



# Graduate Certificate in Electric Power Engineering

## Online Interactive Program

### OVERVIEW

The University of Pittsburgh Swanson School of Engineering has established an Electric Power Engineering Post-Baccalaureate/Graduate Certificate Program that rises to the challenge of meeting the nation's critical development needs for electrical energy professionals. This is the only online learning program in electric power engineering that allows students to attend classroom lectures in real time, and also allows synchronous participation remotely via the Internet. The program is deeply rooted in core electric power engineering principles and focuses on the expansion and enhanced reliability of electric power grid infrastructure through application of power electronics and advanced control technologies, as well as renewable energy integration, smart grids, relaying, microgrids, sustainable systems, and other energy areas. Program content – combined with innovative online learning delivery and collaborative program components – makes this program an attractive and unique choice in graduate engineering, particularly for individuals in industry/business.

### ELECTRIC POWER ENGINEERING GRADUATE CERTIFICATE CURRICULUM

15 credit hours are required to complete the program.

Students may select any five of the following 3-credit courses:

ECE 2250 Power Electronics Circuits and Applications\*

ECE 2646 Linear Control Systems Theory

ECE 2774 Power System Engineering and Analysis II\*

ECE 2777 Power System Transients I\*

ECE 2778 Advanced Power Electronics – FACTS and HVDC

ECE 2780 Renewable and Alternative Energy Systems

ECE 2781 Smart Grid Technologies and Applications

ECE 2795 SPECIAL TOPICS

- Electric Distribution System Engineering II
- Circuit and Device Simulation
- Microgrids and Distributed Energy Resources
- Power and Energy Industry Practices
- Protective Relaying and Automation

\*prerequisite required (see [engineering.pitt.edu/powercertificate](http://engineering.pitt.edu/powercertificate) for details)

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### ADMISSION REQUIREMENTS

BS in electrical engineering from an ABET-accredited university program (no industry experience required),

#### OR

BS in engineering in any field, plus a minimum of three years of power industry experience (with program director permission).

### FOR ADDITIONAL INFORMATION AND TO APPLY:

[engineering.pitt.edu/  
powercertificate](http://engineering.pitt.edu/powercertificate)

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Online Interactive Program *(continued)*

### ELECTRIC POWER ENGINEERING COURSE SCHEDULE

Summer 2015	ECE 2795: Protective Relaying and Automation
Fall 2015	ECE 2646: Linear System Theory ECE 2778: Advanced Power Electronics – FACTS and HVDC
Spring 2016	ECE 2250: Power Electronics Circuits and Applications ECE 2774: Power Systems Analysis II ECE 2781: Smart Grid Technologies and Application
Summer 2016	ECE 2780: Renewable and Alternative Energy Systems ECE 2795: Electric Distribution System Engineering II
Fall 2016	ECE 2646: Linear System Theory ECE 2777: Power System Transients I ECE 2795: Circuit and Device Simulation
Spring 2017	ECE 2250: Power Electronics Circuits and Applications ECE 2774: Power Systems Analysis II ECE 2795: Microgrids and Distributed Energy Resources
Summer 2017	ECE 2795: Protective Relaying and Automation ECE 2795: Power and Energy Industry Practices
Fall 2017	ECE 2646: Linear System Theory ECE 2778: Advanced Power Electronics – FACTS and HVDC

For more information about the Graduate Certificate Program in Electric Power Engineering, please contact:

**GREGORY REED, PhD**  
Program Director  
Director, Center for Energy  
Director, Electric Power Initiative  
Professor, Electrical and Computer  
Engineering Department  
Swanson School of Engineering

**412-383-9862 | gfr3@pitt.edu**

For more information about online learning at the Swanson School of Engineering, please contact:

**JANET L. LITTRELL, EdD**  
Director of Distance Learning  
Manager, Energy Educational Programs  
Center for Energy  
Swanson School of Engineering

**412-383-7027 | jll119@pitt.edu**

UNIVERSITY OF PITTSBURGH  
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UNIVERSITY OF PITTSBURGH  
Swanson School of Engineering  
Department of Electrical and Computer Engineering  
Benedum Hall | 3700 O'Hara Street  
Pittsburgh, PA 15261  
412-624-8001

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