

Modi Institute of Technology, Kota

An Engg. College Approved by AICTE & Affiliated to RTU
Branches: **B.Tech**- ME / EE / ECE / CSE / AI & DS & **M.Tech** – Digital Communication
Nayagaon, Rawatbhata Road, P.O. Borabas, Kota – 324010; Tel.:7665439788;
Website: www.mitkota.com Email: mitkota1@gmail.com

Department of Artificial Intelligence and Data Science

Introduction

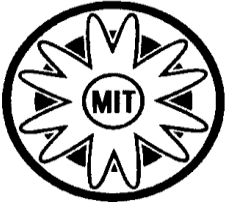
Programs Offered: Bachelor of Technology in Artificial Intelligence and Data Science Engineering (UG)-4 Years (8 Semester Course)

To cover extra miles for globally competent Computer Science & AI Professionals through excellence in training and extensive practical exposure.

Artificial intelligence & Data Science aims at enabling machines to execute reasoning by replicating human intelligence. Whereas, Machine Learning is considered a sub-set of AI by which systems can automatically learn and improve from experience. Data science is a broad field of study pertaining to data systems and processes, aimed at maintaining data sets and deriving meaning out of them.

Artificial intelligence engineers are responsible for developing, programming and training the complex networks of algorithms that make up Artificial Intelligence So, that they can function like a human brain. This role requires combined expertise in software development, programming, data science and data engineering.

Artificial intelligence & Data Science is truly a revolutionary feat of computer science, set to become a core component of all modern software over the coming years and decades. This presents a threat but also an opportunity. AI will be deployed to augment both defensive and offensive cyber operations. Additionally, new means of cyber attack will be invented to take advantage of the particular weaknesses of AI technology. Finally, the importance of data will be amplified by AI's appetite for large amounts of training data, redefining how we must think about data protection. Artificial Intelligence & Data Science promises to deliver some of the most significant and disruptive innovations of this century. Self-driving cars, robotic assistants, and automated disease diagnosis are all products of an emerging AI revolution that will reshape how we live and work. And with demand for talented engineers more than doubling in the last few years, there are limitless opportunities for professionals who want to work on the cutting edge of AI research and development.



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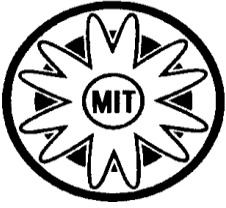
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Best Practices

- 1. Lecture Delivery System:** Faculties used traditional way of teaching using blackboard/white board as well as upgraded versions of teaching using overhead projector through power point presentation and video lectures. Online teaching is also used via Google meet and Zoom platform.
- 2. Peer Tutoring:** Tutorial classes for all students and remedial classes for the slow learner students are also be handled by the faculty members
- 3. Online Courses:** Students as well as faculties are motivated to participate in online courses from Atal, Swayam, NPTEL and internshala and Coursera platforms. Course selection can be based on curriculum, values, ethics, skill development, communication skills etc.
- 4. Project Assistance:** As a part of curriculum, department provides exposure to the students to work on projects with team effort. It enables them to apply the technical skills they have gained and expand their abilities in analysis-based innovation and engineering judgment. As their projects take form, student teams enable to write formal documentation and make presentations of their work under the guidance of their faculty mentors.
- 5. Industry Mentorship:** Various expert lectures, student workshop and industrial visits are provided to students to ready them for industrial requirement, updated with current technology and future trends. Experts of various field domain from various industries help the students with their guest lectures, workshops and student training program. They are usually called / invited as reviewer for providing their ideas for innovations and reviewing their projects work etc
- 6. Skill Development:** For the overall development of students, department conducted various activities like quiz competition, essay writing, debate, extempore, mock interviews, role play etc. Students can participate in cultural activities and NSS held in college.

Eligibility

The minimum eligibility criteria to take admission in B.Tech. 1st Year in AI & DS branch is that the students must pass class 12th with Physics, Chemistry and Mathematics subjects with at least aggregate 45% marks for GEN / OBC / SBC category and 40% aggregate marks for SC / ST students from a recognized school / Board or students may take the admission in B.Tech. 2nd (III Semester) in AI &



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DS branch directly if he will be pass out student of 3 years Polytechnic Diploma Course from recognized Technical Board for which the same percentage criteria as mentioned is considered.

Examination Scheme: Semester wise

Duration of the Course: Four Year

Admission

As this is the affiliating Institute, the following admission processes followed by RTU Kota are as follows:

REAP (Rajasthan Engineering Admission Process) for Admission in B.Tech 1st Year onwards.

LEEP (Lateral Entry in Engineering Program for Admission in B.Tech. 2nd year onwards.

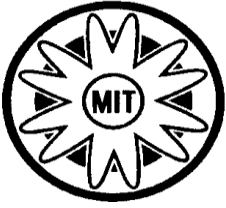
CAM (Centralized Admission for M.Tech.) for admission in Digital Communication.

Job Opportunities

Artificial intelligence & Data Science are integral to modern life, So you're likely to find your computer science skills in high demand across many different industries. These include financial organizations, management consultancy firms, software houses, communications companies, data warehouses, multinational companies, governmental agencies, universities and hospitals.

Career Options for Students after Completing Engineering in Artificial Intelligence & Data Science

- Big Data Engineer
- Business Intelligence Developer
- Data Scientist
- Machine Learning Engineer
- Research Scientist
- AI Data Analyst
- Product Manager
- AI Engineer



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Artificial Intelligence & Data Science Lab

The AI Lab is a hub for projects and topics within AI, ranging from Machine Learning and Deep Learning to image recognition and natural language processing. The data science lab is a separate environment built to allow your analysts and data scientists to figure out the value hidden in your data.

Laboratories

A computer lab is a space which provides computer services to a defined community. Computer labs are typically provided by libraries to the public, by academic institutions to students who attend the institution, or by other institutions to the public or to people affiliated with that institution.

Software Engineering Lab

The Software Engineering Lab is aimed to provide you hands-on experience with different aspects of Software Engineering and UML including requirements identification, DFD, behavioral and structural design using UML diagrams, implementation, testing, and so on.

Database Management Lab

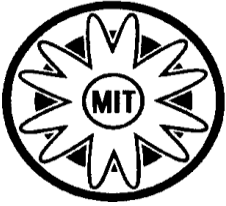
Database Lab Engine is an open-source tool for building powerful development and testing environments based on thin cloning of PostgreSQL databases. This can become a game-changer in your development and testing workflow, improving time-to-market, and reducing costs of your non-production.

Data Structure Lab

Data Structures laboratory is spatial and well equipped with the latest systems. It provides a wide approach in C programming and enables to apply knowledge in Artificial Intelligence. Guidance's are provided to the students by a team of faculty experts and lab programmer.

Operating System & Simulation Lab

Operating Systems Lab operates is to introduce the concepts of operating systems, designing principles of operating systems and implementation of operating systems.



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Computer Programming Lab

Computer programming is the process that professionals use to write code that instructs how a computer, application or software program performs. At its most basic, computer programming is a set of instructions to facilitate specific actions.

UNIX Shell Programming Lab

When you login to a UNIX system, a program called a shell process is run for you. A shell process is a command interpreter that provides you with an interface to the operating system. A shell script is just a file of commands, normally executed by a shell process that was spawned to run the script.

Java Programming Lab

A Java Programming lab is intended to provide a basic knowledge of java programming for students. The course helps the students to solve the interdisciplinary applications through java programming.

Design and Analysis of Algorithm Lab

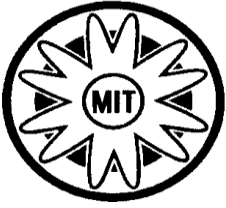
An Algorithm is a sequence of steps to solve a problem. Design and Analysis of Algorithm is very important for designing algorithm to solve different types of problems in the branch of computer science and information technology.

Compiler Designing Lab

The objective of the Compiler Design Laboratory is to understand and implement the principles, techniques, and also available tools used in compiler construction process. This will enable the students to work in the development phase of new computer languages in industry.

Computer Graphics Lab

This is an introductory course on principles of computer graphics. We will consider both 2D and 3D graphics. Computer graphics is a sub-field of computer science which studies methods for digitally synthesizing and manipulating visual content. Although the term often refers to the study of three-dimensional computer graphics, it also encompasses two-dimensional graphics and image processing.



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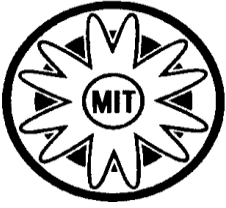
Research Scope

Research in this area ranges from theoretical underpinnings to practical tools supporting today's ambitious software projects. Topics of particular attention include: programming language design, software performance, and concurrency, as well as program analysis, synthesis, verification and testing.

Activities

The following activities have been conducted in MIT Kota:

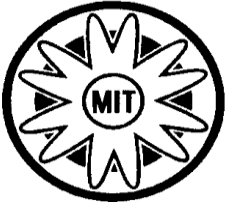
- In-House Training Programme on 3D- Printing Collaboration with SIAT, Kota from 2 July-15 July 2019)
- Occasion of Guru Purnima on 16-07-2019
- Induction Programme for First Year Students on 17 August 2019
- “Degree Distribution Ceremony” on 19 August 2019
- “Plantation” At MIT on 22 August 2019
- International Seminar on “Soft Skills” on 30 August 2019
- Seminar Conducted By “Red Hat Academy” on 3 September 2019
- Radio City 91.1 Fm Had Organized an Activity for Finding The Samsung Young Innovators Contest on 18 September 2019
- Shri Vishwakarma Jayanti Celebrated At MIT on 17 September 2019
- “Dandiya Function” on 1 Oct 2019
- Technorion Zonal Workshop on “Robotics” By Industrial Hub Technology in Association with IIT Bombay on 03 Oct 2019
- Workshop on MATLAB by Softcon India Pvt. Ltd. on 11 Oct 2019
- Three Days Entrepreneurship Awareness Camp on 14 Oct 2019
- Pool Campus Placement Drive by Jaro Education on 17 & 18 October, 2019
- Saras Dairy Plant Visit by R K Sansthan on 21 Oct 2019



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- “Constitution Day” on 26 Nov 2019
- Rajasthan Innovation & Startup Expo (‘Rise’) Organized By Depart of It&C, Govt of Rajasthan At MNIT, Jaipur on 19 December 2019
- Interactive Session for “Ms/Mrs. & Mr. Glamour Rajasthan 2020” on 30 Jan 2020
- One Day Seminar on “Industrial Applications of Cad/Cam” on 18 Feb 2020
- “Thar 2020” Organized By RTU, Kota Robotics Show on 1 March 2020
- Sports & Cultural Week from 2 March to 6 March 2020
- A Cheque of Rs 2,50,000/- To Hon’ble Collector Sh. Om Kasera Ji against the pandemic situation arising due to corona for food and other necessities of needy people on 25 March 2020
- Live Launch Of “Artificial Intelligence & Data Science” on Tuesday, 30 June-2020
- “Talk with Youth By Heroes of MIT” on 5 July 2020
- Plantation on International Girl Children’s Day, 12 Oct 2020
- “Corona Jagruk Reilly Mask Distribution Program “Organized By The Joint Venture Of Modi Institute Of Technology, Kota And Municipal Corporation, Kota On 19 Oct 2020
- “Dipawali Milan Samaraoh” on 12 Nov 2020
- “Online Induction Program – 2020” on 5 Dec 2020
- Go Cart Designed By MIT Students
- Expert Lecture On “Maintenance Engineering” In Mechanical Department At MIT, Kota On 6 Jan 2021
- “Pre Placement Talk” By Dr. Ruchika Dave of Reliable Soft Technologies Pvt Ltd at MIT, Kota on 29, January, 2021
- Five Day Workshop on “Emerging Technology in Industrial Automation” From 1 Feb-5 Feb 2021
- Six Days Workshop on “SELP” From 12 March-17 March 2021



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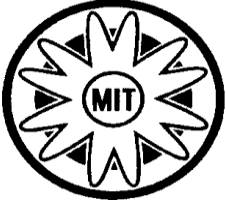
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- Covid-19 Vaccination Camp Held on 10th April 2021
- One Day Webinar on “Heart Rate Variability and Applications” on 11 May 2021
- One Day Webinar on “AWS Cloud Services” on 22 May 2021
- One Day Webinar on “Advanced Technology In Automobile And E-Vehicles” on 05 June 2021
- One Day Online Webinar on “Project Management & Customer Support” on 19th June, 2021,
- MIT Kota has organized a Live Yoga Class/Demo on International Yoga Day (21 June 2021).
- MIT Kota has organized a Five Days National Online Workshop on “Present Scenario and Recent Trends in Engineering and Technologies” Phase-1 (PSRT, February-2022) from 1st February, 2022 to 5th February, 2022.
- MIT Kota, Evershine Honda and HMSI have organized a three days workshop and hands-on training on “Road Safety Activities” from 14th December 2022 to 16th December 2022.
- MIT Kota and SCRS have organized a two days Scopus Indexed International Conference on “Control, Robotics and Mechatronics” (CRM-2023) with Springer as publication partner from 25th to 26th March, 2023.
- MIT Kota has organized a “Intercollege Poster Presentation Competition” on March 25, 2023. The Theme of Competition is “Engineering, Science, Management and Law”.
- MIT Kota and Bureau of Indian Standards (BIS) Jaipur Branch have organized a “Standard Writing Competition” on 31st July, 2023.
- MIT Kota has organized 15 Days In-House Training and Hands on “Web Designing: Understanding a Journey from Static To Dynamic Web” from August 18, 2023 to 5 September, 2023.
- MIT Kota has organized the “Orientation Day” on September 8, 2023 for the New Comers Students.
- MIT Kota Has organized the 21 Days Induction Program For New Comer Students of First Year on September 8-28, 2023



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- MIT Kota has organized the Gandhi Jayanti and Lal Bahadur Jayanti on October 2, 2023 in which Debate, Essay writing, and speech Competitions have been organized.
- MIT Kota has organized an Expert Lecture on Importance of Analytical Skills and Art of Presentation with Public Speaking” on October 4, 2023.
- MIT Kota has organized an Expert Talk on Awareness Session on Career Opportunities on October 6, 2023 in collaboration with Red Hat and RCAT
- MIT Kota and Bureau of Indian Standards (BIS) Jaipur Branch have organized a “Youth to Youth Connect” Campaign on 10th October 2023.
- MIT Kota has organized a Major Event: Dandiya Night-2023 on October 18, 2023 in which there by were approximately 1000 participants from Kota City.
- MIT Kota has Organized Srijan-2023: An Engineering Quiz Competition in Collaboration with Jaipuria Institute of Management, Jaipur on October 20, 2023.

Mr. Vijay Varshney
(O/C Exam)

Mr. Pankaj Jain
HOD (First Year)

Mrs. Seema Arya
HOD (CSE)

Mr. JitendraYadvendra
HOD (EE)

Mr. Abhishek Chattri
Dy. Registrar

Dr. Barkha Gupta
HOD (ME)

Dr. Vikas Soni

Principal

Cc to:-

Hon’ble Vice-Chairman Sir for kind information.

Hon’ble Group Director Sir for kind information.

Undersigned.

HOD’s & I/C’s. / First Year Coordinator.

Registrar Office/NAAC Coordinator/All Member Concerned/ Accountant