

KURUKSHETRA

Kurukshetra is described as DHARMA-KSHETRA, with historical and religious importance. Here, the battle of Mahabharata was fought, and Lord Shree Krishna preached the philosophy of "KARMA" as enshrined in the holy book "Shrimad Bhagwad Gita". It is one of the premier pilgrimage centers attracting devotees all around the year. Kurukshetra is well connected by Rail, Delhi-Ambala section, by Road (NH1, connecting Delhi – Chandigarh – Amritsar - Jammu), and by Air (Delhi 160 km and Chandigarh 80 km). The NIT Kurukshetra campus is situated about 11 km from the Pipli Bus stand located on NH-44 and about 6 km from the Kurukshetra railway station.

NATIONAL INSTITUTE OF TECHNOLOGY KURUKSHETRA

NIT Kurukshetra, formerly known as Regional Engineering College, Kurukshetra, was founded in 1963. It was conferred upon the NIT status with Deemed University on June 26, 2002. The Institute offers several courses in various disciplines of B.Tech., M.Tech., MBA and MCA, and Ph.D. with an annual intake of about 1500 students. Institute also provides excellent facilities for advanced research in the emerging areas of Engineering, Science, and Technology. The Institute has well-qualified and dedicated faculty along with supporting staff, laboratories, and other infrastructure. The infrastructure is geared to enable the Institute to produce technical personnel of high quality. The Institute has a centre of excellence that aims to build capacity in Design and Manufacturing with the latest and highly robust technology-driven solutions.

ELECTRICAL ENGINEERING DEPARTMENT (EED), NIT KURUKSHETRA

The Department offers B.Tech, M.Tech, and Ph.D. Degrees. The B.Tech. Program in Electrical Engineering provides is run with a number of elective courses. The Department has three M.Tech courses

with specialization in Control Systems, Power Systems, Power Electronics, and Drives and offers Ph.D. in different areas evolving innovations and developments in all disciplines of Electrical Engineering. Out of thirty regular faculty members, the Control Systems group has about ten faculty members. The Department has established various advanced laboratories such as advanced control systems, advanced power systems, and advanced power electronics labs with modern equipment.

RESOURCE PERSONS

- Experts may be invited from Industry/ R & D Organizations.
- Faculty members from IITs/ NIT Kurukshetra.

PATRON

Director, NIT Kurukshetra

CO-PATRON

Head, Electrical Engineering Department

COURSE ADVISOR

Prof. L. Dewan
Prof. J. S. Lather

COURSE CONVENOR

Prof. Jyoti Ohri

COURSE COORDINATORS

Dr. Bhanu Pratap
Dr. Modi Pandu Ranga Prasad

IMPORTANT DATES

Last date of Registration: **July 03, 2023**
Notification of Selection: **July 05, 2023**

CONTACTS: 09468034271, 09729662574



Celebrating 60 Years of Academic Excellence

Short Term Course
On
Cyber-Physical Systems &
Industrial Automation
(CPSIA-2023)
July 17-22, 2023



Organized by
Department of Electrical Engineering,
National Institute of Technology
Kurukshetra
Kurukshetra-136119, Haryana, India

COURSE OBJECTIVES

Cyber-Physical Systems (CPS) is an emergent approach that focuses on the integration of computational applications with physical devices, being designed as a network of interacting cyber and physical elements. The CPS control and monitors real-world physical infrastructures and thus are starting to have a high impact on industrial automation. As such, the design, implementation, operation of CPS, and management of the resulting automation infrastructure are crucial for the industry. As the world becomes increasingly technology-driven, large numbers of progressively more complex systems continue to emerge. It is imperative that these systems deliver the desired output even in uncertain environments. The main thrust of this course is to present an overview of key aspects of industrial CPS, their technologies and emerging directions, as well as challenges for their implementation.

The aim of the proposed course is to introduce the key challenges identified and a prioritization and timeline, which are pointed out with the aim to increase technology readiness levels and lead to their usage in industrial automation environments. This course will be helpful to postgraduate students, research scholars, and faculty members.

COURSE CONTENTS

The course aims to address the following issues related to Cyber-Physical Systems (CPS) but is not limited to them.

1. Introduction to Cyber-Physical Systems (CPS)
2. Industrial Automation based on CPS
3. Industrial Cloud-based CPS
4. Cyber Security Challenges and Applications in IoT
5. IoT Applications & Smart Sensors in industry, Healthcare Applications & Research Issues
6. Artificial Intelligence for CPS
7. Cyber Security Threats in CPS

8. Socio-Technology challenges for implementing CPS
9. Cyber Security implications in Communication and Networking
10. Lab Sessions for Hands-on Programming on Industrial Automation

WHO SHOULD ATTEND?

Faculty members/ research scholars/ students from academic institutes approved by the AICTE/ UGC/ MHRD and Scientists/ Engineers working in Private/ Public/ Govt. organizations/ industries etc., can attend the course. It is an interdisciplinary course; participants from the following background, such as Electrical, Electronics, Instrumentation, Mechanical, and Chemical Engineering, are encouraged to attend. Participants from the areas of Mathematics and Physics may also participate in this course.

ONLINE REGISTRATION

Category of Registrations	Registration fee* for Internal/ Online (External)	Registration fee* for External in offline
PG Students/ Research Scholars/ JRF/ SRF	Rs. 300/-	Rs. 1000/-
Faculty/Staff	Rs. 500/-	Rs. 3000/-
Industry/ R&D Organization	Rs. 1000/-	Rs. 6000/-

*** Registration fee is non-refundable. Participants must have valid ID proof of student/ employee from the associated organization.**

Participants will be provided meals and tea during the sessions. However, limited accommodation is available in the hostel/guest house. The accommodation can be arranged at the request of the participants on a payment basis separately. No TA/ DA will be paid to the participants. Selection of the

Participants will be on a first-come-first-served basis. The registration form, complete in all respects, duly forwarded by the Head of the Department/ School/ Institute, accompanied by Online details of the requisite amount, should reach on or before **July 03, 2023**.

REGISTRATION FEE PAYMENT

The registration fee is to be paid in advance through an online transaction with the following steps:

1. Go to the website of the State bank of India (<https://www.onlinesbi.com>)
2. Click on State Bank Collect (SB Collect)
3. Agree & Proceed
4. Select State and Type of corporate/Institution: Haryana and Education Institution
5. Educational Institutions Name: Director National Institute of Technology Kurukshetra
6. Select payment Category: CPSIA-2023. Provide details and submit
7. Enter any random number of 3 digits for the Reference no., if required.
8. Select payment methods (Internet Banking, Debit Card, Credit card, etc.).

The information brochure can be downloaded from the institute website, www.nitkr.ac.in.

REGISTRATION FORM

The candidates can fill out the Registration Form using the following Google link:

<https://bit.ly/3XcocRn>

The soft copy of the completed application forms should be submitted before the last date of registration.

CORRESPONDANCE

**Address: CPSIA-2023,
Electrical Engineering Department, NIT
Kurukshetra – 136119, Haryana, India
Email: bhanu@nitkr.ac.in;
mprprasad@nitkr.ac.in**