Post-Baccalaureate Certificate in Power System Management

About This Program

Post-Baccalaureate Certificate in Power System Management will emphasize the common aspects of Power System Management (PSM) including renewable energy, utility deregulation, distributed energy resources, and smart grid development, while also providing training in traditional power system operation and control. This program aims at the dual goal of providing the utility industry with a knowledgeable, locally available workforce and offering career advancement opportunities for their employees. This will also enhance employment opportunities of the participants in industry, government, and service sectors.

Students who successfully complete the non-degree certificate program will be eligible to apply for admission to the MS in Electrical Engineering and count course credit from the certificate toward completion of non-degree certificate.

Competencies

1. Upon completion, students will be able to model the transmission lines, distribution lines, generators, transformers, and loads.
2. Upon completion, students will be able to perform power flow, short circuit, and stability analyses.
3. Upon completion, students will be able to understand the principles and operation of deregulated market.
4. Upon completion, students will be able to understand and analyze the operation of the distribution networks.
5. Upon completion, students will be able to design operation and control strategies of microgrid, virtual power plants, and distributed energy resources.
6. Upon completion, students will be able to perform study on renewable energies integration.
7. Upon completion, students will be able to understand main techniques on converter and inverter design.
8. Upon completion, students will be able to use power electronic devices for grid following and grid forming.
9. Upon completion, students will be able to utilize the Programmable Logic Controllers (PLC) in industrial automation and energy systems monitoring and control.\\n
10. Upon completion, students will be able to apply transducers and Intelligent Electronic Devices (IED) on Supervisory Control and Data Acquisition (SCADA) systems, and Distributed Control Systems (DCS).
11. Upon completion, students will be able to understand the impact of power quality on the operation of the power system and develop strategies for power quality improvement.

Admissions Criteria

Unconditional Admission is granted if all of the following conditions are met:

STAND-ALONE CERTIFICATE

- A Bachelor’s degree in an engineering discipline with a minimum GPA of 3.0.
- Those who desire to complete the certificate program without enrolling in graduate degree program must be admitted to UTA as a non#degree seeking student.
- An essay detailing the applicant’s background and skills as pertaining to PSM, his/her interest in a specific domain and his/her expected benefit from completing this program.

CONCURRENT CERTIFICATE

- A Bachelor’s degree in an engineering discipline with a minimum GPA of 3.25 (junior and senior level or equivalent) or a current enrollment in an engineering Master’s program at UTA with a minimum GPA of 3.0.
- An essay detailing the applicant’s background and skills as pertaining to PSM, his/her interest in a specific domain and his/her expected benefit from completing this program.
- GRE Quantitative and Verbal sections scores should meet the EE admission requirement for new applicants.
- If English is not the applicant's native language, he/she should meet the EE admission requirement on TOEFL iBT, or IELTS. International applicants who have successfully completed a BS or MS from an institution in the United States and are not seeking funding as a Graduate Teaching Assistant, are not required to meet this requirement.
- Performance on the GRE will not be the sole criterion for admitting applicants or denying admission to the master's program. In cases where GRE performance does not meet the minimum requirements, all other qualifications presented by the applicant will be carefully evaluated for evidence of potential for success.

Curriculum

Foundations		
EE 5308	POWER SYSTEM MODELING AND ANALYSIS	3
Electives		
Select two from the following:		6
EE 5371	POWER SYSTEM PLANNING, OPERATION, AND CONTROL IN A DEREGULATED ENVIRONMENT	
EE 5374	POWER SYSTEM PROTECTIVE RELAYING	
EE 5375	POWER SYSTEM DISTRIBUTION	
EE 5377	PROGRAMMABLE LOGIC CONTROLLERS IN INDUSTRIAL AUTOMATION	
EE 5378	POWER QUALITY	
EE 6353	CONVEX OPTIMIZATION FOR ENGINEERS	
EE 6373	RENEWABLE ENERGY SYSTEMS	
EE 6375	POWER ELECTRONICS ENGINEERING	
Total Hours		**9**

Program Completion

All courses used to satisfy the certificate requirements must be passed with a grade of B or better. The time limit for completion of the Certificate Program is six years.

Advising Resources

EE Advising - General information

ELECTRICAL ENGINEERING

Location:

Master's - NH 531

Ph.D. - NH 545

Email:

ee_grad_advising@uta.edu

Phone:

Master's - 817-272-3423

Ph.D. - 817-272-3472

Web:

Master's - Schedule graduate advising (https://outlook.office365.com/owa/calendar/EEGradAdv@bookings.uta.edu/bookings/s/W_X-t8ySDEaqCfz09loAMg2/)

Ph.D. - Schedule graduate advising (https://outlook.office365.com/owa/calendar/EEGradAdv@bookings.uta.edu/bookings/s/ja39PnPrvEC3KPK1JroI9A2/)