

About the Course:

Utilize this training to effectively complete an energy assessment for your project.

Learn how to complete a power flow study for optimizing your project.

Add DER and simulate designs to test your design against the power model.

Why You Should Attend:

Microgrids and Distributed Energy Resources have moved from concept and testing to part of our energy future. The ability to model an effective microgrid is in high demand. Whether you are tasked with an initial assessment for the reliability, resiliency, or economic benefit of a microgrid or you are an engineer wanting to enhance your skill set for this growing market, this course will be a great benefit.

Power Analytics works with clients all over the world. We have modeled 100's of microgrids. As the number of projects grows into the 1000's annually, the skill set to effectively model these systems is in very high demand.

Topics:

1-Microgrids and Distributed Energy Resources (DERs)

- Modeling, simulation and configuration
- Data driven modeling of resources and estimation of potential
- Experiences of microgrids operating in grid-connected and islanded mode
- Mitigation of the variability of renewable supplies in the grid
- Provision of frequency regulation and ancillary services

2- Inverter based DERs to microgrids and distribution systems

- Operation, control and protection systems
- Power converters modeling with special functionalities
- Active power filtering, load-sharing, islanding operation
- DC microgrid networks and DC distribution systems

3- Protection and faults in microgrids and distribution systems

- Fault analysis, location and isolation
- Protection coordination and adaptive communication-based protection
- Microgrids during emergency, islanding, and black start



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4- Renewable generation, Energy storage, and load resources in microgrids

- Large scale integration in low-voltage grids
- Effects on the management of low-voltage networks
- Demand response in microgrids
- Forecasting demand and generation in the context of microgrids
- Integration of microturbines, (small) wind turbines, photovoltaic, fuel cells, CCHP
- UPS systems and batteries: hydrogen and fuel cells, compressed air, flywheel
- Electric vehicles integration and operation

5- Control and management of microgrids and distribution systems

- Supervision, management, security, and hierarchical control
- Communication-based resilient and robust control
- Power management strategies and the effect of business models
- Distributed control and/or decentralized decision making
- Transient and stability analysis of microgrid systems

Course Fees and Registration:

Please Contact Training@PowerAnalytics.com to reserve your spot!

(Accommodation information will be provided at time of registration)

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Training rates: \$TBD



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