

M.TECH IN ARTIFICIAL INTELLIGENCE AND DATA SCIENCE



Department of Computer Science and Engineering
INDIAN INSTITUTE OF INFORMATION TECHNOLOGY KOTTAYAM

Overview

The Department of Computer Science and Engineering, IIIT Kottayam has introduced the MTech program in the year 2019. MTech in AI and Data Science is a self-paced program of 60 credits that can be taken over 3-5 years. Students will do 32 credits of coursework in the first two years. In the third year, they would be working on a project of two phases with 14 credits in each phase. The students have the option of taking lesser number of courses in different semesters and complete the coursework requirement in 2-4 years. The projects can be taken only after the coursework requirement is complete. The number of credits done by the candidates in this MTech program is equivalent to the number of credits needed to be done by the students of full time MTech program

Significance

Demand for engineers is rising with each passing year and with the fierce competition in this field, engineers with required skills for the particular job type has become the more important criteria of selection. Good Engineers are vital for the formation of the skilled and educated workforce for any country. They are responsible for the improvement and development of the existing technology as well as the introduction of new technology to ease as much human efforts as possible. Enrolling for an MTech program after completing a Bachelor's degree gives you the opportunity to explore both managerial as well as professional engineering roles. Indian Institute of Information Technology Kottayam provides an opportunity to pursue MTech for working professionals, to help them elevate their position in an organisation. A Master's degree allows you to specialize in your interested technical field along with giving you an edge over your colleagues.

Programme Highlights

- The curriculum covers areas that prepare you for most lucrative careers in the space of Data Science, Data Engineering and Advanced Analytics.
- Proficient faculty members with Research & Industry experience.
- Benefit from Case Studies, Simulations, Virtual Labs & Remote Labs that allow learners to apply concepts to simulated and real-world situations.
- Encourage and prepare engineers to present journal or conference publication during the programme period.
- The thesis (Project Work) in the final two semesters enables students to apply concepts and techniques learnt during the programme.

- Course break is possible for those who go for an onsite job.
- The programme uses a Continuous Evaluation System that assesses the learners over convenient and regular intervals.
- Can be extended to integrated PhD programme.

Why IIIT Kottayam?

- **Entrepreneurial Ecosystem**

IIIT Kottayam is designed to impart an entrepreneurial ecosystem in the campus. For instance, AIC-IIIT Kottayam, an incubation centre of IIIT Kottayam, is a vital resource to IIIT Kottayam students; AIC-IIIT Kottayam is a 10000 sq.feet incubation unit supported by AIM-NITI Aayog of India to the tune of Rs. 3.46 crores. It has attracted connections with leading industries, including RELIANCE JioGenNext (Entrepreneurial Unit) for motivating our student start-ups and for promoting student/faculty exchange. In addition, it has established an Entrepreneurial Innovation Club jointly with Wadhvani Foundation (Ongoing), an MNC from the Silicon Valley, USA. IIIT Kottayam, thus, helps students to continue championing in their career and attain goals with an entrepreneurial support. It provides tens of thousands of opportunities for them to develop their business ideas or thesis to products through MSME schemes - For each successful business ideas, our MSME Business Incubation unit could offer Rs.15 lakhs for students.

- **Memorandum of Understanding with top universities/industries**

IIIT Kottayam has already established MoU with some leading industrial / academic institutions in order to ensure placements or organize knowledge transfer programs -- MoUs with Government of India, Government of Kerala, Rolta, and CIAL has manifested the organization of knowledge transfer program. In addition, it has signed MoUs with world leading Universities such as Technical University Munich Germany and University of New Brunswick Canada, in order to conduct HPC/Cloud/Datascience specific joint research and to organize student exchange programs. In addition, in order to boost up the innovation ambience at our Institute, we have joined hands with leading industries over the globe such as RELIANCE RIL, Wadhvani Foundation, BOSE Info Tech, Germany, and so forth.

- **Faculty Strength**

IIIT Kottayam is composed of the world-class qualified faculty members who are eager to continue research and contribute to the Indian/International society along with their wards. They design the courses as per the needs of the partnered industries and international requirements.

They are passionate enough to mentor/guide students apart from their working hours while ensuring the technological growth of individuals.

Eligibility

Duration	Self-paced over Three to Five years
Intake	Maximum 60
Eligibility	<ol style="list-style-type: none"> 1. The candidate must have a minimum one year of work experience in industry and must be employed at the time of applying. Only the work experience acquired after the award of qualifying degree will be considered. 2. The candidate must have a B.Tech /BE /AMIE degree in any discipline or MCA or MSc / MS degree in CS /IT / Mathematics/ Physics/Statistics. The candidate should have scored at least 60% aggregate in the degree examination.
Selection Procedure	<ol style="list-style-type: none"> 1. Candidates must fill an online application. 2. Shortlisted candidates will have to give written test and / or interview. 3. Prior research exposure and/or industry experience in areas related to data science will be considered as a desirable aspect. 4. The final selection of the candidate will be based on performance in the interview, and any other criteria as found deemed suitable by the admission committee. 5. The department reserves the right to set any cut off criteria for shortlisting the candidates.
Fee structure	<ol style="list-style-type: none"> 1. The fee for online application is ₹500/- 2. Once selected, if for any reason not willing to register or taking a break for a particular semester a registration fee

	<p>of ₹10,000 per semester to be paid to keep the enrolment active.</p> <p>3. For the successful completion of the program, the students have to complete 32 Course credits and 28 Project credits.</p> <p>4. The course fee is ₹8500 per credit.</p>
Documents required while submitting online application	<p>1. Experience Certificate from the place of work (industry)</p> <p>2. Scanned copy of Qualifying degree, Mark lists and Certificates from Class X onwards.</p>

Important Dates

Release of online application form	November 23, 2020
Last date for submitting online applications	December 13, 2020
Announcement of Selection List for written test and/ interview	December 15, 2020
Date of written test and /interviews	De 16- 22, 2020
Announcement of selected candidates	December 26, 2020
Registration	January 02, 2021
Commencement of classes	January 03, 2021

Course Mode

The programme features a hybrid mode of in-person classes, live online classes and virtual labs conducted over weekends as per the decision of the Senate. The time slot in which a course would be taught would be informed to students beforehand to help them in deciding electives.

Course Venue

The course will be offered as a combination of online and in-person classes in the off-campus centre at Thiruvananthapuram.

About IIIT Kottayam

Please visit www.iiitkottayam.ac.in

M. Tech in AI and Data Science

General Course Structure

Subject		L-T-P	Credits
Semester I			
DSC 511	Statistical Foundations for Data Science	2-0-0	2
DSC512	Programming and Data Structures	2-0-3	3
DSC513	Introduction to AI and Data Science	2-0-3	3
Semester II			
DSC 514	Mathematical Foundations for Data Science	2-0-0	2
DSC 515	Artificial Intelligence	2-0-3	3
DSC 516	Data Mining	2-0-3	3
Semester III			
DSC 521	Machine Learning	2-0-3	3
DSC XXX	Elective I	2-0-3	3
DSC XXX	Elective II	2-0-3	3
Semester IV			
DSC XXX	Elective III	3-0-3	4
DSC XXX	Elective IV	2-0-0	2
DSC XXX	Business Analytics	1-0-0	1
Semester V			
CSE611	Project (Phase 1)		14
Semester VI			
CSE621	Project (Phase 2)		14
Total Credits			60

Electives:

- Real time-Analytics(2-0-3)
- Information Retrieval(2-0-0)
- Ethics for Data Science(1-0-0)
- Natural Language Processing(2-0-3)
- Advanced Topics in Data Processing(3-0-3)
- Deep Learning(2-0-3)
- Big Data Analytics(2-0-3)
- Data Visualization and Predictive analytics(3-0-3)
- Graphs Algorithms and Mining(2-0-0)

Frequently Asked Questions

1. Who conducts the classes?

All classes are conducted by IIIT Kottayam faculty. Industry experts are also invited for sharing their valuable experience.

2. What is the Teaching Methodology?

The pedagogy is highly interactive and incorporates expansive teaching methods and approaches.

3. What PG Degree do we get?

On successful completion of the course the candidates will be awarded **MTech Degree in Artificial Intelligence and Data Science**.

4. Can I visit the campus and have face to face interaction with the faculty members?

Participants are welcome to visit the campus and meet the faculty members, with prior appointments.

5. What is the duration of the course?

Six Semesters, which should be completed within a duration of minimum three to five years.

6. What do minimum and maximum durations refer to?

Minimum duration is the minimum period required to get your degree. Maximum duration indicates that you have to finish your degree within that period failing which your academic programme will be terminated unless Senate approves any extension.

7. As a part-time student, can I get any form of assistantship?

No, you are not eligible for an assistantship from Institute sources.

8. What is the fee structure?

It is Rs **8500/- per credit**. For example, if you are registering for two courses in a semester each of four credit, the fee will be 68000/-

9. I am a BTech Graduate in a non-computer science background. Can I join this course?

Yes, you can. The candidate must have a B.Tech /BE /AMIE degree or MCA or MSc / MS degree in CS /IT / Mathematics/ Physics/Statistics.

10. I still have questions regarding admissions/PG degree programs at IIIT Kottayam, whom shall I contact?

Please drop an email to registrar@iiitkottayam.ac.in.

Reach us for further details

Indian Institute of Information Technology Kottayam

Valavoor, Pala, Kottayam: 686635

Ph:04822202100 / 2161 /2135 /2167

Email: registrar@iiitkottayam.ac.in

