

Scandinavian Academy
Training Center

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Riyadh - Al Khaleej District - Sheikh Abdul Aziz Bin Abdul Rahman Bin Bishr Street - 13223 - Office No. 5 | P.O.BOX : 13224

Course: Smart Grid for Non Engineers

Code	City	hotel	Start	End	price	Language - Hours
EE-793SA	Al Khobar	Hotel Meeting	2027-09-05	2027-09-09	12950 SR	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 Center adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training Center.

Program Timings: 9:00 AM to 2:00 PM

The program includes:

- A daily buffet provided during the sessions to ensure participants comfort.
- A closing ceremony on the final day to distribute certificates and celebrate participants achievements.
- **Note: All prices are exclusive of 15% Value Added Tax (VAT).**

Our Success Partners

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