

KURUKSHETRA

Kurukshetra is popularly known for its historical and religious importance. Here, the battle of Mahabharata was fought, and Lord Shree Krishna delivered the divine message as enshrined in the holy book "Shrimad Bhagwad Gita". It is also known as DHARAMKSHETRA and it attracts devotees from all corners of world all round the year. Kurukshetra is very well connected by Rail, Delhi-Ambala section, by Road (NH1, connecting Delhi-Chandigarh-Amritsar-Jammu) and by Air (Delhi 160 km and Chandigarh 80km). The NIT Kurukshetra campus is situated about 10 km from Pipli, Bus stand located on NH1 and about 4 km from 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.

ELECTRICAL ENGINEERING DEPARTMENT (EED), NITK

The department offers B.Tech, M.Tech and Ph.D. Degrees. The B.Tech. course in Electrical Engineering provides is run with a number of electives, which enables the students to specialize in one of the fields i.e. Power Apparatus and Systems; Electronics and Instrumentation; Computer Applications; Information and Control. Presently, the department has three post graduate programs, M.Tech., in Control Systems; Power Systems; Power Electronics and Drives and offers Ph.D. in different areas to keep synergy with the evolving innovations and developments in all disciplines of Electrical Engineering.

PATRON

Padma Shri Dr. Satish Kumar,
Director, NIT Kurukshetra

CONVENER

Dr. Ashwani Kumar,
Professor and Head, EED, NIT Kurukshetra

COURSE COORDINATORS

Dr. Shivam
Assistant Professor, EED, NIT Kurukshetra
Dr. Pradeep Kumar
Assistant Professor, EED, NIT Kurukshetra

IMPORTANT DATES

- Last date for submission of Registration form: **11th December, 2021.**
- Confirmation to the participants (on website or by email): on or before **13th December, 2021.**

Address for Correspondence:

Coordinator GMOC-2021

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**Self-Financed
Online
Short Term Course
On**

**Grid Modernization:
Opportunities and Challenges
(GMOC-2021)
(20th December-24th December 2021)**



Organized by

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

COURSE OBJECTIVES

The renewable energy integration to the existing grid has posed several challenges before the utilities. The major challenges that have appeared before the industries are related the operation and management of the grids, integration issues, inclusion of DC systems in the system, detection of islands, and communication requirements. The Grid modernization refers to these changes collectively, required in the power grid to accommodate the rapid technological changes in all the spheres of the energy system. In response to these challenges several new technologies have evolved including a) development of power electronic converters, b) advancements in computerized monitoring, control and protection, c) real-time operation, d) energy-efficient load management, to address the issues.

This course aims to achieve the following objectives:

- Familiarize with emerging challenges for the grid modernization.
- Understanding the existing solutions and upcoming challenges for the grid modernization.
- Provide an opportunity to the participants to enhance their knowledge in the emerging areas of smart grid technologies.

The course is suitable for research scholars, student and faculty, who are planning to do research and projects in associated areas.

COURSE CONTENTS

The course aims to address the following issues related to the emerging research and industrial challenges in Power Electronics Technologies:

- Smart grid architecture and issues
- AC-DC Micro grids, Smart Grids
- Renewable energy sources integration challenges and solutions
- Energy saving and electrification transportation (Batteries, Electrical Vehicles)
- Micro grid operation and stability
- Economic dispatching of micro grids with RES
- Protection aspects of Micro grids
- Islanding detection in smart grid
- Communication in Smart Grids

RESOURCE PERSONS

Eminent experts from premier Institutions of India like IITs, NITs, and experts from Industries.

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. The application should be made on the registration form and should accompany registration fee as below:

Participant's category	Registration fee*
Students/ Research Scholars	Rs. 300/-
Faculty	Rs. 500/-
Industry/ R&D / Govt. Organization	Rs. 1200/-

*** Registration fee is non-refundable**

Registration fee includes course e-certificate.

The registration form, complete in all respects, accompanied by Online details of the requisite amount should reach on or before 11th December, 2021.

Registration fee is to be paid through SBI Collect. Please write the short name of STC (GMOC-2021) in remarks during online SBI Collect payment and save a copy of payment receipt..

The brochure with registration form can be downloaded from Institute website www.nitkkr.ac.in.

The candidates need to fill the form given at the link <https://forms.gle/JLDQXm2XRgqV732P6>



The participants need to upload (i) Proof of payment (receipt of SBI collect payment) and (ii) Signed copy of registration form.

The soft copy of the completed application forms along-with the payment receipt should be sent to the e-mail address mentioned in the brochure.

REGISTRATION FORM Self-Financed Online Short Term Course 'Grid Modernization: Opportunities and Challenges' (20th December–24th December 2021)

Title: (Dr./Mr./Mrs./Ms.) :

Name (in BLOCK LETTER) :

Sex (M/F) :

Date of Birth:
(dd/mm/yyyy):

Designation :

Organization :

Address for correspondence
:

Phone :

E-mail :

Qualification :

Category (Please Tick) : Students/ Faculty/
Industry/ R&D / Govt. Organization

Payment Details

Transaction ID/
Reference ID:

Date of Payment:

Amount :

Attachment(s)

Fee Payment Receipt

Signature of applicant (with date):