

INDIAN INSTITUTE OF TECHNOLOGY ROPAR

ADMISSIONS AY 2024-25



Information Brochure
Admission to MS Data Science 2024-25
(JAN, 2025 Session)



About the Institute:

The Indian Institute of Technology Ropar started functioning from the academic year 2008-2009 from the campus of IIT Delhi, the mentor institute. The foundation stone laying ceremony was held on 24 February 2009. The Indian Institute of Technology Ropar was initially registered under the Societies' Registration Act 1860 on 29 July 2009. Subsequently, the Institute has been established by the Act of Parliament namely, the Institutes of Technology Act (Amendment) Act 2012 (No. 34 of 2012). The Institute has shifted to its permanent campus in 2018 and currently operates from its permanent campus. The permanent campus of IIT Ropar is spread across 501 acres of land located at Birla Seed Farms, Rupnagar in the lap of nature at the banks of river Satluj. The Institute has been awarded the 5 Star GRIHA (Green Rating for Integrated Habitat Assessment) rating, one of the highest national ratings for Green Buildings.

While the master plan is supposed to accommodate 10,000 students, the academic block is already set up for 2,500 students in the first phase. A total of 2,15,739 square meters of area is dedicated for academic and administration blocks along with accommodation for staff and faculty along with sports and hostel facilities for the students

All hostels are well furnished along with common rooms for recreational activities for each hostel. The campus also has airy common dining area. Naturally, there is no compromise with facilities regarding academics and laboratories for undertaking practical or doing some research. New state-of-the-art equipment is available for the students to use in labs. Apart from these academic facilities, other perks of being at IIT ROPAR include excellent sports facilities (different play fields for each sport, such as cricket, football, tennis, badminton, basketball, volleyball, etc.), utility block, student activity center (equipment and rooms for the various club activities and other student interest group activities), gymkhana, air-conditioned libraries with plethora of books, cafeterias, gymnasium, medical center with top notch 24 x 7 medical facilities.

At present, the Institute offers the degree of Bachelor of Technology in Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Civil Engineering, Chemical Engineering, Metallurgical & Materials Engineering, Engineering in Physics, Artificial Intelligence & Data Engineering and Mathematics & Computing. It offers the M.Sc. degree in Physics, Chemistry, and Mathematics. It also offers M.Sc. in Data Science and Management under Joint degree programme with IIM Amritsar. It offers the degree of Master of Technology in Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, Chemical Engineering, Civil Engineering, Artificial Intelligence, Materials Engineering and Biomedical Engineering. All the departments of the Institute offer a doctoral degree. The Institute has held 13 convocations so far. Presently the Institute has 1579 UG students, 569 PG students and 850 PhD students.

The overall academic system of IIT Ropar is designed to provide science-based engineering education that will produce quality engineers and scientists. IIT Ropar has implemented a new curriculum from 2017. The curriculum provides broad based knowledge and simultaneously builds a temper for lifelong learning and exploration. A set of science and general engineering courses forms part of the syllabus of the first-year undergraduate students. These courses provide a foundation for further discipline specific topics. In addition to overhauling its UG programs, IIT Ropar has introduced new PG streams.

Career Development and Placement Cell, is actively involved in organizing practical training for the undergraduate students and has been playing a catalytic role in finding placements for its final year students. IIT Ropar has undertaken the task of redefining its vision and mission, and of putting a strategic plan to achieve them into action.

IIT Ropar aims to promote research in interdisciplinary areas. The Institute also undertakes a number of research and consultancy projects that are sponsored by various funding agencies, including the Government and Industry. The Institute has taken major research activities in the fields of national

importance, such as nonconventional energy, sensors, drug delivery, materials synthesis and their modification, image processing, cloud networks, robotics, pattern recognition, renewable energy systems, microelectronics and nanodevices, mathematical biology, fluid dynamics, pure mathematics, quantum optics and quantum matter physics, ion beam physics, renewable energy, nanophotonics and metamaterials, surface patterning, sustainable energy, biomechanics, nanofluids, complex fluids, nanocomposites, neurocognition, financial mathematics and markets, phonetics, etc. The Institute provides ample funds to the departments and faculty members for the upgradation of laboratories and creation of research facilities. This has enabled our faculty members to take up research projects in frontier and emerging areas of science and technology.

Institute has a counselling cell to monitor the mental well-being of the students. Its mission is to promote well-being, aiding to develop better understanding of the self, to grow both intellectually and emotionally, to be more satisfied and productive and to improve the depth and quality of your life. To ensure sound mental health, we provide help in dealing with emotional and behavioural problems, such as guilt, anxiety, stress, lack of confidence, low self-esteem, depression and internet addiction of any sort, dependency, personal problems in relationships, such as co-dependency, rejection, separation, homesickness etc. Counselling Cell does fostering and inculcating life skills to make better adjustments and enrich healthy relationships.

The campus of IIT Ropar is well equipped with all required facilities. Classrooms fitted with multimedia, faculty offices and administrative wings are all in place. There are separate hostels for boys and girls. These hostels are equipped with modern mess units. Faculty recruitment, setting up of laboratories and other support facilities are done on a continuous basis to keep up with the progress.

The IIT Ropar community has undertaken an important exercise of developing the Mission, Vision and Strategic Plan for the coming years. The exercise was carried out in active consultation with Indian Institute of Management Calcutta. A participative bottom-up approach was followed in formulating the Mission, Vision and Strategic Plan. The Motto, Mission and Vision statements for IIT Ropar are as follows.

Motto: Deploy our intellect on the right path.

Mission: To foster a transformative learning environment and a culture of excellence enabling creation of knowledge and development of socially responsible, enterprising leaders contributing significantly to national progress and humanity.

Vision: To be a trendsetter among the technology universities born in this millennium.

Faculty:

The faculty members of the Institute are selected through a rigorous selection process. The approximate mean age of a faculty member at IIT Ropar is 35 years. The faculty members who have been selected from the best institutes from India and abroad embody the spirit of enthusiasm that comes with youth. The faculty members lay as much emphasis on the development of their technical know-how as on ethical and moral development; so when the student graduates she/he makes not just a good engineer but also a good human being. IIT Ropar takes the best raw material and the faculty carves them out into engineers and entrepreneurs of tomorrow.

January 2025 ADMISSIONS (ACADEMIC YEAR 2024-25)

Applications are called from the candidates for January 2025 admissions (Academic Year 2024-25) for admission to the MS program.

Last Date of Receipt of Online Applications: 10th January 2025

Guidelines

1. Submit the application online. After filling out the form, print out your application and keep it for your records. A print copy of the application is not required to be submitted.
2. Application Fee:
 - Women candidates & SC/ST/PwD category candidates: Rs. 100/-
 - GEN/OBC/EWS: Rs. 200/-
3. The fee is to be paid by SB Collect (Online Payment System). Applications without online payment details will not be considered. Fees payment method is as follows:
 - i) Go to onlinesbi.com
 - ii) Select SB Collect
 - iii) Tick the terms and conditions and continue
 - iv) Select state- Punjab
 - v) Select educational institute- IIT Ropar (Type I I T Ropar after giving space in each letter of IIT).
 - vi) Select the option for the payment category
 - vii) Select the option for application fee (as per applicability)
 - New Admission Fee in MS Jan 2025 GEN/OBC/EWS
 - New Admission Fee in MS Jan 2025 SC/ST/PD/Female
 - viii) Pay the requisite fee.
4. Application fee is NON-REFUNDABLE.
5. Thewritten test/interview dates will be informed to the shortlisted candidates through email.
6. The OBC (Non-Creamy Layer) certificate and Income & Assets certificate [for EWS category] issued after 31.03.2024 (for financial year 2023-2024) in the prescribed format must be uploaded in the ONLINE application and submitted at the time of interview/admission
7. Please check the admission website regularly for important announcements for shortlisting updates and results
8. The candidates called for a written test/interview should bring with them a printed copy of the application submitted online along with original and photocopies of relevant certificates/documents.
9. Incomplete applications/ applications in draft mode will be rejected.
10. Applicants must submit a legible copy of the documents.

Department:

The School of Artificial Intelligence & Data Engineering (SAI&DE) is starting MS programme in Data Science in collaboration with IIT Madras for IIT Madras BS students.

Course Duration:

The duration of the MS program is 1 year.

Admission Procedure:

- IIT Ropar screens the applicants (the students of IIT Madras BS program) and shortlists them using the standard procedures.
- The department shortlists the applicants based on the following:
 - I. Available seats.
 - II. Host department process - Based on the shortlisting of the applications, a written test and/or interview will be conducted. Admission will be offered based on the outcomes of these evaluations.
- Selected students will be admitted to the MS program at IIT Ropar and become full-time students of IIT Ropar.
- The students will not get any fellowship/ scholarship from the institute.
- The seat matrix of the MS in Data Science programme of IIT Ropar is given in Table 1.

Table 1: Seat Matrix of the MS in Data Science programme according to Disciplinary Majors at IIT Ropar.

Programme MS in Data Science	General	OBC-NCL	SC	EWS	ST	Total
	8	5	3	2	2	20

*As per GoI norms, for PwD category 5 % reservation will be applicable on the above matrix.

Reservation of Seats:

Reservations apply to SC/ST/OBC-NCL/EWS/Persons with Disability (PwD) candidates as per Govt. of India rules.

Minimum Eligibility Requirement for Admission to MS program:

After successfully completing the BS level with a CGPA of 8.0, students of the IIT Madras BS program will be considered for admission to the MS at IIT Ropar without requiring GATE (Graduate Aptitude Test in Engineering).

Credit Requirements:

- Total of 40 credits to complete the MS programme.
- The program is aligned with the National Credit Framework (NCrF).

Programme Structure:

- Project-Based Learning component across two semesters.
- Each semester contributes 20 credits.

Please visit the department website link as below:

Name of the Department	Website link
<u>Artificial Intelligence & Data Engineering</u>	https://www.iitrpr.ac.in/saide/

DETAILS OF SEMESTER FEES FOR THE ACADEMIC YEAR 2024-25.

	ITEM	M.S. (Gen/OBC/EWS)	M.S. (Gen/OBC/EWS) Non-hosteller	M.S. (SC/ST)	M.S. (SC/ST) Non-hosteller
1	SEMESTER FEES (To be paid every semester)	(INR)	(INR)	(INR)	(INR)
1.1	INSTITUTE FEES				
	i) Tuition Fee	8500	8500	0	0
	ii) Examination Fee	700	700	700	700
	iii) Registration/Enrolment Fee	500	500	500	500
	iv) Gymkhana Fee	1200	1200	1200	1200
	v) Medical Fee	200	200	200	200
	vi) Laboratory & other facilities	2000	2000	2000	2000
	vii) Library	1000	1000	1000	1000
	viii) Development Fee	2000	2000	2000	2000
1.2	HOSTEL FEES				
	i) Hostel Seat Rent	3,000	0	3,000	0
	ii) Fan, Electricity and water charges	2,300	0	2,300	0
	TOTAL (Semester Fees to be paid)	21,400	16,100	12,900	7,600
2.	ONE TIME PAYMENTS (Non - refundable) To be paid at the time of admission				
	i) Admission Fees	1000	1000	1000	1000
	ii) Grade card	400	400	400	400
	iii) Provisional certificate	200	200	200	200
	iv) Student welfare fund	600	600	600	600
	v) Modernization fees	400	400	400	400
	vi) Identity card	200	200	200	200
	vii) Benevolent fund	500	500	500	500
	viii) Alumni fees	2000	2000	2000	2000
	ix) Training & Placement	500	500	500	500
	Total (one-time payment at the time of admission)	5800	5800	5800	5800
3.	Deposits (Refundable)				
	i) Institute security deposit	5000	5000	5,000	5,000
	ii) Library security deposit	5000	5000	5,000	5,000
4.	OTHER PAYMENTS				
	i) Insurance Scheme (To be paid every year in 1st semester)	750	750	750	750
	ii) Student Amenity Fund	2000	2000	2000	2000
	GRAND TOTAL	39,950	34,650	31,450	26,150

The fees are subject to revision as per Institute Rules.

Mess charges will be notified separately.

REGISTRATION FOR THE MS DATA SCIENCE

The selected candidates who have submitted the institute fee will be provided the Entry No. and institute email ID after the verification of all their testimonials.

Candidates joining MS programme are required to produce their original marks/grade sheets along with provisional certificates at the time of admission.

Original Documents to be submitted for verification at the time of admission:

- (a) Printed copy of the application form obtained after online registration.
- (b) Mark sheets/Grade cards of all semesters & Course completion certificate / Provisional certificate / Degree certificate beginning from first degree towards proof of qualification.
- (c) SC/ST/OBC-NCL community certificate for the candidates belonging to SC/ST/OBC-NCL category issued by the respective State Government. [OBC-NCL candidates should produce the latest valid OBC Non-creamy layer community certificate in the prescribed format obtained after 31/03/2024].
The candidates claiming for EWS (Economically Weaker sections) reservation should submit valid Income & Assets certificate in the prescribed format obtained after 31/03/2024.
- (e) Authorised Doctor's Certificate with disability descriptions in the case of Person with Disability (PwD) candidates.

Facility available at IIT Ropar

The institute is actively involved in collaborative programs with international organizations and universities. The institute has the following facilities other than the basic academic facilities. Virtual Classrooms (NKN) Two virtual classrooms have been set up at IIT Ropar. NKN interconnects the institutions engaged in research, higher education and scientific development in the country.

Library:

The Central Library functions as the primary information resource centre and repository of printed and electronic resources for teaching and research activities at the institute. Apart from textbooks and recommended reading materials prescribed for each course offered at the institute, the library houses a growing collection of research monographs, reports, multi-volume reference works, dictionaries, encyclopaedias, handbooks, and so on. The library facilitates access to electronic journals through its participation in consortia, such as E-Shodh Sindhu. The library also subscribes to several e-journals directly from publishers as well as through reputed subscription agencies. At present, users can consult more than 20,000 books (available on shelves) and thousands of electronic books, journals. Online access is also provided to economic and political databases, scientometric databases such as Scopus, MathSciNet, and Web of Science.

The library operations are automated using LIBSYS 7 (EJB Version) software. The Online Public Access Catalogue (OPAC) which is on the public domain enables users to search documents in possession of the library. The library is using the Radio Frequency Identification Technology (RFID), a state-of-the-art auto-identification technique that helps in self-servicing and enhanced security. A separate e-resources section is provided in the library to browse CDs and DVDs of books, theses, and dissertations. The library has developed an institutional digital repository (IDR) using open source software (DSpace) to archive and provide online access to the intellectual output of the institute. IDR is available publicly. These steps will

greatly enhance the library's efficiency in making the resources available to the academic community at large and also enable the institute to participate in various inter-library initiatives at national and international levels. The library has developed a web-based Subject/Research Guide using the Subject plus tool, with this tool users can explore all the library resources available based on their subject areas/areas of interest. This guide includes E-journals, books/E-books, databases, theses & dissertations.

Hostel Accommodation

(Subject to the availability)

The Institute campus has four boys hostels (Satluj, Beas, Chenab, Brahmaputra) and 3 girl hostels (Raavi, Brahmaputra, T6) with a total capacity of 2984 available at the main campus. All hostels are well furnished along with common rooms for recreational activities for each hostel. The campus also has an expansive and airy common dining area. All hostels are provided with excellent drinking water facilities. Each hostel has common facilities - indoor, recreation and games. The hostel complex also includes a few shops that cater to the basic needs of the residents. IIT Ropar also provides gymnasium facilities within its campus for its students. Lush green IIT campus add enormous fuel in the daily life of the students. We have lively and enchanting campus life wherein the students are provided with all the amenities for the recreational activities. Here at IIT Ropar, students rejuvenate their hidden talent and relive their hobbies. State of the art classrooms with Audio visual aids and state of the art laboratories with latest research facilities enhance the teaching learning process while high-tech library with tremendous books, journals, periodicals etc. help them to connect with the entire world of information and knowledge. We have also introduced drastic changes to the mess menu with detailed options given to students w.r.t. the food items they would like to have in the Mess by fixing the base menu and providing extra items in the menu which they student can opt for at an extra cost. At IIT Ropar, students relish research and extracurricular activities to grow as an aspiring engineer with moral and ethical integrity.

Health Care

The Institute Medical Centre is located in a separate building adjoining the hostel complex in Transit campus and in Main Campus. Several doctors, pharmacist, and staff nurse have been appointed to attend to campus residents in case of medical emergency. We have a state-of-the-art ambulance for medical emergencies. In addition, the Institute relies on the friendly support of a few super specialty hospitals in the city of Ropar, Mohali and Chandigarh for providing state-of-the-art medical care to its members.

Student Activities

The Institute has a Society for Publication and Communication Skills Development. In addition, there are Music, Dance, Dramatics, Arturo Photography, Fine Arts clubs, Girl up Club, Electoral Club, Epicure-The Cooking Club, Literary, Music clubs and also Science & Technology, Robotic Societies, Monochrome, Computer Integrated Manufacturing, Astronomy, Quiz, Coding clubs, where the students can participate and develop a well- rounded personality. Apart from above all, an Outdoor Adventure and Social Activities Club and Fitness club are also there for the wellness of Students.

General Facilities

The Institute has a branch of SBI as well as a Post office to cater to the needs of the faculty members, staff and students.

Student Life at Institute

At present, the transit and main campuses have excellent facilities for several sports, including a cricket field, three lawn tennis courts, a football field, a hockey field, a gymnasium, a basketball court, badminton courts, an athletics track, table tennis room and also facilities for several athletic events. The institute encourages its students to participate in inter-IIT sport events and other competitions. Space for recreational and creative activities is also available.

Industry and Alumni Relations:

Industry relations

The Industrial & Corporate Relation Cell office works in the direction to strengthen the relations with industry and reputed international research institutes in order to develop strong research and academic collaborations. The institute is well connected to Industry and is a member of Confederation of Indian Industry (CII). Industry Institute Conclaves are conducted in the Institute to develop Industrial Associates of the institute. The Conclaves are focused on bringing together industry leaders and academia together on the same platform to discuss and brainstorm topics related to industrial expectations from institutions, curriculum structure and discuss issues and opportunities related to industrial projects & consultancy. Experts from the industries are invited regularly to deliver lectures under Industrial Lecture Series. Centre for Innovation and Business Incubation (CIBI) of the institute is already hosting six startups, which is a part of Technology Business Incubator (TBI).

Alumni relations

Our Institute has been actively working to sustain the bonding and to ensure greater participation of its Alumni in its academic and extra activities through various initiatives in association with the IIT Ropar Alumni Association (founded in Feb. 2013). Some of the initiatives are as follows:

1. Alumni Student Mentorship Program (ASMP): It's a platform for tapping in the multitude of experience and knowledge of the Alumni for the benefit of the students and Alumni alike. As distinguished IIT Ropar graduates, Alumni hold a wealth of information and knowledge that current students can benefit from. Their expertise and advice are more valuable to students wanting to sail a similar kind of boat ranging from MBA (India, Abroad), MS, various kinds of jobs, civil services, entrepreneurship, etc.
2. Hangout with Alumni: Conducting regular Alumni-Student interaction sessions including webinars, podcasts, and in-person meets, when feasible, to bridge the gap between them and allow the experiences, learnings, exam preparation strategies, and above all, their valuable college memories, to reach the existing students. In this, we have Alumni speak about various topics based on students' responses and needs.
3. Alumni Student Relationship Cell: The ASRC has been linked with the placement and internship team of IIT Ropar, for facilitating more and better opportunities to the students through alumni in the form of internships, live projects, and placements. The vast alumni network spread over hundreds of corporate giants brings home the opportunity to call them for hiring at our campus.
4. Recreational Activities: The Alumni office and ASRC plans to regularly engage with the Alumni via recreational activities like inter-year online games and championships, organized in collaboration with various clubs of IIT Ropar. These initiatives are meant to foster healthy and vibrant relationships with these much precious jewels of the institute.
5. Alumni Awards: To recognize, appreciate and encourage our emerging young alumni members for their leadership potential and professional and/or societal impactful contributions and accomplishments, to enhance the awareness of their achievements and contributions, and to strengthen our bonding with emerging alumni members, Emerging Young Alumni Awards are instituted.

The Alumni have shown a lot of enthusiasm in participating in these initiatives and to keep working towards building a brand for our young institute IIT Ropar.

Recreational/Extra Curricular activities

In order to take care of various students activities, we have a Student Affairs Section with the following functional units:

1. Board of Hostel Affairs (BOHA)
2. Board of Cultural Activities (BOCA)
3. Board of Science & Technology (BOST)
4. Board of Sports Activities (BOSA)
5. Board of Literary Activities (BOLA)
6. Board of Academic Affairs (BOAA)
7. Outdoor Adventure and Social Activities Club

Under the aegis of BOCA Movie Club, IIT Ropar hosts movies every week for the entertainment of the campus community. BOCA also celebrates the annual poetic festival Rashmi at IIT Ropar with the aim to let the budding poets and connoisseurs of poetry come on stage and showcase their talent. BOCA also conducted the SPIC MACAY events under its aegis. Many other cultural activities are organized/participated by the students within the campus and in other Institutions situated all over India.

BOARD OF SCIENCE AND TECHNOLOGY

Science and Technology Clubs are set up to kindle and nurture the love for technology, each club with its own specialization and guest lectures by prominent personalities in the world of technology and science.

A student spends his/her time constructively by engaging in the activities of these clubs. The students can thus represent IIT Ropar at various national and international competitions and events, bringing laurels to the institute and allowing students to showcase their creativity without bounds, through any of these clubs. Over the semester, fortnightly meetings of the clubs are held, apart from the time invested by members in their club projects. The institute has also started Innovation Club under the aegis of BOST wherein the students are encouraged to participate and evolve innovative ideas for implementation.

Board of Sports Activities (BOSA)

We have a Board of Sports Activities (BOSA) which encourages the students to participate in local / Inter- / Intra-college / Hostel Sports Activities to boost their performance in inter IIT Sports meet under the guidance of professional coaches.

All sports facilities including gymnasium are being upgraded to enhance the quality of facilities at the Institute. There are international level modern sports fields / grounds with floodlights facilities. Since 2016, BOSA, IIT Ropar is organizing an Annual Sports Festival “AAROHAN” in which students of various Colleges, Institutes and Universities participate in more than 13 sports events.

Location and Accessibility

The Institute is located at Ropar, the headquarters of Rupnagar district, Punjab. This institute, with its establishment, joins a string of premier educational institutions in Punjab. The town of Ropar, the district headquarters, is 42 kms from Chandigarh, the capital of Punjab. Rupnagar is well connected by both road (National highway NH21 / NH205) and railways (the Delhi-Ambala-Una railway line passes through Rupnagar).

By Air:

The nearest international Airport is in Chandigarh, about 50kms from Rupnagar. Any visitor wishing to come to Rupnagar/Ropar could take a flight from his/her respective place to Chandigarh, if available, or a flight from Delhi to Chandigarh and then take a taxi from the airport to reach the campus of Indian Institute of Technology Ropar (IIT Ropar) which is approximately one-and-a-half-hour journey.

By Train:

There are regular trains running between Delhi and Rupnagar. The Delhi-Ambala-Una railway line passes through Rupnagar. The duration of the journey is around six hours from Delhi.

Contact us:

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