

Value Added Course
On
Basic Electrical Safety



Department of Electrical Engineering
University Institute of Engineering & Technology, SBBSU

ABOUT THE DEPARTMENT

The department offers a vibrant environment for education in Electrical Engineering. Our mission is to provide a high-quality education and prepare students to design and develop products as well as practical solutions to problems in public and private sectors. Currently, the department of Electrical Engineering offers B. Tech. in Electrical Engineering.

Faculty members in the Electrical Engineering department hold B. Tech/ M. Tech/ PhD degrees from prestigious government institutions. Faculty members have specialization in diverse fields of Electrical Engineering such as Power systems, Electrical Machines, Electrical Drives, High Voltage Engineering, Control systems, Instrumentation, Biomedical Engineering, Signal Processing, and Data Mining.

The faculty members have published significant number of research and review articles in reputed International Journals as well as in the Proceedings of various International and National Seminars, Conferences, Symposia and Workshops. Members of the faculty have also contributed chapters to books published by well-known international publishers.

SALIENT FEATURES

- The department's faculty is highly qualified and has extensive teaching experience.
- Excellent teaching methodology with a focus on interactive learning through the use of audio-visual aids.
- Well-equipped and upgraded labs to provide students with hands-on learning opportunities.
- IIT Delhi's Virtual Labs platform is being used to provide additional Virtual Lab classes.
- The curriculum is well-balanced, with a good mix of research and industry-oriented courses.
- Students attend regular workshops, seminars, and guest lecturers to learn about the latest Technology and industry practices.
- Mini-projects and in-plant trainings to provide students with hands-on experience.
- Industrial visits to various renowned companies to expose students to a variety of environments.

Value Added Course in Basic Electrical Safety

This Course is introduced with the objective of adding value to the knowledge of students of other streams. This Course is introduced to familiarize the students with basic concepts of electricity, associated hazards and their prevention.

VISION

To impart knowledge, develop skills and prepare graduate students in achieving global excellence in Electrical Engineering education, industry and research.

MISSION

- a. To prepare engineering graduates with a thorough knowledge of electrical engineering fundamentals.
- b. To train professionals with strong technical skills, a positive attitude, and strong moral standards.
- c. To encourage creativity and innovation through collaboration with industry, research organizations, and academia.

Eligibility Criteria

This Course is open for all Undergraduate and Postgraduate Students

Credits

This Course will be of Two Credits.

Course Code	EE011
Course Title	BASIC ELECTRICAL SAFETY
Type of Course	Value-added Course
L T P	2 : 0: 0
Credits	02
Course Prerequisites	+2/ Diploma Engineering in any stream
Course Objectives (CO)	<ol style="list-style-type: none"> 1. To be familiar with the basic concepts of electricity. 2. To familiarize the students with the Hazards associated with electricity and their prevention. 3. To familiarize the students with the ways to eliminate, remove and prevent electrical hazards.
Course Outcomes (COs)	<p>At the end of course students will be able to:-</p> <ol style="list-style-type: none"> 1. Explain the objectives of electrical safety. 2. Describe the various electrical safety ways 3. Identifies the presence of electrical hazards and solution to minimize risks 4. Gain familiarity with electrical protective devices

SYLLABUS

UNIT I: THEORY OF ELECTRICITY: Electricity, Elements and Atoms, Electrical Materials, Generating Electricity, Voltage, Current and Resistance. Factors that affect resistance, Direct Current (DC) Circuits, Alternating Current (AC), Circuits, Ohm's Law. Electromagnetism, Capacitance, Capacitive Reactance, Impedance, Extending Ohm's Law to AC Circuits, Low Impedance Circuit.

UNIT II: HAZARDS OF ELECTRICITY: Shock, Burns, Arc-Blast, Explosions, Fires, Primary Hazards Associated with Electricity, and Effects of electricity on the human body.

UNIT III: COMMON WORKPLACE CIRCUITS: Single phase two wire circuits, single phase three wire circuits, Electrical protective device.

UNIT IV: GROUNDING: Types of over current, Fuses, Circuit Breaker, Ground-Fault Circuit-Interrupter, working of Grounding, ground-fault, circuit-interrupters working, types, classes and testing, reversed polarity.

RECOMMENDED BOOKS			
S. No	Name	Author(S)	Publisher
1	Handbook for Electrical Safety	Ray A. Jones	Cooper Bussmann, Inc.
2	Electrical Safety, Fire Safety Engineering and Safety Management	Prof. Sunil S. Rao, R.K. Jain and Prof. H.L. Saluja	KHANNA Publisher ISBN: 978-81-7409-306-6

REGISTRATION FORM
2 Credits Value Added
Course on
Basic Electrical Safety

Name _____

Date of birth _____ Course/Sem: _____

Registration No.: _____

Institute _____

Date of Registration: _____

Address for correspondence _____

Phone _____

Email _____

Signature of applicant (with date)

VENUE

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Address for Communication

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