

All passionate engineers, take an extra mile in
Industrial Automation now

All India PG Diploma in
**Industrial
Automation
System
Design**



राष्ट्रीय इलेक्ट्रॉनिक्स एवं सूचना प्रौद्योगिकी संस्थान
National Institute of Electronics & Information Technology

Ministry of Electronics & Information Technology
Government of India



Department of
**Electronics &
Instrumentation
Engineering**

Course Brochure

Why study Industrial Automation System Design?

This course is aimed to narrow the existing gap between the demand and supply of skilled manpower for the Industry. Hands-on training in designing Industrial Automation Systems is imparted with the use of PLCs, PACs, DCS, Industrial Field Instruments, Industrial PCs, SCADA / HMI, Data-Acquisition Boards and related Software. The Capstone Project Work is Industry oriented.

Outcome

After Successful completion of this course, the graduates will be able to:

- Build program/read PLC diagram and understand the Automation technique used in Industry
- Distinguish appropriate Input / Output devices and schemes for Industrial Automation applications and analyse their performances
- Solve engineering problems for Field Automation and analyse their safety / redundancy
- Design and test communication protocol for a typical network architecture
- Design and test AC / DC drives

Scope

Stiff competition, higher quality standards and growing concerns of safety and environmental concern have pushed the Industrial sector to adopt state-of-the-art Automation techniques for effective utilization of resources and optimized performance of the process plants. The recent trend of merging control systems associated with both factory and process Automation demands knowledge from diverse fields. Automation applications extent plant Automation, discrete and batch process control, embedded machine control and manufacturing production line Automation. They include Automation of time-critical systems that demand precise real-time readings and control. Qualified Automation engineers are needed to meet these requirements of designing appropriate Automation systems. Specific knowledge in diversified fields such as PC / PLC based Control, Instrumentation, H/W, S/W, Networking, Industrial AC Drives, Machine Vision, DCS, SCADA/HMI, High-speed data acquisition, RTOS etc., are needed to become a successful Automation engineer. Ultimately the need of the hour is to upgrade their skills for Industry-ready engineers.



Facilities for hand-on learning



1. Allen Bradley Control Logic Series PLC (Micro850) Systems with Digital and Analog I/O Modules
2. Siemens Simatic S7 Series PLC Systems (1200/1500 CPUs) with Digital and Analog I/O Modules
3. GE Fanuc – Versa Max IC200 CPU with Ethernet
4. HART Modem, Smart Temperature Transmitter with HART Interface, Smart Transmitter with Profibus Interface, Smart Instruments with HART/ Foundation Fieldbus Interfaces
5. NI ELVIS II, myDAQ with Quanser Innovate Educate Interfaces and Accessories for control System Design
6. NI Smart Camera and Robotics Innovate Educate Modules
7. NI-cRIO Control and Chassis with Digital and Universal Analog I/O Modules
8. Yokogawa DCS – Centum VP with Redundant and Digital and Analog I/O Modules
9. Temperature, Pressure, Level & Flow Control Loop Process Rigs
10. Cascade Control Loop Process Rig
11. AC Drives with Analog Input and Output, Digital Input and Output & Relay Outputs
12. DC Drives with Analog Input and Output, Digital Input and Output
13. MCC for 3 Phase Induction Motor



Course Modules

1. **Measurements with Industrial Field Instruments & Data Acquisition Systems**
2. **Programmable Automation Controllers (PAC)**
3. **PLC & PID Controllers**
4. **Industrial Data Communications**
5. **Industrial Drives**
6. **SCADA/HMI System Development**
7. **Distributed Control System (DCS)**
8. **Capstone Project Work**

The Student has to submit an Internship Report to NIELIT, Calicut on the completion of course for him/her to be eligible for degree certificate

ABOUT

Department of Electronics & Instrumentation Engineering, Kumaraguru College of Technology.

Started in the year 2006, the Department of Electronics and Instrumentation Engineering is running a 4-year undergraduate programme in Electronics & Instrumentation Engineering. Since its inception, the Department has grown in leaps and bounds with the state of art infrastructure. Yokogawa Centre of Excellence, KCT-FLUKE Centre of Excellence in Calibration, Siemens PLC Automation Laboratory are some of the major centres operational in addition to Advanced Process Control and Computerised Sensors laboratories. The Department has a team of well qualified, dedicated Faculty members with vast experience in industrial and research background. The Department is involved in active Industrial consultancy services for neighbouring Industries in the field of Automation. Certified Calibration for Electro-Technical/Thermal/Pressure Instruments are some of the prominent consultancy services. Major and minor projects funded by government bodies and Industries are focused on solving industrial needs. Our association with the Professional bodies ISA, ISoI, IEEE, ISTE, IEI and CSI is playing a significant role in enriching the quality of curriculum.

ABOUT

National Institute of Electronics and Information Technology (NIELIT)

National Institute of Electronics and Information Technology (NIELIT) is an autonomous body of Ministry of Electronics and Information Technology, Government of India. The Centre is a premier organisation for education, training, R&D and consultancy in IT and electronics.

The objective was to bridge the gap between the academic institutions and industries. A decade after the successful running of CEDT, Bangalore, the then Department of Electronics (DoE), initiated a programme to set up similar centres in other parts of the country with a wider objective to develop human resources at different levels and in different specialised areas of Electronics Design.

Course duration:

24 weeks

Course Category:

Full time

Eligibility:

B.E. / B.Tech. Degree from ECE, EEE, EIE, ICE and Mechatronics

Fee:

INR 37000 +18% GST

Certification:

Certificate will be issued by NIELIT on successful completion of all modules and projectwork

Admissions limited to 25 Candidates

Boarding and Lodging (Including Women) will be provided in KCT Hostels on a payment basis.

Application can be downloaded from

<https://www.mykct.kct.ac.in/ProfilingPHD/Index.html>



**Course
Commences
soon**

Contact: 0422 2661300

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