## Certificate

# Advanced Engineering with a Concentration in Energy Systems Certificate

The Graduate Certificate in Energy Systems Engineering Program offers students and professionals the opportunity to further their knowledge with advanced study in the growing area of Energy Engineering. The program 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.

Those who complete the Program receive the Advanced Engineering Certificate in Energy Systems Engineering from Old Dominion University and a letter of recognition from the Batten College of Engineering and Technology. Courses taken for the certificate program may also be applied to master's level or doctoral graduate engineering programs at ODU, where they meet the program requirements.

## Certificate Program Admission Requirements

- Baccalaureate degree in engineering—or a related field—from a regionally-accredited institution or an equivalent degree from a foreign institution.
- Those whose native language is not English must submit a minimum score of 230 on the computer-based TOEFL or 80 on the TOEFL iBT.

#### Certificate Program Curriculum Requirements

- · Twelve credit hours of graduate course work
- A grade point average of 3.0 or better

#### **Energy Engineering Core Courses**

Total Credit Hours		12
ECE 772	Fundamentals of Solar Cells	
ENGN 697	Independent Study in Energy Engineering	
CEE 559	Biofuels Engineering	
MAE 513	Energy Conversion	
Select two of the following:		6
Energy Engineering Electives <sup>*</sup>		
ENGN 672	Energy Systems Management	3
ENGN 671	Carbon-Free Clean Energy	3

Appropriate course substitutions may be considered with permission of the Graduate Program Director.