

IMPORTANT DETAILS

Important Dates

Registration Starts	upto 10th May 2025
Registration Confirmation	18th May 2025
Commencement of Course	13th June 2025
Max Offline Participants (FCFS Basis)	50

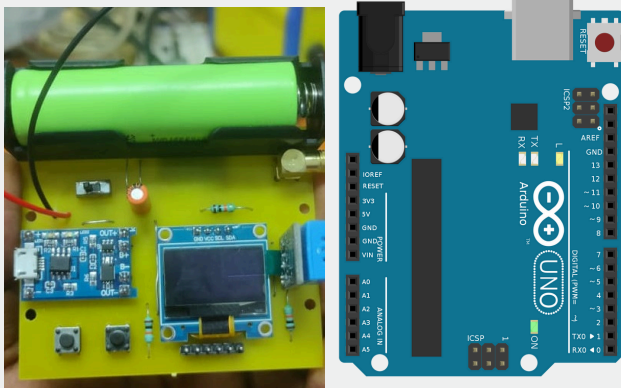
Contact Persons

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For queries related to registration, please contact the undersigned person:

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TARGET PARTICIPANTS

The short-term course is of immense interest for UG/ PG students, research scholars/professionals, staff/ faculty members and industry professionals working in the area of networking and IoT.

REGISTRATION DETAILS

Registration Details (Fees Non-Refundable)	
Registration Type	Fees
Students	INR 2360 (Online) INR 3540 (Offline)
Faculty from Academic Institutions	INR 3540
Scientist from R & D Organization/Industry Persons	INR 4720

Registration fees include Registration Kit, Refreshment, Tea and Snacks and 18% GST. Lodging, boarding, lunch and dinner facilities can be availed on a separate payment basis and based on availability.

BANK ACCOUNT DETAILS FOR REGISTRATION

Account Name	CONTINUING EDUCATION NIT ROURKELA
Account Number	10138951784
Bank	State Bank of India
Branch	NIT Campus Rourkela (02109)
IFSC Code	SBIN0002109

To complete the online registration, the participants need to use the link below

<https://forms.gle/jLSh3iR2k25JV5Yg9>

SHORT TERM COURSE

On

Internet of Things: The Programming Approach

Hybrid Mode

(Online and Offline)

2nd - 13th June 2025



Patron:

Prof. K. Umamaheshwar Rao,
Director, NIT Rourkela

Chairman:

Prof. Bibhudatta Sahoo,
HoD, Department of CSE

Convener:

Prof. Suchismita Chinara

Co-Convener:

Prof. Arun Kumar

**DEPARTMENT OF COMPUTER
SCIENCE & ENGINEERING,
NATIONAL INSTITUTE OF
TECHNOLOGY ROURKELA-769 008,
ODISHA**

<http://www.nitrkl.ac.in>

ABOUT NIT ROURKELA



National Institute of Technology (NIT) Rourkela is an institution of national importance funded by the Ministry of Education. NIT Rourkela was established as Regional Engineering College (REC) on August 15, 1961. NIT Rourkela was ranked 601-800 in the world by the Times Higher Education World University Rankings of 2018 and 126th in Asia. In India, it was ranked 16 among engineering colleges by the National Institutional Ranking Framework (NIRF) in 2023. For details about the institute please visit us at www.nitrkl.ac.in.

ABOUT DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

The department was established with the vision to prepare its students for professional employment and graduate education through the study and implementation of the fundamental principles of theory, abstraction, and software design while at the same time presenting the ethical and social issues associated with computer science.



COURSE DETAILS

This course provides great insight into the exciting world of Internet of Things and answers the question about what makes a device smart. In this course we will explain how the smart devices in our household are working and how we can create them from scratch. The brief topics to be covered are mentioned below:

- Introduction to the Internet of Things

History of Internet of Things, Definition of Internet of Things, Life in IoT ecosystem, Characteristics of IoT, IoT components, Pillars of IoT, IoT Design goals, Applications of IoT, Why IoT, Examples of IoT ecosystem, Definition of THINGS, and examples of things.

- Introduction to Arduino Environment

Introduction to Arduino IDE, Installation of Arduino IDE and Drivers, Features and Functionality of Arduino IDE, The structure of an Arduino Program, setup and loop functions, debugging code, and serial monitor.

- Things in IoT and their use cases

Introduction to Sensors, Use cases and applications, types of sensors, analogue and digital sensors, types of microcontroller and their use cases, features of different boards.

- Networking in IoT

Introduction to ESP-32, Introduction to Bluetooth, interacting with Bluetooth devices using Bluetooth serial, Introduction to Wi-Fi, interacting with Wi-Fi and sending data using APIs.

- Communication Protocols for IoT

Introduction to IPV4 and IPV6 protocols, Message queuing telemetry transport (MQTT), MQTT architecture, constrained application protocol (CoAP), CoAP architecture.

- Introduction to Raspberry Pi

What is Raspberry Pi, Installation of Raspberry Pi OS, Types of Raspberry Pi, Setting up Raspberry Pi, Introduction to Linux, basic Linux syntax and types of Linux operating systems.

PROJECTS FROM PREVIOUS WORKSHOPS

