

Course Name:	ROBOTICS
Duration:	03-Mar-2025 To 08-Mar-2025
Institute Name:	INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
Aim & Objective:	<p>THE COURSE WILL COMPRISE OF THE ESSENTIAL THEORETICAL ASPECTS OF ROBOTICS FROM THE BASICS TO ADVANCED APPLICATIONS. EACH MODULE WILL BE INTEGRATED WITH HANDS ON EXPERIMENTS AND APPLICATIONS. THERE WOULD ALSO BE INVITED SPEAKERS FROM INDUSTRIES AND RESEARCH LABORATORIES TO EXPOSE THE PARTICIPANTS TO REAL WORLD ROBOTICS APPLICATIONS AND RESEARCH. THE COURSE WOULD BE DESIGNED FOR TEACHERS, RESEARCHERS AND INDUSTRY PERSONNEL WHO WOULD LIKE TO UPGRADE THEIR SKILLS IN THE AREAS OF ROBOTICS AND AUTOMATION. FINAL ASSESSMENT WILL BE IN TERMS OF QUIZ AND WRITTEN EXAMS.</p>
Target Group:	TEACHERS OF ENGINEERING AND RESEARCH SCHOLARS
Open for Participants From:	ALL COUNTRIES

Title of the Course/Workshop: **Robotics**

	Item	Details
(a)	<i>Title of the Course</i>	Robotics
(b)	<i>Course Coordinator</i>	Prof. Ashish Dutta and Prof. K.R Guruprasad Centre for Mechatronics INDIAN INSTITUTE OF TECHNOLOGY KANPUR
(c)	<i>Duration (1-2 weeks)</i>	Two weeks
(d)	<i>Eligibility Criteria (basic expected background)</i>	Bachelor's degree (Masters Preferred) in Mechanical/Electrical/Electronics/Computer Science/Mechatronics/Instrumentation with some exposure to Robotics and Automation.
(e)	<i>Target group</i>	Teachers in Engineering colleges and institutes, factory managers, consultants, Automation and Robotics engineers.
(f)	<i>Tentative dates for the proposed event</i>	Mar. 3 – Mar. 8, 2025
(g)	<i>Objectives</i>	The course will comprise of the essential theoretical aspects of robotics from the basics to advanced applications. Each module will be integrated with hands on experiments and applications. There would also be invited speakers from industries and research laboratories to expose the participants to real world robotics applications and research. The course would be designed for teachers, researchers and industry personnel who would like to upgrade their skills in the areas of robotics and automation. Final assessment will be in terms of Quiz and written exams.
(h)	<i>Tentative list of topics to be covered</i>	<ul style="list-style-type: none"> • Introduction to Robotics, • Transformations and • Robot Kinematics, • Dynamics, • Mobile Robots, • Motion Planning, • Control Techniques, • Sensors and Actuators, • Computer Vision • Multi Robot Co-ordination and formation control, • Industrial Applications, • Laboratory Sessions and Quiz
(i)	<i>Faculty</i>	Professors Bhaskar Dasgupta, Ashish Dutta, K R Guruprasad, Bhishakh Bhattacharya (Mechanical Engineering) K S Veknkatesh, S.R Sahoo (Electrical Engineering) Indranil Saha (CSE), Abhishek (Aerospace Engineering)