

# ENERGY FINANCE, CERTIFICATE

Requirements for an undergraduate certificate may be completed at any campus location offering the specified courses for the certificate.

## Program Description

The Energy Finance certificate program is designed for students who desire to combine their engineering emphasis in energy systems with the financial expertise gained through courses in financial analysis and risk management. This certificate program also prepares students to take the Energy Risk Professional (ERP) exam, sponsored by the Global Association of Risk Professionals (GARP).

## Program Requirements

To earn an undergraduate certificate in Energy Finance, there are 15 credits of prescribed courses and a minimum of 6 credits in prerequisites

Code	Title	Credits
<b>Required Courses</b>		
<i>Required Courses: Require a grade of C or better</i>		
EBF 200	Introduction to Energy and Earth Sciences Economics	3
or MET 436	Energy Conservation Systems	
EGEE 101	Energy and the Environment	3
FIN 418	Introduction to Energy Finance	3
FIN 419	Advanced Energy Finance	3
FIN 427	Derivative Securities	3

## Certificate Learning Objectives

This certificate will provide students the ability to:

1. Have a clear understanding and appreciation of energy and environmental concepts and interconnectedness; analyze energy consumption patterns; discuss various energy resources that power the modern society; examine the energy conversion processes; explore interrelationships between energy use and industrial progress and environmental consequences; discuss future energy alternatives.
2. Have a clear understanding of the economic rationale behind energy exploration, development, capital budgeting, option pricing and risk management.
3. Master the basic techniques for the valuation of forwards, futures, swaps, and vanilla options (calls and puts), and understand the specifics of risk management in terms of energy risk.
4. Elucidate the microeconomic fundamentals with a focus on the applications of economics to energy and environmental markets.
5. Analyze the processes and systems for energy conversion, including power, refrigeration and air conditioning cycles, thermoelectrics, etc.