

# Benefits for North-East States

## Assam:

Most of the technical institutions in Assam are either very old or relatively new. Keeping this in view, the Academy at IIT Guwahati endeavours to impart in-depth knowledge in terms of theoretical and practical exposure to the faculty members and students of these institutions and employees of Government and private organisations. The training would also cover development of entrepreneurship skill which will facilitate cultivation of start-ups in local region.

## Neighbouring States:

IIT Guwahati believes that reaching out to the end user will be more beneficial rather than moving the faculty to IIT Guwahati from different states. Keeping in view the shortage of faculty being faced by various institutions, efforts would be made to organize faculty development programmes at these institutions wherever possible through various training partners.

Accordingly, the Academy is entering into collaborations with Industry partners in various domains. The Academy envisages training the faculty from neighbouring states, using Virtual Classrooms and Virtual Labs.

## Features of E&ICT Academy, IIT Guwahati:

- Institutions to be covered
  - Centrally Funded Technical Institutes in North-East (NITs, Central Universities, NERIST, CIT, IIM, etc.)
  - State owned or Private Universities
  - Engineering Colleges affiliated to various Universities in NE
  - Arts, Science and Commerce Colleges in NE
  - Polytechnic/Diploma Colleges in NE
- Faculty members and students of the above mentioned institutes will be trained through basic, advanced and research oriented training programmes
- Facilitation for employment of Students through various Industry Partners
- Train Local Industry Representatives in new emerging areas of technology as per their needs and to enhance their capabilities
- Facilitate entrepreneurship and incubation in the NE region

## Available Facilities at IIT Guwahati

- 20 Teraflop system having multicore processors, Nvidia GPUs, Intel Xeon Phi for Parallel & Distributed Computing Courses
- State-of-the-art laboratories to conduct experiments for VLSI, Communication, RF and Signal Processing Courses
- 250 Teraflop supercomputer
- State-of-the-art library

## Contact Us

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Department of Electronics & Information Technology  
Ministry of Communications & Information Technology  
Government of India



*A Government of India Initiative  
for Employability Enhancement*

## Electronics & ICT Academy IIT Guwahati

*Empowering North-East for a major  
Technological Transformation*

- ■ Faculty Training
- ■ Training and Consultancy Services for Industry
- ■ Technical Incubation and Entrepreneurship
- ■ Continuing Education for Students & Professionals

*Launched by*  
**Hon'ble Prime Minister  
Shri Narendra Modi**



India is fast emerging as a world power in Information, Communications Technology and Electronics (ICTE) sector. To complement its growth and further development, there is an ever-increasing need for trained professionals with specialisation in this space. This includes training of professionals not only in existing and changing technologies but also in the fields of R&D and electronics manufacturing. This will specifically be aimed at the ICTE sector to create a substantial resource pool of talent and generate ample opportunities for entrepreneurs.

Department of Electronics and Information Technology (DeitY) has approved a scheme and set up Electronics and ICT Academies at 07 (seven) institutions viz. IIT Guwahati, IIT Kanpur, NIT Warangal, NIT Patna and IIITD&M Jabalpur (all five under Category A); and IIT Roorkee, MNIT Jaipur (both under Category B). The Department had earlier setup two ICT Academies at Tamil Nadu and Kerala respectively.

Estimated cost and targets for the Electronics and ICT Academy in the two Categories for a period of 4 years is as under:

Category	Total Outlay	Internal Revenue Generation	Grants-in-Aid from Central Government	Training Target (Faculty members)
Category-A	Rs. 25 crore	Rs. 7.50 crore	Rs. 17.50 crore	16,000
Category-B	Rs. 10 crore	Rs. 3.00 crore	Rs. 7.00 crore	6,400

These Academies are aimed at faculty/mentor development and upgradation to improve the employability of the graduates, diploma holders in various streams, through collaboration of States/Union Territories. Each Academy is being provided funding support for four years and is expected to generate revenue by charging fee and taking up other activities to meet the recurring cost in a gradual manner and become self-sustainable by the end of fourth year onwards. All these Academies will cater to the requirements of identified neighbouring States and UTs also. It was subsequently also decided that the Academies would collaborate with National Institute of Technical Teachers Training and Research (NITTTRs) on faculty development and other industry related issues. Brief information about all the Academies is available at <http://deity.gov.in/content/scheme-financial-assistance-setting-electronics-and-ict-academies>

Objectives of each Academy

- To focus on improving the quality of faculty of institutes, colleges in the respective States/UTs by organizing faculty training programmes for
  - Engineering, Polytechnics etc in emerging areas of Electronics & IT;
  - Arts, Commerce & Science colleges, etc on utilization of IT tools and techniques for application in their respective domain of knowledge/learning/teaching/enhancing productivity
- To develop state-of-the-art facilities like technical labs, well equipped library, interactive virtual learning facility, etc.

**Target beneficiaries:** Faculty/ Mentors of Engineering, Science, Arts, Commerce colleges & Polytechnics of the respective/neighbouring States/UTs. As an outcome of the faculty training, the students from their respective institutions would be benefitted.

Activities of the Academies

- Faculty development for
  - Specialized training with hands-on on basic and advanced level topics for Engineering streams
  - Domain based training on use of ICT tools and techniques for non-engineering streams
- Training and consultancy services for industry
- Curriculum development for Industry
- Continuing Education programme for students/ working professionals
- Design, Develop and Deliver specialized modules for specific research areas and Industry
- Providing advice and support for technical incubation and entrepreneurial activities



- Each Academy would offer the courses to students and Industry representatives on chargeable basis, besides faculty members in order to become sustainable
- Anyone who is teaching courses in colleges in the engineering, science, commerce & arts streams and is recommended by the concerned institute would be considered eligible for faculty training
- Each Academy would offer a minimum of 60% Standardized Courses as recommended by the **Academic Council** set up at DeitY. The remaining 40% courses will be designed and delivered by each academy in their specific areas of specialization
- Average duration of each course would be 80 hours with special emphasis on providing hands-on-training.
- Each Academy would set-up an **Academic Committee** and a **Research Committee** with relevant experts from industry, Sector Skill Councils and academia which would recommend various courses/ training programmes proposed to be launched by the respective Academy. While the Research Committee would advise on the emerging areas on which the faculty development could be initiated, the Academic Committee would take care of various aspects like development of new courses, syllabus, course content, curriculum, e-content, identification of experts, etc.

Electronics and ICT Academy at IIT Guwahati (Category-A)

**Location:** Indian Institute of Technology Guwahati, Guwahati, Assam-781039

**States covered:** Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura

**Goals of the Academy:** The main goal of the Academy is to train faculty members of different institutions in various areas of Electronics, Information & Communications Technology in North East States. Various experts and resource persons will be invited from leading Academic and R&D organisations like IITs, NITs, IISc Bangalore, DRDO, CSIR, ISRO, etc and Industry to impart training. This would improve the quality of faculty members leading to enhanced skills and knowledge of the students and their employability.

Areas of Expertise

- VLSI System Design
  - Analog and Digital Design
  - SOC & FPGA based System Design
  - Introduction to VHDL & Verilog
- Embedded Systems
  - VLSI and Embedded System,
  - Hardware and Firmware Design for ARM Based Embedded Systems
  - Introduction to Embedded C
  - Introduction to IoT Technologies
- Network Security
  - Advanced Wireless Communications and Networks
  - Information Security in Virtual Training Environment
  - Ethical Hacking
- Parallel & Distributed Computing
  - Advanced Data Structures & Algorithms
  - High Performance Computing
  - Cloud Computing
  - Big Data Analytics
- Signal Processing
  - Image, Biomedical Signal & Speech Processing
  - Pattern Recognition & Machine Learning etc.
  - Deep Learning
- Design
  - Game Design
  - Basics of Animation
  - Introduction to Creative
  - Robotics, Communication and CAD courses

