



Electronics & ICT Academy IIT Roorkee



An Initiative of
**Ministry of Electronics
& Information
Technology (MeitY)**
Government of India

A Faculty Development Program

on

**Integrated Circuit Design with AI/ML
Insights: Theory to Practice**

In association with

E&CE Department, NIT Hamirpur (HP)

October 30 – November 03, 2026

Timing: 09:00 AM to 05:30 PM

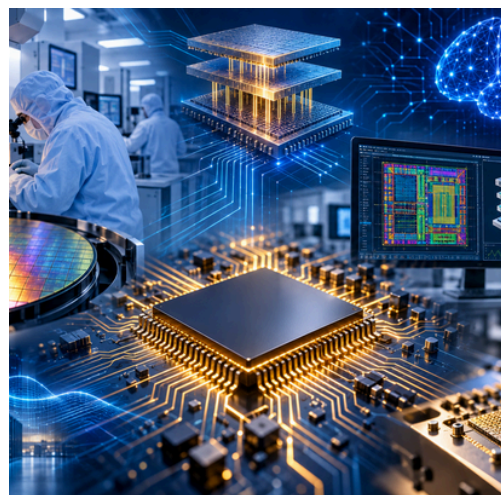
Last Date of Registration:
October 29, 2026



Venue: Online Mode at E&CE Department, NIT Hamirpur (HP)

Objectives of the Course

- Understand nanoscale CMOS and emerging FET technologies.
- Explain IC fabrication, digital VLSI, and interconnect design concepts.
- Analyze AI/ML applications in VLSI and advanced packaging.
- Understand 3D integration and SRAM architectures for AI.
- Perform IC design and simulation using modern EDA tools.
- Implement basic designs using Verilog and FPGA platforms.
- Develop IC layouts and perform circuit simulations.
- Apply practical IC design skills to research and industry problems.



Why this course ?

Integrated circuit design is rapidly evolving with advanced CMOS technologies, emerging FET architectures, AI/ML, advanced packaging, and 3D integration. This FDP provides a comprehensive understanding of IC design, fabrication, digital VLSI, interconnects, memory, and AI-enabled design approaches. Through hands-on sessions using Cadence Virtuoso, CST Studio Suite, HFSS, ADS, Verilog, FPGA platforms, SPICE, and Sentaurus TCAD, participants will gain practical exposure to modern IC design workflows and strengthen their capabilities for research, teaching, and industry applications.

Prerequisites

Basic knowledge of digital electronics, analog circuits, semiconductor devices, and VLSI is recommended. Familiarity with programming and EDA tools is beneficial.

Experts from Academia/Industry

Who Should Register?

Any Interested Faculty/PhD-Scholars
UG/PG/ & Industry Persons can register

Registration Fee

Fees: ₹ 500/- Faculty/Research Scholar/ Students
₹ 1000/- Industry/Others

Note: Refund will be done in case of course
cancellation only, with in 20 working days

How to Get Register?

Visit the below link for registration

<https://eict.iitr.ac.in/programs/explore-courses/Course-Detail/FPD-course/371/fdp-on-integrated-circuit-design-with-ai-ml-insights-theory-to-practice/>

Course Code: EICTIITR-FDP-6H7-13



Scan QR for
registration

Last Date:
October 29, 2026

Click on icon to follow us on:



Course Outcomes

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Focus Areas

- Nanoscale CMOS Technology and Emerging FET Architectures
- IC Design, Fabrication, and Digital VLSI
- IC Interconnects and Advanced Packaging
- AI/ML for VLSI and 3D Integration
- SRAM Memory for AI Applications
- FPGA Prototyping and Verilog
- IC Layout and SPICE Simulation
- Cadence, CST, HFSS, ADS, and Sentaurus TCAD

Course Features

- 40 Hours of Lectures, hands-on, and Pedagogy/Industry sessions.
- Lectures from Expert Speakers, Hands-on from industry/Academia experts.
- Certificate by E&ICT Academy IIT Roorkee

Who may benefit

- Academic Faculty and Students(UG/PG)
- Government Officials.
- Working Professionals in the Industry and Startups.
- Research Scientists and Technical Staff.

This certificate can be considered in alignment with other Quality Improvement Programs (QIP) as well as NBA and NAAC for recognition/credit.

Chief Investigator

- Prof. Sanjeev Manhas, Head, ECE Department, IIT Roorkee

Course Coordinators

- Dr. Rohit Dhiman, NIT Hamirpur
- Dr. Ashwani Rana, NIT Hamirpur
- Prof. Rajeevan Chandel, NIT Hamirpur
- Prof. Sanjeev Manhas, Head, ECE Dept., IIT Roorkee

Reach Us:

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