As governments, businesses and home owners increasingly scrutinize the transmission and distribution of energy, many see the cost-reducing and clean-air benefits of a network-enabled, or smart, power-distribution grid as a substantial improvement. This entry-level program offers a solid foundation in smart grid technology, including a technical overview of networking, electrical engineering, and power transmission and distribution. In addition to a studying theory in smart grid (also known as intelligent grids), learn about deployment issues, vendors, demand shaping, and statutory and regulatory requirements.

**4 Required Courses (Choose 4 Below), 4 Semester Units, 60 Hours of Instruction**

- **Smart Grids: Introduction**  EL ENG X423  (1 semester unit)
  Learn about the new intelligent energy grid that supports the green-energy initiatives of the 21st century.

- **Smart Grids: Energy-Efficient Transmission**  EL ENG X423.1  (1 semester unit)
  Understand the technical, economic and environmental issues surrounding energy transmission.

- **Smart Grids: Command and Control**  EL ENG X423.2  (1 semester unit)
  Review the communication technology for distribution automation of AC energy and then advance into technology trade-off considerations.

- **Smart Grids: Metering and Home Area Networks**  EL ENG X423.3  (1 semester unit)
  Gain a solid technical foundation for understanding smart meters and home power networking.

- **Smart Grids: Internet of Things**  EL ENG X423.4  (1 semester unit)
  Investigate topics such as wireless sensor network issues, the role of middleware, radio frequency identification (RFID) and sensor network technologies, and security and privacy issues.

- **Smart Grids: Microgrids**  EL ENG X423.5  (1 semester unit)
  Examine a variety of microgrid topics, including distributed generation, wind, photovoltaics, fuel cells, supervisory control and data acquisition (SCADA) systems, securing smart grids, matching community needs, smart meters and devices.

- **Smart Grids: Energy-Efficient Buildings**  EL ENG X423.6  (1 semester unit)
  Get a structured overview of smart green buildings.

Course availability is subject to change.
Prerequisites for Admission
There are no prerequisites for the Professional Series in Smart Grid Technology.

Curriculum and Completion Requirements
The curriculum comprises 4 required courses (choose any 4 of the 6 courses) for a total of 4 semester units (60 hours of instruction).

You should register for the program before you complete your first course in the curriculum.

All coursework must be completed within three years of registering for the program. However, requirements may be updated based on new developments in the field of study; we recommend completing the curriculum in a timely fashion.

How to Register for This Specialized Program of Study
Register for the Professional Program in Smart Grid Technology at extension.berkeley.edu/cert/register.html. Click on the More Information button next to the program title to begin the registration process. Complete your student account profile if you are a new student, and pay the non-refundable program registration fee.

You may enroll in individual courses without registering for the Professional Series in Smart Grid Technology.

Value of a UC Berkeley Extension Specialized Program of Study
As the continuing education arm of the University of California, Berkeley, UC Berkeley Extension is a respected provider of adult and professional education. Fulfilling the requirements for a UC Berkeley Extension specialized program of study reflects the successful completion of a high-caliber, in-depth sequence of courses.

Learn More
For additional information about the Professional Series in Smart Grid Technology, visit extension.berkeley.edu/spos/smartgrid.html, email extension-techeng@berkeley.edu or call (510) 642-4151.