

# Smart Microgrid Technology Course Content

### What is a smart grid course?

It introduces state-of-the-art smart grid technologies like electric vehicles, AC/DC microgrids, energy storage, phasor measurement unit, cyber security, etc. In addition, the course talks about the trends, modeling, planning, operation, and control of energy storage technologies.

#### What is a microgrid?

A microgrid is a group of interconnected loads and distributed energy resources that acts as a single controllable entity with respect to the grid. This learning path will provide an understanding about microgrid technologies.

### What will I learn in Microgrid technology & implementation?

You will master various concepts related to microgrid technology and implementation, such as smart grid and virtual power plant, types of distribution network, markets, control strategies and components. Among the components special attention is given to operation and control of power electronics interfaces.

### What is the IEEE Academy on smart grid?

At the completion of the IEEE Academy on Smart Grid, the learner will be able to demonstrate their new knowledge and will earn a certificate. The IEEE Academy on Smart Grid will focus on the following technical areas: Microgrids are considered a critical and enabling link in the transition from bulk power systems to smart distributed grids.

### What is a microgrid & energy storage course?

In addition, the course talks about the trends, modeling, planning, operation, and control of energy storage technologies. Further, it discusses the architecture, operation, and control strategy of AC, DC, and hybrid AC-DC microgrids.

### What is a DC & AC microgrid course?

This course deals with DC and AC microgrids and covers a wide range of topics, from basic definitions, through modelling and control of AC and DC microgrids to the application of adaptive protection in microgrids.

The technologies that support smart grids can also be used to drive efficiency in microgrids. A smart microgrid utilizes sensors, automation and control systems for optimization of energy production, storage and distribution. Smart microgrids ...

PDF | On Jul 1, 2021, Murat Kuzlu and others published Development of a Smart Grid Course in an Electrical Engineering Technology Program | Find, read and cite all the research you need ...



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Renewable energy sources like the wind, 13, 14 solar energy, and hydro 15, 16 are cost-effective in meeting their share of the energy requirement. 17, 18 As to power supply, the microgrid ...

A good example of military microgrid research and demonstration efforts is the Smart Power Infrastructure Demonstration for Energy Reliability and Security (SPIDERS) Joint ...

Course content. The structure of the course is as follows: Term 1 (September - December): 30 ECT credits - ICAI School of Engineering, Comillas Pontifical University; Term 2 (January - mid-May): 30 ECT credits - Department of ...

This 5-day intensive course is designed to equip professionals with a deep understanding of smart grids and their integration with key technologies such as Advanced Metering Infrastructure (AMI), integration of distributed resources, ...

Due to the emerging smart and sustainable communities" concept and the development of smart energy and smart microgrid technology, a gigantic boom in the application of these new ...

The IEEE Academy on Smart Grid will focus on the following technical areas: Microgrid now available on ILN; Microgrids are considered a critical and enabling link in the transition from bulk power systems to smart distributed grids. This ...

The power grid forms the backbone of the modern society [1].Additionally, advances in cyber-physical systems have engendered strong needs of using cloud computing for data storage ...

IEEE Academy on Smart Grid Microgrids. Course Program. A microgrid is a group of interconnected loads and distributed energy resources that acts as a single controllable entity with respect to the grid. This learning path will ...

Theoretical content in the course will be supported by site visits which will make use of BCIT's smart microgrid as a living-laboratory and demonstration centre. In this initial introductory ...

Storage Technology. This course covers the fundamental aspects of the smart grid and its application to the existing power system. ... it discusses the architecture, operation, and control strategy of AC, DC, and hybrid AC-DC ...

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