# Admission to Bachelor of Science Programs at IIT Madras

# B.S. (Medical Sciences & Engineering) and B.S. (Chemistry)

## **Information Brochure**



**Indian Institute of Technology Madras** 

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#### **Part-I Institute**

#### 1. Indian Institute of Technology Madras

Indian Institute of Technology Madras is an institute of national importance established through an Act of Parliament for fostering excellence in education.

IIT Madras is one among the foremost institutes of national importance in higher technological education, basic and applied research. The Institute has sixteen academic departments and several advanced research centres in various disciplines of engineering and pure sciences. A faculty of international repute, a brilliant student community, excellent technical & supporting staff and an effective administration have all contributed to the pre-eminent status of IIT Madras. The campus is located in the city of Chennai, previously known as Madras. Chennai is the state capital of Tamil Nadu, a southern state in India.

IIT Madras has been ranked number one "engineering Institute" for the past 9 years and we have been ranked number one under "overall category" for the past 6 years by National Institutional Ranking Framework (NIRF).

<u>Our Vision</u>: To be an academic institution in dynamic equilibrium with its social ecological and economic environment striving continuously for excellence in education, research and technological service to the nation.

#### 2. About the Department of Medical Sciences and Technology

The <u>Department of Medical Sciences and Technology</u> at the Indian Institute of Technology Madras was established in February 2023. The Department aims to set up a world-class research environment for Medical Sciences and Technology in order to develop and train Engineering Physiologists of the future.

By applying engineering principles to medical knowledge, this new breed of professionals who transcend medicine and engineering have the potential to revolutionize healthcare delivery both in hospital settings and outside. With a combination of the principles of design, bio-mechanics, electronics technology and the science of ergonomics, powerful medical devices can be developed that enhance the efficacy, safety, and reliability of medical treatments.

#### 2.1. Academic Program: Medical Sciences & Engineering

The <u>BS Program in Medical Sciences & Engineering</u> is a game-changing interdisciplinary program that bridges Medicine & Engineering.

The courses in the program will be taught by both medical & engineering faculty, and will provide a strong research base for students. The course structure involves an internship in a hospital to tie theory and practice.

In this program, specialization is possible in one or more of the following areas:

- Organ-specific Device Development
- Artificial Intelligence applied to Health

- Medical Image Analysis
- Quantitative Pharmacology
- Drug Design and Deployment
- Translational Research in Medicine and Regulatory Processes
- Fundamental Physiological Sciences

#### 3. About the Department of Chemistry

The <u>Department of Chemistry</u> is one of the first Departments to function after the Indian Institute of Technology Madras was founded in 1959. The Department began with one Professor and one lecturer as faculty members, to conduct classes for the undergraduate engineering programme of the Institute. The Department conducted its classes initially, in A. C. College of Technology, Madras University. Later, it moved to occupy the "Building Sciences Block" in 1961, the first-ever building raised in the Institute. The Department started its own and independent M. Sc programme in 1963 with three students. Later in 1968, foundation was laid for a new Chemistry building, which was completed in the year 1971.

Ever since, The Department has grown in multiple dimensions and today it has 34 faculty members, and 27 technical and administrative staff members. The Department is home to around 100 M. Sc students and 300 Ph. D students at any given time. A new wing was constructed in 2014 to meet additional space requirements due to its increased intake and to carry out the cutting edge research activities

in all important areas in Chemistry, effectively. The Department is among the best in the country in both teaching and research and is well recognized throughout the world through many of its Alumni. The Alumni of this Department have been excelling in their chosen professions all over the world which is evident from the fact that a significant number of them have been awarded by IIT Madras as its Distinguished Alumni. Today, the Department stands tall in terms of quality research at the national and in the international platforms. Its outstanding and dedicated faculty and students are among its core strengths. The Department is highly successful in attracting some of the brightest young minds as faculty members. The areas of research include atmospheric chemistry, bio-inorganic chemistry, bio-organic chemistry, Boron chemistry, carbohydrate chemistry, clean energy, interfacial colloidal and chemistry, coordination chemistry, electrochemistry, fuel cells, green chemistry, homogeneous and heterogeneous catalysis, ionic liquids and phase equilibria, main group chemistry and inorganic polymers, materials chemistry, molecular spectroscopy, nano-porous materials, nuclear magnetic resonance spectroscopy and imaging, photochemistry, polymer chemistry, quantum chemistry, solid state chemistry and inorganic materials, statistical mechanics, supramolecular chemistry, synthetic organic chemistry, total synthesis of natural products and medicinal chemistry. Faculty members of the Department have excelled and are instrumental in the setting up of three different research centres, namely, Thematic Unit of Excellence (TUE) for nanoscience, National Centre for Catalysis Research (NCCR) and Centre for Magnetic

Resonance Imaging and Spectroscopy (MRI). They are dynamic and attract excellent funding from both Government and Industry.

# 3.1. Academic Program: B.S. Chemistry (with an upgrade option to M.S.)

The <u>B.S.(Chemistry</u>) is a 4-year undergraduate program with an upgrade option to M.S. in Chemistry starting from the academic year 2025-2026. The B.S.(Chemistry) program is designed to provide students with a solid foundation in Chemistry and allied Science subjects, blending theoretical knowledge with practical laboratory experience to prepare them for careers in research, industry, and academia. Also, the curriculum offers a large number of choice based learning opportunities ensuring an enjoyable learning experience at IIT Madras Campus.

The B.S. (Chemistry) at IIT Madras offers the following unique features:

- Opportunity to avail minor degree along with B.S. or M.S. (eg. B.S. Chemistry with Data Science)
- Carry out project work in allied science and engineering departments at IIT Madras
- Opportunity to collaborate with other universities and Institutes during MS project
- Well equipped teaching and research laboratories

Our faculty members are committed to delivering high-quality education and fostering an environment of innovation and discovery. The program envisages to equip students with essential skills in organic, inorganic, physical and theoretical chemistry, along with cutting-edge interdisciplinary research.

IIT Madras offers admission into two 4-year undergraduate programs,

1) B.S.(Medical Sciences & Engineering) and 2) B.S.(Chemistry),
leading to a Bachelor of Science degree upon successful completion
of the respective credit requirements of the program.

The programs are credit-based and thus offer the flexibility to progress at one's own pace. A minimum level of performance is essential for satisfactory progress. The medium of instruction is English.

All candidates who satisfy the eligibility criteria can appear for the IISER Aptitude Test (IAT) 2025. The successful candidates meeting the Class XII (or equivalent) performance criterion are eligible for admission into IIT Madras, for both the BS programs. While allotting seats, policies as per Government of India rules will be followed, depending on candidates' merit, category, and/or nationality.

#### 4. Reservation of seats

Indian nationals belonging to certain categories are admitted under the seats reserved for them in accordance with the rules prescribed by the Government of India. The categories and the extent of reservation are as follows:

- Scheduled Caste (SC) 15% of seats
- Scheduled Tribe (ST) 7.5% of seats
- Other Backward Classes belonging to the Non-Creamy Layer (OBC-NCL) – 27% of seats
- Economically Weaker Section (GEN-EWS) 10%

 Persons with Disability (PwD) with at least 40% impairment – A 5% reservation across all the categories for PwD candidates with at least 40% disability as per GoI norms.

Candidates must note that the benefit of reservation will be given to them subject to verification of documents. If it is discovered at any stage that a candidate has used a false / fake / incorrect document, or has furnished false, incorrect or incomplete information, in order to avail the benefit of reservation, then such a candidate shall be excluded from all admission processes. In case such a candidate has already been given admission, the admission shall stand cancelled.

#### 5. OCI/PIO Candidates

As per the decision dated February 03, 2023 passed by the Hon'ble Supreme Court of India in Writ Petition (Civil) 891 / 2021, the OCI/PIO who have secured OCI/PIO card before 04.03.2021 shall be considered at par with Indian nationals for the purpose of admission.

At the time of seat allocation, the OCI/PIO candidates who have secured OCI/PIO card before 04.03.2021 shall be considered for the seats in the OPEN/OPEN-PwD category. These OCI/PIO candidates shall be included in the Common Rank List, and/or CRL-PwD list as applicable, subject to qualifying the IAT 2024. The OCI/PIO candidates are not entitled to the benefit of reservation under the GEN-EWS, OBC (NCL), SC or ST categories for the allocation of seats.

#### **Part-II: Admission**

#### 1. Eligibility Criteria

All the candidates <u>must simultaneously fulfil each and every</u> <u>one of the following three criteria</u> to apply for BS programs in Medical Sciences and Engineering and/or Chemistry.

- i) Criterion 1 Qualified in IAT 2025
   Applicants must be Indian nationals or OCI/PIO card holders whose OCI/PIO card has been issued before 04.03.2021.
- ii) Criterion 2 Appearance and performance in Class XII examination:
  - Candidates must have passed Class XII (or equivalent) exam with science stream in 2023, 2024 or 2025 from any board recognized by Council of Boards of School Education (COBSE) in India.
  - Candidates must have taken Mathematics as a subject and at least two subjects among Biology, Chemistry, and Physics during their Class XII (or equivalent) exam for admission to B.S. program in Medical Sciences & Engineering.
  - Candidates must have taken Chemistry as a subject and at least two subjects among Biology, Mathematics, and Physics during their Class XII (or equivalent) exam for admission to B.S. program in Chemistry.
  - Candidates belonging to SC/ST/PWD should have scored a minimum of 55% marks in aggregate or equivalent grade in their Class XII (or equivalent) exam. Candidates belonging to other categories should have scored a minimum of 60% marks in aggregate or equivalent grade in their Class XII (or equivalent) exam.
  - Candidates whose Class XII (or equivalent) exam results are not yet declared, can also apply for admission to both the B.S. programs at Indian Institute of Technology (IIT) Madras.

- However, their admission will be provisional and confirmed subject to fulfilling the minimum eligibility criteria given above.
- For candidates who had appeared in the Class XII (or equivalent) exam for the first time in 2023 or 2024 and reappeared in any subject (for whatsoever reason) in 2025, the better of two performances will be considered.
- If a board gives aggregate marks considering both Class XI and Class XII, then only Class XII (or equivalent) exam marks will be considered. If a board gives aggregate marks considering the results of all three years of a 3-year diploma or courses of equivalent duration, then only the marks scored in the final year will be considered. Similarly, for boards which follow a semester system, the marks scored in the final two semesters will be considered.
- If a board awards only letter grades without providing an equivalent percentage of marks on the grade-sheet, the candidate should obtain a certificate from the board specifying the equivalent marks and submit it before the deadline of the mark-sheet submission. In case such a certificate is not provided by the board, the percentage marks will be assessed as follows:

Percentage marks = (CGPA or CPI obtained × 100) / PS, where PS stands for the maximum value of the point scale used by the respective board.

#### 2. Examination considered as equivalent to Class XII

- The final examination of the 10+2 system, conducted by a Central or State Board recognized by the Association of Indian Universities (AIU).
- Intermediate or two-year Pre-University examination conducted by a Board or University recognized by the Association of Indian Universities.
- Final examination of the two-year course of the Joint Services
   Wing of the National Defence Academy.

- Senior Secondary School Examination conducted by the National Institute of Open Schooling with a minimum of five subjects.
- Any Public School, Board or University examination in India or in a foreign country is recognized as equivalent to the 10+2 system by the AIU.
- H.S.C. vocational examination. A Diploma recognized by the All India Council for Technical Education (AICTE) or a State Board of Technical Education of at least 3 years duration.
- General Certificate Education (GCE) examination (London, Cambridge or Sri Lanka) at the Advanced (A) level.
- High School Certificate Examination of the Cambridge University or International Baccalaureate Diploma of the International Baccalaureate Office, Geneva.
- Candidates who have completed Class XII (or equivalent) examination outside India or from a Board not specified above should produce a certificate from the AIU to the effect that the examination they have passed is equivalent to the Class XII examination.
- In case the Class XII examination is not a public examination, the candidate must have passed at least one public (Board or Pre-University) examination earlier.

#### 3. Admission Process

The number of rounds of offers will be 4, or seats getting filled or one week before commencement of classes, whichever is earlier.

The following is the seat distribution.

#### i) Seat Matrix:

Program	OPEN	GEN- EWS	OBC- NCL	sc	ST	Total
Medical Sciences & Engineering	13	3	8	4	2	30
Chemistry	12	2	6	3	1	24

Note: A PwD reservation of 5% across all the categories will be followed as per Gol norms

In addition, 2 supernumerary seats each through Sports Excellence, Fine Arts and Culture Excellence and Science Olympiad Excellence modes will be offered for each program. Of the two seats, one seat is female-only and the other is gender-neutral. The admission to Science Olympiad Excellence mode will be conducted through a different portal and the candidates need to apply separately for admission through Olympiad Excellence as they need not write/qualify in IAT if they seek admission through Olympiad Excellence.

Program	SEA	FACE	SCOPE	Total
Medical Sciences & Engineering	2	2	2	6
Chemistry	2	2	2	6

#### ii) Application for BS Programs

Applications for both the B.S. programs are accepted through the online portal only. (click here)

**Application processing fee:** Rs.500 for GEN/OBC-NCL, EWS; Rs. 250 for SC/ST/PWD/Transgender/Female candidates.

#### iii) Admission offer

- Admission offer to any candidate will be given strictly based on the following factors:
  - seat availability at IIT Madras, in the respective BS program of their choice in the current allocation round,
  - IAT rank obtained by the candidate,
  - the category to which the candidate belongs.
- Candidates can check if they received the admission offer by logging into the application portal.
- If a candidate receives an admission offer, he/she can either choose to accept the seat OR reject it at a particular round. If a candidate rejects the offered seat or if no action is taken by the candidate before the deadline, then the allotted seat will be cancelled and the candidate will not be able to participate in further rounds of counselling.
- If a candidate receives an offer, then to accept the offered seat, the candidate must pay a seat acceptance fee through online mode before the prescribed deadline. If the seat acceptance fee is not paid, the allotted seat will be cancelled and the candidate will not be considered for admission in subsequent allocation rounds.
- Admission offers given are provisional. They will be confirmed only after the candidates report at IIT Madras (as per the schedule to be published on the admission portal) and provide all the required documents in original.
- Requests for extension of date or time for seat acceptance will not be entertained under any circumstances. Published deadlines will be strictly followed.

All the announcements related to the admission process will appear on the website (<u>click here</u>). Candidates must follow this website for any updates.

#### 4. Fees

#### **Application Fee**

- Rs.500/- for candidates applying under General, GEN-EWS, and OBC-NCL categories.
- Rs.250/- for SC/ST/PwD/Female candidates.
- Application fee is non-refundable.

#### Seat Acceptance Fee (SAF)

- Seat Acceptance Fee is to be paid only after an offer of admission has been made to the candidate.
- SAF is Rs. 30,000/- (Rs.25,000/- + Rs. 5000/- (Non refundable processing fee)) for General/EWS/OBC-NCL categories
- SAF is Rs.15,000/- (Rs.10,000/- + Rs. 5000/- (Non refundable processing fee)) for SC/ST/PwD categories.
- Failure to deposit the SAF within the stipulated time will result in the cancellation of the offer. Furthermore, the candidate will not be considered in any subsequent rounds of seat allotment. Any communication received in this regard will not be entertained.
- Once the candidate registers in IIT Madras, the SAF amount after deducting the processing fee of Rs. 5000/- will be adjusted against the first semester fee.

#### **Tuition and Hostel Fee:**

The fee structure is equal to the B. Tech. fee structure of the institute. Details of the fee for the B. Tech. program can be found in this <u>link</u>.

#### 5. Withdrawal Process

- The application fee is not refundable.
- Refund policy for the Seat Acceptance Fee is given below :
  - The candidate can withdraw his/her seat/offer by pressing the button "WITHDRAW" in the application portal. No other form/method of withdrawal is accepted.
     Email or phone communication in this regard is not entertained.
  - Once withdrawn, the candidate will not be considered for further rounds of the admission process. A withdrawn candidate cannot re-enter the admission process again under any circumstances.
  - 3. There are two important withdrawal dates:
    - o Round-wise withdrawal (RW) date, and
    - o Final withdrawal (FW) date.

RW and FW dates will be announced on the admission portal.

- 4. If a candidate withdraws from the admission process before the RW deadline and the candidate is not accepted any seat until then, no cancellation fee will be applicable.
- 5. If a candidate withdraws on or before FW deadline from an accepted seat, then a non-refundable processing amount will be deducted.
- 6. IIT Madras, or IISERs and Joint Admission Committee (JAC) are not liable for losses incurred if the candidate's application is not withdrawn in the above manner and on or before the stipulated date and time.
- 7. Once a candidate has withdrawn from an accepted seat through the admission portal, the balance amount after deducting the processing fee of Rs. 7000 will be refunded

to the bank account details provided by the candidate at the time of submission of withdrawal request.. Such candidates do not have to take any additional steps towards their SAF refund. The refund process will start only after three weeks of the completion of the admission process.

8. If the candidate does not withdraw on or before the FW deadline, no further requests for withdrawal will be entertained.

# 6. Important dates

Registration and submission deadlines.

Event	Date/time	
Opening of the registration for BS program	March 18, 2025 (10 am)	
Closing of the registration for BS program	May 23, 2025 (6 pm)	
First round of admission offers	To be announced	
Online reporting: fee payment /document upload/ response by candidate to query (if required in round 1)	To be announced	
Second round of admission offers	To be announced	
Online reporting: fee payment /document upload/ response by candidate to query (if required in round 2)	To be announced	
Third round of admission offers	To be announced	
Online reporting: fee payment /document upload/ response by candidate to query (if required in round 3)	To be announced	
Fourth round of admission/Spot admission	To be announced	
Online reporting: fee payment /document upload/ response by candidate to query (if required in round 4)	To be announced	
Joining date at IIT Madras	July 24, 2025 (as per the institute calendar)	
Commencement of Classes	July 31, 2025	