



OLD DOMINION UNIVERSITY

FRANK BATTEN COLLEGE OF
ENGINEERING AND TECHNOLOGY

I D E A FUSION

Advanced Engineering Certificate in Energy Systems



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for more information and to apply.

Overview

The certificate program offered by 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, systems, and their management;
- ✓ Educate about varying energy resources and technologies, such as petroleum, coal, natural gas, nuclear, solar biomass, hydroelectric, 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;
- ✓ Offer credits for future studies in the energy engineering in Hampton Roads region;
- ✓ Teach the environmental impacts of the various energy systems;
- ✓ Prepare a skilled workforce for the energy industry.

Eligibility

- Bachelor of Science degree (or equivalent) in an engineering related 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 grade point average of 3.00 or better.

Select four courses from the following list (Each course 3 credit hours.) At least 2 of the 4 courses must be at the 600- or higher level.

CEE	558	Sustainable Development
CEE	559	Biofuels Engineering
CEE	595	Transportation Sustainability
CEE	795/895	Green Bldg Analysis/Design
ECE	571	Introduction to Solar Cells
ECE	772/872	Fundamental of Solar Cells
ENGN	671	Carbon-Free Clean Energy
CEE	659	Carbon-Free Clean Energy
ENGN	672	Energy Systems Management
ENMA	695	Energy Systems Management
ENGN	772/872	Fossil Energy
MAE	513	Energy Conversion
MAE	605	Advanced Classical Thermodynamics
MAE	795/895	Topics in Mechanical and Aerospace Engineering: Advanced Energy Conversion.
ECE	495/595	Power Systems Design and Analysis