

# IIM Amritsar and IIT Ropar

Jointly offers

## MASTER OF SCIENCE (M.SC.) IN DATA SCIENCE AND MANAGEMENT

TWO-YEAR FULL-TIME RESIDENTIAL

2023 - 2025

Program Brochure

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# About IIM Amritsar

Indian Institute of Management (IIM) Amritsar is the 15th IIM set up by the Ministry of Education (earlier Ministry of Human Resource Development) with the support of the Government of Punjab. After the registration of IIM Amritsar Society on July 27, 2015, the first batch for the class of 2015-17 was enrolled in August 2015. Later, on October 14, 2015, IIM Amritsar Board of Governance & Society was constituted. Being located in Amritsar, the land of the Golden Temple and Wagah Border, the institute benefits from the enriching experience offered by this holy city. The Institute is currently run in the Punjab Institute

of Technology Building, 5 km away from the railway station and 10 km from the airport. Its permanent campus will be constructed about 7 km from the ISBT and 8.5 km from the railway station, making it easily accessible. IIM Amritsar believes in collectively igniting possibilities. Towards fulfilling this objective, the institute plays a crucial role in human capital development by offering various programs. IIM Amritsar has been offering a two-year Master of Business Administration (MBA) program since 2015, and a Doctoral program since 2020. The institute has expanded its offerings in 2021 by commencing an MBA program in Business Analytics (MBA-BA), an MBA program in Human Resources (MBA-HR), and an Executive MBA (E-MBA), apart from the various short and long-term executive education programs. Owing to its indefatigable commitment to providing exemplary education, IIM Amritsar has established itself as the vanguard of quality education and learning. With various facilities such as IT-enabled classrooms, a digital library giving access to the most important national and international journals, auditorium, students activity room, indoor and outdoor sports facilities, etc., IIM Amritsar provides a nurturing environment for their students to learn, grow, and upskill. IIM Amritsar also focuses on creating an entrepreneurial culture, where the students and faculty work together to create best enterprising solutions.





# About IIT Ropar

The Indian Institute of Technology Ropar is one of the eight IITs set up by the Ministry of Education (MoE), Government of India in 2008. In keeping with the spirit of the IIT system, this institute is committed to provide state-of-the-art technical education in a variety of fields, and also to facilitate transmission of knowledge using the latest developments in pedagogy. The Indian Institute of Technology Ropar was registered under the Societies' Registration Act 1860 on 29 July 2009. Subsequently, the institute has been established by the Institutes of

Technology Act (Amendment) Act 2012 (No.34 of 2012). The campus of IIT Ropar is spread across 501 acres of land located in Rupnagar in the lap of nature at the banks of river Satluj. It has been awarded the 5 Star GRIHA (Green Rating for Integrated Habitat Assessment) rating, one of the highest national ratings for Green Buildings. IIT Ropar has appeared among the top ranked institutes in various rankings such as NIRF and THE including others. At IIT Ropar, each course is offered by an academic unit called department. Some courses are offered jointly by multiple departments, and are classified as interdisciplinary courses. IIT Ropar offers academic programs for students with a wide range of backgrounds. For all the postgraduate programs, students are admitted after they have obtained at least a college level Bachelor's degree and other eligibility criteria as applicable. IIT Ropar presently offers M.Tech. in Artificial Intelligence, Biomedical Engineering, Civil Engineering, Computer Science & Engineering, Electrical Engineering (with multiple specializations), and Mechanical Engineering (with multiple specializations). The institute also offers M.Sc. in Chemistry, Mathematics, and Physics. The curriculum provides broadbased knowledge and simultaneously builds a temper for life-long learning and exploring. IIT Ropar maintains a competitive faculty student ratio to impart effective teaching and learning experience. The faculty of IIT Ropar are well recognized internationally in their respective research disciplines. With various facilities and amenities provided (such as library facilities, health care, hostel and dining facilities, student activities-based facilities, and other general facilities) by IIT Ropar to the students of the institute, a conducive environment is enabled for the students to become high quality professionals. The institute has various clubs to promote various cultural and cocurricular activities and hosts various national level events such as SAE BAJA, ZEITGEIST and ADVITIYA.



# Program Overview



“Data is a precious thing and will last longer than the systems themselves.” – Tim Berners-Lee, inventor of the World Wide Web. Data is the crux of handling most decision-making problems, and its presence has become imperative to Business and Management. Today, most industries and companies heavily rely on inferences that can be derived from the vast amount of available data, leading to a steep rise in the demand for highly skilled data scientists. This innovative on-campus MSc. program in “Data Science and Management” hosted by both IIM Amritsar and IIT Ropar intends to provide a combined flavour of data science and its managerial applications. The participants will get equipped with the abilities to organize, visualize, and analyze data, and apply the gained insights in business and management applications. The program is structured to provide a cross-functional learning experience to the participants and groom them to become agile and skilled data scientists, who are adept at working in a variety of settings, and who can meet the today's challenges of dynamic business environments. This program will enable the participants with the ability to work across disciplinary boundaries and effectively deploy data-intensive solutions.



## Program Highlights

- Residential M.Sc. Program spanning for two years.
- Access to various amenities and facilities at the host institutes.
- Courses taught by eminent faculties from both the institutes.
- Opportunity to work on Summer Live Project and Final Capstone Project.
- Joint M.Sc. degree from IIM Amritsar and IIT Ropar.
- Opportunity to participate in the placement process of IIM Amritsar and IIT Ropar.
- IIT Ropar - IIM Amritsar Alumni Status.



## Program Objectives

- Develop a strong understanding in Data Science, Analytics, and Management.
- Equip participants with analytical and cross-functional skills to translate data analysis into meaningful insights.
- Enable participants to arrive at informed decisions in this dynamic and disruptive era.
- Create skilled working professionals with an aptitude to implement datadriven decisions in managerial applications

## Eligibility and Intake



- 60% or 6.0 CPI/CGPA or First Class, as defined by the awarding university or institute, in the qualifying degree.
- The qualifying degree shall be any accredited and approved Bachelor's or Master's degree or any other equivalent degree, preferably involving management, mathematics, computer science, or allied fields. Candidates must have an aptitude in mathematics or computer science.
- Test score of either CAT/GATE/GMAT/GRE/JAM from the past three years as from 31-July-2023.
- Candidates who have appeared in any of the above tests and have yet to receive the results can apply, provided the results are submitted to the program office by 5th June 2023.
- Shortlisted candidates will be called for a Personal Interview. Meeting the minimum eligibility criteria DOES NOT guarantee shortlisting or admission to the program.
- Reservation norms as per the Government of India requirement, as mentioned in the IIM Act 2017 will be applicable.
- Up to 60 participants may be admitted for the program (including all reservation norms as per the Government of India requirement as mentioned in the IIM Act 2017).

## Application Process

- The application form for admission to the program (July 2023 – Jan 2025) will be available at the course's website **[www.iimamritsar.ac.in](http://www.iimamritsar.ac.in)** from **Feb 13, 2023**.
- The deadline for submitting the completed application is **May 15 2023**.
- The programme fees shall cover Tuition, Course Material, Library, IT & Computer, Hostel, Students' Activities, and Placement Support. The mess and personal expenses are not included in the above fees.
- The First, Second, Third, and Fourth Semester fees will be **Rs. Three Lakhs and Fifty Thousand (3.50/- Lakhs)** for each semester, and the amount will be payable before the registration of each semester.
- A non-refundable **Application fee** of **Rs. Thousand (Rs. 1000/-)** (Rs. 500/- for candidates belonging to SC/ST category) will be payable online while submitting the application.
- **Offer Acceptance Fees** of **Rs. Fifty Thousand (Rs. 50,000/-)** will be payable while accepting the offer. It will be adjusted towards the Semester 1 fees.
- **Caution Deposit** of **Rs. Twenty-Five Thousand (Rs. 25,000/-)** will be payable before registration. Caution Deposit may be refunded upon completion/leaving the program after adjustment of dues, if any.
- **Mess Deposit** of **Rs. Twenty-Five Thousand (Rs. 25,000/-)** will be payable every three months. The mess deposit will be adjusted against the Mess Fee,



## Dates

Applications Open	13 Feb 2023
Applications Deadline	15 May 2023
Online Interviews	05 June 2023 onwards
Admissions Decision	30 June 2023
Last Date for Offer Acceptance and Offer Acceptance Fee Payment	16 July 2023
Fee Payment before Registration	25 July 2023
Program Registration	26 July 2023
Program Orientation	27, 28 July 2023
Classes Commencement	31 July 2023

\* Dates are tentative and subject to changes

## Payment Schedule

Component	Amount	Payment schedule
Application Fees	Rs. 1000/- (Rs. 500/- for candidates belonging to SC/ST category)	At the time of application
Offer Acceptance Fees	Rs. 50,000/-	As mentioned in the offer letter (tentatively around 16 July 2023)
Caution Deposit	Rs. 25,000/-	At the time of Semester 1 Registration
Mess Deposit	Rs. 25,000/-	At the time of Semester 1 Registration
Semester 1 Fees*	Rs. 3,00,000/-	At the time of Semester 1 Registration
Semester 2 Fees	Rs. 3,50,000/-	At the time of Semester 2 Registration
Semester 3 Fees	Rs. 3,50,000/-	At the time of Semester 3 Registration
Semester 4 Fees	Rs. 3,50,000/-	At the time of Semester 4 Registration

\*Semester 1 fees of Rs. Three Lakhs and Fifty Thousand (3.50/- Lakhs) includes the offer acceptance fee of Rs. 50,000/-.

# Curriculum Details

- The two-year four-semester program will be co-delivered by the host institutes.
- To provide a strong foundation in the areas of Data Science and Management, along with the mandatory core courses students would undertake a Summer Live Project and Final Capstone Project.
- A broad range of electives will be floated, based on the student mix and demand, to give the participants a chance to focus and specialize in their area of interest.
- The focused action-based project with some practical applications suggestive of improvements in the organizations.
- A mix of multiple pedagogical methods will be employed such as lectures, case studies, simulations, live projects, etc., for enabling an environment of holistic learning for the participants.
- Completion of each course in the curriculum will be subject to the conformation of attendance and academic criteria set for the concerned course

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## List of courses

### Semester 1

Programming and Data Structures (Introduction)  
Human Resources Management (Introduction)  
Fundamentals of Statistics Matrix Computations (Linear Algebra)  
Managerial Communication  
Marketing Management (Introduction)  
Database Management Systems  
Managerial Economics (Introduction)

### Semester 2

Advanced Statistics Computer & Information Systems  
Fundamentals of Operations Research  
Foundations of Data Science  
Data Mining for Business Applications Operations and Supply Chain Management (Introduction)  
Financial Management (Introduction)  
Data Security, Privacy, and Ethics

### Semester 3

Time Series Analysis and Econometrics  
Big Data Analytics and Visualization  
Predictive Analytics  
Applied Artificial Intelligence and Machine Learning  
Strategic Management (Introduction)  
Business Research Methods  
Advanced Operations Research Electives



## Semester 4

Final Capstone Project  
Legal Aspects of Business  
Electives

\*Courses offered and its scheduling are tentative and subject to changes

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## Amenities and Facilities

- State-of-the-art IT enabled, air-conditioned classrooms, seminar halls, and labs that enables a conducive learning environment.
- Fully Wi-Fi enabled campus with 24-hour internet facility for seamless access to online resources.
- Fully automated, open-access library with 24 hours online access to the extensive repository of electronic and physical contents from science, engineering, and management areas.
- Access to The National Knowledge Network (NKN), a revolutionary state-of-the-art multi-gigabit pan-Indian resource-sharing network, which is a joint initiative of the National Knowledge Commission and the Union Government.
- Hostel room provided to the students include various facilities such as bed, study table, chair, cupboard, etc.
- Our hostels house various common amenities such as gymnasium, recreation room, TV room, sports and other facilities.
- The student mess serves a variety of cuisines such as North Indian, South Indian, Chinese, etc.
- Sports facilities available at our premises encourage students to engage in different sports such as Cricket, Football, Volleyball, Badminton, Basketball, Tennis, Table-tennis, etc., and other various indoor games.
- Healthcare and Medical Assistance is made available to the student community to help them stay healthy and to minimize disruptions caused by medical issues.

## Delivery Logistics

- The two-year program will be delivered in four semesters and will be co-taught by faculties from IIM Amritsar and IIT Ropar. In case of exigencies, some sessions/courses may be conducted in the online mode.
- The students will be hosted at each institute for a period of one year (first year in IIT Ropar and second year in IIM Amritsar).
- The medium of instruction will be in English.

# Contact Information



<https://www.iimamritsar.ac.in/p/msdsm-1.html>

## **Indian Institute of Management Amritsar**

Inside Government Polytechnic Campus, Chheharta, G.T. Road,  
Amritsar – 143105 [www.iimamritsar.ac.in](http://www.iimamritsar.ac.in)

## **Indian Institute of Technology Ropar**

Rupnagar, Punjab—140001 [www.iitrpr.ac.in](http://www.iitrpr.ac.in)

