The Department of Electrical and Computer Engineering (ECE) of the University of Houston offers two Graduate Certificate programs in Power and Energy Systems (PES).

1. **Power Electronics and Renewable Energy Technologies:**
   This program focuses on power electronics, electric machines, adjustable speed drive systems, and renewable energy technologies.

2. **Power Systems and Smart Grid:**
   This program focuses on the advanced courses related to power systems, smart grid, and power system protection. The courses offered are relevant to the oil and gas, power, utilities, and renewable energy industries. The program provides advanced instruction to give individuals the level of technical and business expertise needed to meet the increased industry demand for highly skilled professionals. The time to complete each certificate will be one year. The courses will be primarily offered in the evenings and taught by the ECE power faculty and industry experts located in Houston. To provide the most flexibility for working professionals, all courses of the certification programs will be offered online.

University of Houston is the “Energy University” in the energy capital of the world. In addition, Houston has a large base of power and energy industries that need talented engineers to meet their growing demands for performing critical electric energy related tasks. The programs directly support the uniquely diverse industrial and technological environment of the greater Houston area, which is involved in electrical power generation, consumption, expansion, conversion, and manufacturing. The programs were developed at the request of industry with participation from a significant number of prominent electrical industry representatives. The courses offered are designed to concentrate on global industrial workplace and market applications.

The students of the PES program will be prepared with both the technical and business expertise required to take on leadership roles within the electrical industry. Career opportunities in power and energy systems are excellent – especially in the city of Houston, the Energy Capital of the World. Alumni of the electrical engineering graduate program work locally and overseas for Halliburton, Schlumberger, CenterPoint Energy and Burns & McDonnel, among many other companies.
COURSES AND CURRICULUM
The Certificate in Power Electronics and Renewable Energy Technologies program will require students to take the following two courses:

PES 6310 Power Electronics Converters and Control
PES 6340 Renewable Energy and Distributed Power Generation

In addition, students must take one of the following courses:

PES 6320 Transformers and Electric Machines
PES 6314 Adjustable speed Motor Drive systems

The Certificate in Power Systems and Smart Grid program will require students to take the following two courses:

PES 6330 Power System Analysis
PES 6332 Smart Grid Systems

In addition, students must take one of the following courses:

PES 6334 Power System Protection, Monitoring and Control
PES 6336 High Voltage Electrical Substations Design and Architecture

APPLICATION REQUIREMENTS
A four-year bachelor’s degree in engineering or electrical engineering related field is required.

The GRE exam is waived for Power and Energy Certificate applicants.

TOEFL or IELTS exam is required for applicants who did not graduate from an approved native English-speaking country (University code is 6870). A list of approved countries can be found at http://www.uh.edu/graduate-school/admissions/international-students/english-proficiency/

Applicants for the Certificate Programs in Power & Energy Systems must apply through ApplyWeb and choose a non-degree objective in electrical engineering.

For full application instructions, please email ece_grad_admit@uh.edu.

ADDITIONAL INFORMATION
A description of all courses in the Certificate Programs in Power and Energy Systems can be found at http://pemses.ece.uh.edu/education/

For application instructions, please email the graduate advisor at ece_grad_admit@uh.edu

FALL SEMESTER DEADLINE: JULY 15
SPRING SEMESTER DEADLINE: OCTOBER 25