

Course Overview:

Modern Electric Power System has moved away from its regulated roots and is rushing headlong toward freewheeling competition, spurring more creative uses of energy and unprecedented advancements in plant efficiencies. Environmentalism has rushed forward too, ensuring that no power-generation technology is unscathed by demands for lower emissions and ecological impacts. Also over the past decade, computer capability has skyrocketed in effectiveness and plummeted in cost, launching a mass invasion of control rooms by digital instrumentation. Changes such as these make today's power plant a more diverse and more complex mix of technologies than ever before. This course is designed to provide a good coverage of the generation, transformation, transmission, distribution and utilization of electric power and energy as well as the modeling, analysis, planning, design, monitoring and control of modern electric power systems.

Course Objective:

Upon the successful completion of this course, each participant will be able to:

- Apply proven techniques and technology on the design, analysis, planning, monitoring, control, maintenance and troubleshooting of electric power systems including generation, transformation, transmission, distribution, substation and utilization.
- Identify the modern power system components and explain their functions
- Discuss the concept of electric power generation including synchronous machinery, thermal generating plants and distributed utilities.
- Explain the theory & principles of transformers and identify its various types as well as their features & functions.
- Determine the transmission system structure, components & accessories and sag & tension of conductor.

Course Outline:

- Interconnection transmission operations
- Interconnection Transmission Services And Pricing
- Power quality and harmonics effect on interconnected systems
- Market design and congestion management
- Business models for interconnection transmission investment and operations
- Electricity markets and risk managements

Who Should Attend:

This course is suitable for electrical power managers, engineers, superintendents, supervisors, foremen and those who are involved in the design, engineering, operation, maintenance and control of the electric power system or anyone interested in obtaining a working knowledge of the modern electric power system.

Training Language:

EN / AR

Training Methodology:

- Presentation & Slides
- Audio Visual Aids
- Interactive Discussion
- Participatory Exercise
- Action Learning
- Class Activities
- Case Studies
- Workshops
- Simulation