

ENERGY FINANCE, CERTIFICATE

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

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.