin section library is also present. Topographical maps covering almost the entire country are available in digital form and in print along with digital satellite imageries of large parts of the country.

The centralised library facility has been upgraded with some of the latest publications in Earth Sciences and allied fields and is also supported by the online N-List (INFLIBNET) and a considerable collection of reference books in the departmental and faculty library .

Other Activities for this course:
Field work is a mandatory component of the program and is an integral part of the credits. Learners are also encouraged to participate in summer and winter internships, for which guidance is provided by the college. The department also undertakes consultancy projects from industry and government, where the faculty members encourage students to be involved so as to expose them to industry requirements. The department is also a recognised ISRO-Edusat e-learning centre where our students can register for online courses conducted by the IIRS.

The department has it own thematic intercollegiate student festival and also publishes a annual thematic journal – terra™

Placement:
The college has an active placement cell which offers assistance and training for job placements. Many of our students are employed by the Oil and gas sector as field and domain specialists. The geotechnical sector also offers employment which is largely fieldwork based. With the increasing importance of ground water, this sector has been employing our post graduates. The Geological Survey of India offers challenging work for those who wish to join the GSI through the UPSC selection procedure.

Faculty Members and their specialisation:

Hrishikesh Samant (hrishikesh.samant@xaviers.edu)
M.Sc. (App. Geology), M.Tech (Geoexploration), Ph.D (Earth Sciences), IIT Bombay.
Professor & Head. Recognised as a post graduate teacher in Geology and Environmental Science, & research guide, by the University of Mumbai.
Specialisation: Geomorphology, Terrain Analysis, Application of remote sensing to earth sciences.

Bobby Mathew (bobby.mathew@xaviers.edu)
M.Sc. (Geology) M.G. University, Kerala., PhD (Geology) – University of Mumbai.
Associate Professor. Recognised as a post graduate teacher in Geology by the University of Mumbai.
Specialisation: Ground water hydrology and Petrology.

Ashwin Pundalik (ashwin.pundalik@xaviers.edu)
M.Sc. (Geology), PhD (Geology), University of Pune.
Assistant Professor. Recognised as a post graduate teacher in Geology by the University of Mumbai.
Specialisation: Field Geology, Sedimentology, Stratigraphy

John Dsouza (john.dsouza@xaviers.edu)
M.Sc (Geology) University of Mumbai
Assistant Professor. Recognised as a post graduate teacher in Geology by the University of Mumbai.
Specialisation: Metamorphic Petrology

Shweta Patil (shweta.patil@xaviers.edu)
M.Sc. (Geology), PhD (Geology), University of Pune.
Assistant Professor. Recognised as a post graduate teacher in Geology by the University of Mumbai.
Specialisation: Palaeontology, Field Geology, Sedimentology

Robinprince Edward (robinprince.edward@xaviers.edu)
M.Sc-Tech (Applied Geology), ISM Dhanbad
Assistant Professor.
Specialisation: Remote Sensing, Mining geology.