SCANDINAVIAN ACADEMY

Training and Development

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Course: Smart Grid for Non Engineers

Code	City	Hotel	Start	End	Price	Language - Hours
793	Yerevan (Armenia)	Hotel Meeting	2025-03-24	2025-03-28	5450 €	En - 25

Introduction

Consumers are demanding for safe, secured, and reliable grid system, with the introduction of systems digitalization the demand for smart grid is no exception. A smart grid is an intelligent automated system for monitoring the flow of electricity and making the distribution of electricity more efficient. In a world where protecting the environment is a major concern, it is important to find cost-effective ways of reducing power usage and increasing energy independence. This Smart Grid for Non-Engineers training course will feature concepts and components of a Smart Grid
and Its relevance with renewable energies

A smart grid includes the utilization and production of renewable energy. Consumers now have a choice to generate their own electricity for personal consumption, and any excess of electrical energy can be sold to the local utilities supply companies. This can be achieved by installing smart meters in the premises. Smart grids possess demand response capacity to help balance electrical consumption with supply, as well as the potential to integrate new technologies to enable energy storage devices and the large-scale use of electric vehicles.

This training course will feature:

- The conventional power grid system
- Smart grid blueprint and characteristics
- Types of renewable energy
- Wind turbines
- Photo voltaic cells

What are the goals?

- Understand the role and benefits of a smart grid
- Determine the various types of renewable energy
- Explain the different types of solar panels
- Analyze the common types of wind farms
- Design and components of a smart home

Who is this training course for?

- Non-engineers
- Administrative personnel
- Safety officers
- Maintenance technicians
- The general professional public

Course Outline

Day One: Conventional Electrical Generation, Transmission and Distribution Process:

- Differences between alternating current and direct current
- Common electrical units' power, voltage, current, power factor and frequency
- Types of generation of electrical power system
- Transmission and distribution of electric power
- Domestic electrical system
- Industrial electrical system

Day Two: Types of Renewable Energy:

- Wind turbines
- Construction and operation of wind farms
- Solar panels
- Construction and operations of photo voltaic cells
- Biomass energy
- Geothermal energy

Day Three: Introduction to Smart Grid:

- What is smart grid?
- Smart grid attributes
- Characteristics of a smart grid
- Smart grid blueprint
- Smart grid best practices
- Smart grid and micro grid

Day Four: Smart Homes and Consumer Engagement:

- Concepts of a smart home
- Merits of a smart home
- Characteristics of a smart home
- Introduction of smart meters
- Consumer engagement in a smart grid system
- Smart grid integration with the power grid

Day Five: Energy Storage Systems and Smart Sensors:

- Types of energy storage system
- Importance and merits of battery systems
- Smart grid sensors and appliances
- Safety features
- Smart electric vehicles
- Wrap up session with Q & A

The Scandinavian Academy for Training and Development employs modern methods in training and skills development, enhancing the efficiency of human resource development. We follow these practices:

- **Theoretical Lectures:**
  - We deliver knowledge through advanced presentations such as PowerPoint and visual materials, including videos and short films.
- **Scientific Assessment:**
  - We evaluate trainees skills before and after the course to ensure their progress.
- **Brainstorming and Interaction:**
  - We encourage active participation through brainstorming sessions and applying concepts through role play.
- **Practical Cases:**
  - We provide practical cases that align with the scientific content and the participants specific needs.
- **Examinations:**
  - Tests are conducted at the end of the program to assess knowledge retention.
- **Educational Materials:**
  - We provide both printed and digital scientific and practical materials to participants.
- **Attendance and Final Result Reports:**
  - We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.
- **Professionals and Experts:**
  - The programs scientific content is prepared by the best professors and trainers in various fields.
- **Professional Completion Certificate:**
  - Participants receive a professional completion certificate issued by the Scandinavian Academy for Training and Development in the Kingdom of Sweden, with the option for international authentication.
- **Program Timings:**
  - Training programs are held from 10:00 AM to 2:00 PM and include coffee break sessions during lectures.