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ESGP 600

Energy & Smart Grid Overview for Non-technical Professionals

Siemens Power Academy TD - NA • usa.siemens.com/pti-education

At a glance

The energy industry, like any other, is supported by professionals in finance, marketing, human resources management, legal, and of course, engineering. So it stands to reason that power engineers are not the only ones who need to understand how the electric power system works in order to provide service and implement the needed changes that will enhance the system's performance, improve reliability, and integrate renewable resources and other green technology initiatives.

ESGP 600 Energy & Smart Grid Overview course provides participants with an assessment of the critical infrastructure and the associated decisions required to maintain the current system and plan for smart grid solutions.

- Discuss the physical elements of the grid; major grid components, generation types, overall power system structure, grid drivers and limitations
- Understand the financial elements of the grid; supply and demand, electricity value chain, electricity

market design and regulation, and identify the market players

- Explore the grid challenges, including social, environment and political drivers and impacts, reliability issues, changes in generation, and technology improvements
- Investigate system upgrades, new technologies, market structures and incentives that support smart grid investment
- Explore the overall vision of the smart grid, and what concepts such as intelligent, efficient and collaborative mean in this context
- Learn about the technical problems of the current grid (congestion, high losses, reliability, power quality, etc.) and become familiar with system performance measures
- Explore the current distribution system elements (load categories), configurations and operation, and discuss the next generation of equipment including smart meters
- Discuss the challenges facing the distribution system (such as electric vehicles, distributed generation, outages and losses) and their impact on performance

- Investigate microgrids – the ultimate smart grid monitoring and control system

Whether in development, customer service, finance, project management or a transitioning civil or mechanical engineer, understanding the concepts of the power system industry will enable the participant to provide valuable contributions to their organization.

Prerequisites

None

Course structure

This is a four-day course. Material is presented in both morning and afternoon sessions for a total of six hours of daily instruction. Standard course hours are 9:00 a.m. to 4:00 p.m. each day.

To view the ESGP 600 Course Schedule on the web:

https://siemens.coursewebs.com/cart/pageCourseInfo.aspx?Course_ID=ESGP_600

Instructors

All courses offered through Siemens Power Academy are developed and taught by leading industry engineers. In addition to their proven instructional ability, our engineers have advanced degrees complemented by first-hand knowledge and experience solving power system problems throughout the world.

Continuing Education Units (CEUs), Professional Development Hours (PDHs):

Licensed engineers, on a voluntary or mandated basis, attend continuing professional education for licensure renewal to ensure competency. All courses offered through Siemens

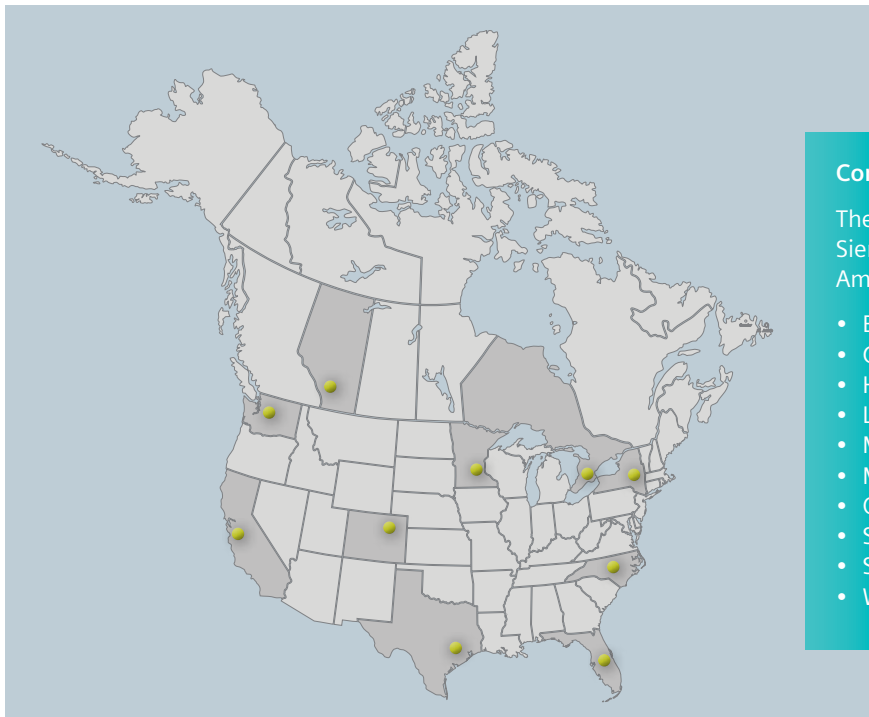
Power Academy meet the requirements for CEUs and PDHs.

- Continuing Education Units (CEUs) are the nationally recognized units for recording participation in professional development and noncredit educational programs. Participants completing this course will be awarded CEUs based on the instructional hours of the course: one CEU is awarded for 10 classroom hours of instruction.
- Professional Development Hours (PDHs) – Continuing education training for the Professional Engineer (PE) – that needs to earn annual Professional Development Hours

(PDHs). Through our instructor-led training, participants earn one PDH for each one hour of instruction. The participant is responsible for maintaining records of courses taken in support of licensure.

Client site and custom training

All courses are available for presentation at any client's location by special arrangement. At client sites, it is recommended that sufficient computer terminals be available to enable a fully interactive and productive class, if applicable. Client site courses can also be tailored to address specific topics of local importance.



Convenient training locations

The course is scheduled on a regular basis at Siemens offices located throughout North America, including:

- Burlington, Ontario, Canada
- Calgary, Alberta, Canada
- Houston, Texas, USA
- Littleton, Colorado, USA
- Minnetonka, Minnesota, USA
- Mountain View, California, USA
- Orlando, Florida, USA
- Schenectady, New York, USA
- Seattle, Washington, USA
- Wendell, North Carolina, USA

Contact us

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