

# ENERGY FINANCE, CERTIFICATE

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

## Certificate Learning Objectives

- **Analyze the Processes and Systems for Energy Conversion:** Analyze the processes and systems for energy conversion, including power, refrigeration and air conditioning cycles, thermoelectrics, etc.
- **Economics of Energy Finance:** Have a clear understanding of the economic rationale behind energy exploration, development, capital budgeting, option pricing and risk management.
- **Energy and Environmental Concepts and Analysis:** 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.
- **Microeconomic Fundamentals of Energy Finance:** Elucidate the microeconomic fundamentals with a focus on the applications of economics to energy and environmental markets.
- **Valuation and Risk:** 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.