

## 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. As a step in that direction, the two-year M.Tech. program in Artificial Intelligence is being launched, to fill the critical needs of the industry and 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 will be offering this program?

This will be a program of the Division of EECS (<https://eeecs.iisc.ac.in>) and will be 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. This program will be offered from the forthcoming academic year (August 2019).

#### 3. How many students will be admitted to the program?

During the first year, 40 students will be admitted to the program. After the students join, equal number of students will be assigned to each of the four departments, purely for administrative purposes. The structure of the program and the academic curriculum that the students will go through will be uniform for all the students irrespective of the department to which they will be assigned.

#### **4. What is the admission process like?**

The first step for you is to apply through the IISc Admissions portal: [www.iisc.ac.in/admissions](http://www.iisc.ac.in/admissions)

The advertisement can be accessed using the link:

<https://iisc.ac.in/wp-content/uploads/2019/01/Adv2019.pdf>

You must have a valid GATE score in CS, EC, or EE papers to apply. The admission is through a written test followed by an interview. 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 approximately 10 times the number of seats, with equal number called from each of the above GATE disciplines. This will determine the GATE cut off scores. There will be a written test on April 22, 2019. Only those who clear the written test will be called for interviews. The interviews will be on April 23-24, 2019. Please note these new dates which are final.

#### **5. Why only CS, EC, and EE GATE disciplines?**

During the first year, we are starting with CS, EC, and EE GATE disciplines. For 2020 admissions, we review the program and will consider including other GATE disciplines as well.

#### **6. What will be the nature of the written test and the interview?**

The written test will involve basics of programming and basic engineering mathematics. Information on the written test will be on this website by 20 March 2019.

The interview will be on these topics as well as your GATE subject area.

#### **7. Will model answers for the sample written test be given?**

No.

#### **8. I already have a publication in AI. Do you consider this for shortlisting?**

If you make it to the interview stage, please inform the interview panellists about your publication. It will not be considered at the earlier stages.

#### **9. 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.

## **10. What will be the first semester like?**

The first semester will be from August 1<sup>st</sup> till December 12<sup>th</sup>. 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 1<sup>st</sup> 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 mostly taking Pool A courses 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.

## **11. 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 only or 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.

## **12. 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.

## **13. What should I expect in the third semester?**

The third semester commences on August 1<sup>st</sup>. 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.

## **14. 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.

**15. What will be the placement opportunities like? Would placements be 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.

**16. 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 the Ph.D. program in IISc at the end of first, second, or third term. The requirement is a high CGPA followed by an evaluation.

**17. Whom should I contact if I have more questions?**

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

**18. 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.

**19. What is the deadline for filling up the online application?**

Applications have to be submitted online. The deadline is 23:59 hrs on 25 March 2019. Go to Go to the IISc Admissions portal: [www.iisc.ac.in/admissions](http://www.iisc.ac.in/admissions) and familiarize yourself with the requirements. The advertisement can be accessed using the link:

<https://iisc.ac.in/wp-content/uploads/2019/01/Adv2019.pdf>

**20. 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 will get 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 will write 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 and will culminate in a thesis.

**21. 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 will involve training in foundations and some applications. You will 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.

**22. Is there a provision for a sponsored candidate to apply?**

The August 2019 admissions are only for regular candidates.

Wish you all the best!