# NEW Sp/Fa 2016 Smart Grid and Microgrid Program

SFCC
SANTA FE COMMUNITY COLLEGE

**Smart Grid Technology and Microgrids will increase energy efficiency, allow more renewable energy integration, and increase reliability of our electricity system. They are the FUTURE of our grid.**

**What is the Smart Grid?**

- A modernized electricity grid that will increase efficiency and reliability using technologies that allow better monitoring and control of information. Examples of smart grid devices include automatic fault detection monitoring, smart appliances, smart meters, real time monitoring and control of generation.

**What is a Microgrid?**

- A microgrid is a small-scale version of the centralized electric grid, having its own generation, distribution, and possibly energy storage. Microgrids can increase reliability because they can disconnect from the main electric grid and operate in isolation if there is a power outage or instability.

**What types of classes are part of the program?**

- Certificates will be offered in several Associate of Applied Science Degrees (AAS) , such as Computer and Information Technology or Solar Technology. Proposed classes for certificate are shown below, including courses (in red) that will be offered in the Spring 2016.

| **Certificate in Computer and IT for Smart Grids and Microgrids (29 HRS. min.)** | **Certificate in Solar Technology for Smart Grids and Microgrids (30 HRS. min.)** |
|---|---|
| • ALTF 111 Introduction to Green Technology(3) **(Sp '16)**<br>• ELEC 111 Electronic Fundamentals (4) **(Sp '16)**<br>• ELEC 151 Power generation, distribution, and transmission (3)<br>• ELEC 201 Smart energy management systems (3)<br>[OR] ENVR 113 Instrumentation and Control Labs (3) **(Sp '16)**<br>• ISCS 114 IT Essentials I: Computer Hardware and Software (4) **(Sp '16)**<br>• ISCS 122 Computer Networks (3) **(Sp '16)**<br>• ISCS 171 Computer and Security Fundamentals (3) **(Sp '16)**<br>• ISCS 273 Computer and Network Defense and Countermeasures (3) **(Sp '16)**<br>• ISCS 298 Internship (2) | • ALTF 111 Introduction to Green Technology(3) **(Sp '16)**<br>• ELCT 227 National Electrical Code (2)<br>• ELEC 111 Electronic Fundamentals (4) **(Sp '16)**<br>• ELEC 151 Power generation, distribution, and transmission (3)<br>• ELEC 201 Smart energy management systems (3)<br>• ENVR 113 Instrumentation and Control Labs (3) **(Sp '16)**<br>[OR] FACT 114 Basic Electricity and Controls (2) **(Sp '16)**<br>• SOLR 121 Design and Installation of Photovoltaic Systems I (3) **(Sp '16)**<br>• ISCS 114 IT Essentials I: Computer Hardware and Software (4) **(Sp '16)**<br>• ELEC 122 Digital Circuits (4)<br>• SOLR 298 Internship (1-3) |

**In combination with the AAS degree, what types of jobs will these classes prepare me for?**

- Computer systems analysts, Network and computer systems administrators, Operations research analysts, Software developers, Electrical engineers, Electronics engineers, Electrical and electronics technicians, Electrical and electronics repairers, Electrical and electronic equipment assemblers, Power distributors and dispatchers, Power plant operators, Electricians, Meter readers, Urban and regional planners, Building facility managers, Energy entrepreneurs

**There are still small changes being made to the programs, so check the online catalogue at SFCC for the latest requirements or for more information, contact:**

- School of Trades, Technology, Sustainability and Professional Studies
  Steve Gomez, Chair: stephen.gomez@sfcc.edu