

Division of EECS, Indian Institute of Science

M.Tech. (AI) – Frequently Asked Questions

1. What is the goal of the M.Tech. (AI) Program?

Artificial Intelligence has captured the imagination of the entire world with its potential ability to solve complex societal problems of our times: universal access to healthcare and education, efficient transportation, increased efficiency in providing e-governance services to the public, etc. The Government of India has initiated widespread discussion on how India should strive to be among the top nations in the world in the AI ecosystem. The two-year M.Tech. in Artificial Intelligence is also a step in that direction; it aims to fill the critical needs of the industry and to fill the gap in the availability of high-end AI scientists and engineers.

The vision of the M.Tech. (AI) program is to impart rigorous training in the foundations and deep technology of Artificial Intelligence to produce graduates who can become world leaders in AI and lead India's march towards leadership in this important area.

2. Which Department in IISc offers this program?

This is a program of the Division of EECS (<https://eecs.iisc.ac.in>) and is a joint effort of the four Departments in the Division: Computer Science and Automation (CSA), Electrical Communication Engineering (ECE), Electrical Engineering (EE), and Electronic Systems Engineering (ESE). The joint effort of the departments makes this program more holistic and more inter-disciplinary.

3. How many students are admitted to the program?

In the academic year 2020-21, 50 students will be admitted to the program.

After the students join, approximately equal number of students are assigned to each of the four departments, purely for administrative purposes. The structure of the program and the academic curriculum that the students go through remain uniform for all the students irrespective of the department to which they are assigned.

4. What is the admission process like (for Indian Citizens and Overseas Citizens of India)?

This answer is for Indian Citizens and Overseas Citizens of India. International Applicants see the Question 8 for International Admissions.

The first step for you is to apply through the IISc Admissions portal:

www.iisc.ac.in/admissions

The advertisement can be accessed using the link:

<https://www.iisc.ac.in/wp-content/uploads/2020/01/PG-RESEARCH-Advertisement-2020.pdf>

You must have a valid GATE score in CS, EC, or EE papers to apply. Applicants from CS, EC, and EE GATE disciplines will be called for interview based on their GATE scores. The number of students to be called will be approx. 6 times the number of seats, with roughly equal numbers from each of the above GATE disciplines. This will determine the GATE cut off scores. The interviews will be on April 13-15, 2020.

Please keep an eye on the following link for any date changes:

<https://www.iisc.ac.in/important-dates/>

The final selection will be based on GATE score and performance in the interview. Please note that, unlike in 2019-20, there will be no screening test for 2020-21 admissions.

5. What is the deadline for filling up the online application?

Indian and OCI card holders: The deadline for submitting online application is **23:59 hrs on 23 March 2020**.

Go to the IISc Admissions portal: www.iisc.ac.in/admissions and familiarize yourself with the requirements. The advertisement can be accessed using the link:

<https://www.iisc.ac.in/wp-content/uploads/2020/01/PG-RESEARCH-Advertisement-2020.pdf>

Please keep an eye on the following link for the important dates

<https://www.iisc.ac.in/important-dates/>

6. Why only CS, EC, and EE GATE disciplines (Indian Citizens and Overseas Citizens of India)?

Pursuing MTech in AI requires a certain background in terms of candidates' undergraduate studies. We believe that CS, EC or EE GATE papers adequately test candidates' preparedness for pursuing the MTech in AI.

7. Is there a provision for a sponsored candidate (from various government agencies) to apply?

As this is a new programme, we won't take sponsored candidates for 2020-21 admissions.

8. What is the admission process like for international applicants?

If you are an Indian Citizen or an Overseas Citizen of India, see answers to Questions 4, 5, and 6. This answer is for other international applicants.

Please visit the following link for details.

<https://oir.iisc.ac.in/index.php/m-tech-course-program-admission/>

Eligibility: a) Candidates should hold non-Indian passports (OCI card holders should apply for regular admission). b) Candidates should have the equivalent of a Bachelors degree Engineering or Technology or equivalent (four year Bachelor of Science degree or a Master of Science degree). c) The medium of instruction for this degree should have been English. d) The candidate should have at least one valid standard test (GRE / GRE Subject / GATE) score.

Candidates will be short-listed for an interview based on standard test score and eligibility degree marks/CGPA.

Interviews for international applicants will be either via Skype or personal appearance. For the nature of the interviews, please see the next question.

The deadline for submitting your international application is **10 March 2020**. Please visit this link before you begin your application process.

<https://oir.iisc.ac.in/index.php/m-tech-course-program-admission/>

Begin your application process by going to this link:

<https://admissions.iisc.ac.in/international/>

9. What will be the nature of the interview?

The interview will be on basics of programming, basic engineering mathematics and your GATE subject area.

10. I already have a publication in AI. Do you consider this for shortlisting?

It will not be considered for shortlisting for interview. If you are shortlisted for interview, please inform the interview panellists about your publication.

11. When do the classes commence?

The students are expected to join the Institute by the last week of July and the classes commence during August first week.

12. What will be the first semester like?

The first semester will be from August 3rd till December 11th. The final exams will be scheduled from the first week of December. There will be a meeting of the M.Tech.

(AI) Program Curriculum Committee (PCC) with all the students on August 3rd to welcome the students and brief the students about the entire program. A faculty advisor will be assigned to you and during the first week of August, you will have to meet your faculty advisor and discuss the courses to be credited during the first semester. You will be taking mostly Pool A courses and one or two courses from Pool B and recommended electives during the first semester. The first semester is a crucial one since many of you may find the IISc system different from what you have gone through earlier and you need to quickly get used to the IISc ecosystem.

13. What happens during the second semester?

The second semester duly commences on January 1 and concludes with final exams during April last week. During the first week of January, you have to consult your faculty advisor and select the courses to be credited during the second semester. You will have a wide choice during the semester. You may have to take two courses from Pool A and choose the rest of the courses from Pool B and recommended electives. During the semester, you will also be assigned a project advisor. The process of assigning students to project advisors is a systematic one and you will come to know about it once you join the Institute. The project advisor will now take over as your faculty advisor as well.

14. Am I expected to go for an internship during summers?

Following the second semester, during May, June, and July, you will get started on your research. This may involve an internship in the industry especially if the work is aligned with your project topic. Alternatively, you may prefer to work in IISc with your project advisor.

15. What should I expect in the third semester?

The third semester commences on August 1st. You should consult your project advisor and choose the remaining courses to complete at least 43 credits of course work. You will have typically two and perhaps three courses to do. Concurrently you have to intensify the work on your project since a mid-term evaluation of the project will happen during this semester. Placement interviews also will happen during this semester, so you have to manage your time according to a well thought out plan.

16. Fourth Semester and beyond?

During January to June, you will be fully occupied with the project work, report preparation, and viva-voce examination. You must strive to write a research paper, file a patent, or release a software product. You have to prepare for your future.

17. What are the placement opportunities like? Are placements different for students of this program?

In IISc, the placement opportunities are as good as at any leading university in the world. We anticipate strong demand in this area. You are assured of a high-end position in a frontline company with an attractive pay package if you have done well during your program here. Placement is handled jointly by the Office of Career Counselling and Placement together with students.

18. Can I pursue a research career following this program?

Yes, certainly. As a part of the M.Tech. program, you are required to prepare a dissertation. Dissertation work at IISc emphasizes innovation and research. The project work can be research-oriented, and you may be able to publish papers in reputed international conferences and journals from your dissertation work. Following your M.Tech., you may like to pursue a Ph.D program in IISc or any leading university in the world.

Further, you can convert from M. Tech. to Ph.D. program in IISc at the end of first, second, or third term. The requirement is a high CGPA followed by an evaluation.

19. Whom should I contact if I have more questions?

Please send an email to Dr. Rathna at the email address: rathna@iisc.ac.in and we will promptly reply you with our response. We will soon create a discussion forum on the EECS website and you will be able to interact with us on the same.

20. Is publishing a paper by the end of the programme mandatory?

No it is not, but we hope you will strive to make an impact in the field.

21. This seems to be a course intensive programme. I am really interested in research. What is the research content in this programme?

In the first year, the programme is course intensive. But every M.Tech. (AI) student gets an opportunity to do one year of research in association with a faculty supervisor. At the end, the expectation is a software product or a patent or a paper or a combination of the above. The student writes a detailed project report (almost a thesis). The M.Tech. (Research) also has course work, but the student may get to start on research a little earlier, which may culminate in a thesis.

22. If I am focused on applying AI to life sciences, would there be provision for working in such interdisciplinary fields if I join the program?

The course curriculum involves training in foundations and some applications. You then work with a faculty member in an area of mutual interest. There will be opportunity to pursue inter-disciplinary applications. See some bioinformatics in a course on Data Analytics (google "Data Analytics IISc" and look at colour blindness,

retinoblastoma, population history of India modules). There are several faculty working on biological and clinical applications of ML and AI.

Wish you all the best!