



PRAYAS 4.0 - 1 month residential programme

June - July 2026 | 1 Months | Offline - In Campus

A complete 1 month residential program
at IIT Mandi

Robotics , AI & IoT

Program Summary

Prayas 4.0, a certificate course on Robotics, AI & IoT

1 month residential program at IIT Mandi

<ul style="list-style-type: none">• Institute Name IIT, Mandi	<ul style="list-style-type: none">• Programme Duration 1 Month	<ul style="list-style-type: none">• Faculty IIT, Mandi
<ul style="list-style-type: none">• Learning Mode Offline (Residential at campus) sessions by IIT Mandi Faculty	<ul style="list-style-type: none">• Daily Effort 6+ Hours Everyday	<ul style="list-style-type: none">• Certificate Upon completion of the course, participants would be given certificate by IIT, Mandi

Frequently Asked Questions

What will be the mode of learning?

There will be 5-6 hours daily classes conducted by the IIT Mandi faculty. The programme is spread for a duration of 1 month. The learning experience will include rich discussions with eminent faculty and seasoned peers, case-based learning, assignments and quizzes and guided capstone project work for which the participants will have to put in an additional effort.

Who evaluates the assignments, projects and simulations for this programme?

The examination and evaluation of graded submissions, project work and simulations, if any, is at the discretion of the IIT Mandi's faculty.

Who grades/gives inputs on the assignments and projects?

Examination/Evaluation shall be conducted by the Institute.

What type of certificate will I receive?

Upon successful completion of the programme, participants will be awarded a certificate of completion and will be eligible to receive CCE, IIT Mandi's certificate.

Will Bsates/Institute help with placement services?

This programme is designed with some of the best faculty and to cover relevant topics in a manner that creates positive career outcomes. Over 85% Bsates learners have witnessed career growth post completing their programme. As an additional service, we provide job placement assistance, resume writing guidance, navigating job search and interview prep along with this programme. All this guidance is provided over recorded videos, this is not live

Learning Mode?

The primary mode of learning for this programme is residential offline sessions with faculty members.

Where will I stay and have food during my stay at IIT Mandi?

Participant's will stay in the IIT Mandi hostel and meals would be served at IIT Mandi hostel mess.

Where will I do practical sessions?

Participants would be utilizing the Labs and lecture halls of IIT Mandi during the course.

Programme Mentors



Prof. Akhilanand Pati Tiwari
Professor
School of Computing & Electrical Engineering



Prof. Manoj Thakur
Professor
School of Mathematical & Statistical Sciences



Prof. Rahul Vaish
Professor
School of Mechanical and Materials Engineering



Prof. Tushar Jain
Professor
School of Computing & Electrical Engineering



Dr. Puran Singh
Associate Professor
School of Management



Dr. Kaushik Halder
Assistant Professor
School of Computing & Electrical Engineering



Dr. Narendera Kumar Dhar
Assistant Professor
School of Computing & Electrical Engineering



Dr. Yanumula Venkata Karteek
Assistant Professor
School of Computing & Electrical Engineering



Dr. Indu Joshi
Assistant Professor
School of Computing & Electrical Engineering

Course Outline

Week 1: Introduction to Robotics, AI, and IoT

- ◆ Topics Covered:
 - Overview of Robotics, AI, and IoT
 - Key components of a robot (sensors, actuators, controllers)
 - Basics of Artificial Intelligence & Machine Learning
 - IoT Architecture & Communication Protocols (MQTT, HTTP, CoAP)
 - Applications of Robotics & IoT in real-world scenarios
- ◆ Practical/Assignments:
 - Setting up Arduino/Raspberry Pi for IoT
 - Introduction to Python for AI & Robotics
 - Simple IoT application: LED control via a web dashboard

Week 2: AI and Machine Learning for Robotics

- ◆ Topics Covered:
 - AI vs ML vs Deep Learning in Robotics
 - Computer Vision for Robotics (Image Processing & Object Detection)
 - Neural Networks for Robot Decision-Making
 - Reinforcement Learning in Robotics
 - Edge AI: Running AI models on IoT devices
- ◆ Practical/Assignments:
 - Implementing Object Detection using OpenCV
 - Training a simple ML model for gesture recognition
 - Hands-on with Edge AI (TensorFlow Lite on Raspberry Pi)

Week 3: IoT for Robotics & Cloud Integration

- ◆ Topics Covered:
 - IoT & Robotics: How they work together
 - Communication between Robots using IoT (MQTT, WebSockets)
 - Cloud Platforms for IoT (AWS IoT, Google IoT, Azure IoT)
 - Security & Privacy in AIoT systems
 - Robotics Process Automation (RPA)
- ◆ Practical/Assignments:
 - Connecting a robot to the cloud using MQTT
 - Controlling a robotic arm via an IoT dashboard
 - Implementing security mechanisms in IoT communications

Week 4: Advanced Robotics & Future Trends

- ◆ Topics Covered:
 - Swarm Robotics & Multi-Agent Systems
 - Human-Robot Interaction & NLP in Robotics
 - Autonomous Navigation & SLAM
 - Digital Twin for Robotics
 - Future Trends: AIoT, Smart Cities, and Industry 4.0
- ◆ Practical/Assignments:
 - Implementing a simple chatbot for robot interaction
 - Simulating robot movement using ROS (Robot Operating System)
 - Final Project: Build an AI-powered IoT-enabled robot

Note: Yoga & Sports sessions would also be conducted along



Program Details

Program Start Date

June - July 2026

PRAYAS (Promoting and Accelerating Young and Aspiring Students) is an initiative by the Indian Institute of Technology (IIT) Mandi aimed at nurturing innovation and technical skills among students. Launched in 2022, PRAYAS has evolved through multiple editions, each focusing on hands-on learning in emerging technologies like robotics, artificial intelligence (AI), and the Internet of Things (IoT).

Fees of the Program is 62,400/- + GST

Which includes everything like Hostel accommodation Mess charges for 1 month

Sample Certificate

Upon successful completion of the programme, participants will be awarded a certificate of completion and will be eligible to receive CCE, IIT Mandi's certificate



Note:

All certificate images are for illustrative purpose only and may be subject to change at the discretion of IIT Mandi. We encourage you to attend all the live sessions and make the best out of these interactive learning experiences. The recorded videos and learning material will be available throughout the duration of the programme.



Centre for Continuing Education (CCE) , IIT Mandi

About CCE, IIT Mandi

The Centre for Continuing Education (CCE) was established in early 2022 at IIT Mandi to dedicatedly cater for the national requirement for skilling, up-skilling, and re-skilling of individuals from various Govt./Semi Govt. organizations, public and private undertakings, research institutions and industries. A variety of continuing education programmes have been organized fulfilling the needs for nation-building at all levels starting from elementary schools to dropouts to working professionals from diverse backgrounds so that learners around the globe can get opportunities to gain knowledge and/or develop professional growth skill sets. CCE also provides necessary logistics, and administrative support to run such programs. All institute academic outreach activities like Conferences, Workshops, Symposia, Short-term courses, Training programs, and other similar activities are executed under the umbrella of the CCE.

Vision

To be a leading hub for inclusive, impactful learning that empowers individuals and builds a skilled workforce for nation capacity building in STEM and management-related fields.

Mission

Provide learners with a platform to study and gain exposure at IIT Mandi through outreach programmes and to deliver accessible, high-quality continuing education that equips learners with skills, knowledge, and opportunities for lifelong growth.



Group Photo: PRAYAS 3.0 (2025)

Apply for the programme here

[APPLY NOW](#)

For more information

Please Visit

cce.iitmandi.ac.in

 For any queries WhatsApp an advisor on **9211287397**

For registration and any other information, please get in touch with us at:

schoolcamp@iitmandi.ac.in

In collaboration with

Bsates

At BSATES EdTech Foundation, we are committed to transforming education through innovative technology and accessible learning solutions. Our mission is to bridge the gap between traditional education and modern digital advancements, ensuring that learners from all backgrounds can access high-quality resources and skill-based training.

With a strong focus on EdTech innovation, digital learning platforms, and skill development, we strive to empower students, educators, and institutions by providing cutting-edge educational tools and interactive learning experiences. Our programs are designed to cater to a wide range of learners, from school students to professionals seeking upskilling opportunities.