Advanced Engineering Certificate in Energy Systems

Contact

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Overview

The certificate program offered by the Frank Batten College of Engineering and Technology is aimed at providing understanding of energy engineering and the increasing role of energy engineers in addressing growing energy needs. The new skills and advanced understanding developed in class will prepare students for employment in rapidly growing energy industries.

The certificate program will:

✓ Develop an understanding of the current status of energy issues and systems, and their management;

✓ Educate about varying energy resources and technologies, such as petroleum, coal, natural gas, nuclear, solar, biomass, hydro-electric, and wind;

✓ Provide details on existing commercial processes and associated economics of various energy products;

✓ Foster a better understanding of public policies to provide greater momentum to the energy industry;

✓ Teach the environmental impacts of the various energy systems;

✓ Offer credits for future studies in the energy engineering in Hampton Roads region;

✓ Prepare a skilled workforce for the energy industry.

Admission Requirements

- Bachelor of Science degree (or equivalent) in an engineering field or undergraduate degree in another relevant STEM field
- Prerequisites for applicants from non-engineering fields include college-level mathematics, calculus-based physics, and chemistry or biology

Course Requirements

- Twelve credit hours of graduate course work
- A 3.00 or better grade point average

Select four courses from the following list of 3 credit hour courses. At least two of the four courses must be at the 600-level or higher:

- CEE 558: Sustainable Development
- CEE 559: Biofuels Engineering
- CEE 595: Topics in CEE - Transportation Sustainability
- CEE 795/895: Topics in CEE - Green Building Analysis and Design
- ECE 571: Introduction to Solar Cells
- ECE 772/872: Fundamentals of Solar Cells
- ENGN 671/CEE 659: Carbon-free Clean Energy
- ENGN 672/ENMA 695: Energy Systems Management
- ENGN 697: Independent Study in Energy Systems
- ENGN 772/872: Fossil Energy
- MAE 513: Energy Conversion
- MAE 795/895: Topics in MAE - Advanced Energy Conversion