

ENERGY RESOURCE MANAGEMENT

ONLINE LEARNING

Managing energy for a sustainable future

The *Energy Resource Management Certificate Program*, offered entirely online, provides an in-depth understanding of the complex issues surrounding energy management. Pursuing sustainable energy management strategies can be a powerful tool for achieving energy efficiency, cost savings and risk reduction. Explore the entire range of issues involved in understanding and managing energy in any industry, from heavy to light energy users. Develop a comprehensive and holistic knowledge of all major operational, technological, environmental and regulatory elements applicable to commercial and industrial energy resource management. Acquire the skills necessary for distinguishing yourself as an expert in the energy and resource management field. This program aligns with the Association of Energy Engineers requirements for CEM and BEP, and receives technical support from the California Energy Commission.

Gain practical knowledge that matters

- Explore the practical, sustainable application of contemporary energy resource management
- Learn best practices and discover techniques and resources to improve business competitiveness and ensure regulatory compliance
- Stay apprised of new and emerging developments, technologies and regulations
- Analyze supply-side sourcing and procurement portfolio strategies
- Examine energy security risk analysis methods
- Learn innovative methods for financing energy management projects

Designed for professionals like you

This program benefits those wanting to distinguish themselves as energy resource management experts and draws from a wide variety of disciplines, including engineering, construction planning and design, and facility-plant management and operations. This includes: energy engineers, analysts, managers and auditors; chief sustainability officers; demand-side management auditors and managers; architects; construction planners and designers; and agency and facility managers.

For more information

For more information about the *Energy Resource Management Certificate Program* or open enrollment courses, please call (800) 752-0881, email extension@ucdavis.edu or visit our website.

www.extension.ucdavis.edu/resource



Course descriptions and quarterly schedule are on the other side.

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EXTENSION
ENGINEERING AND TECHNOLOGY



CONTINUING AND PROFESSIONAL EDUCATION

The **Energy Resource Management Certificate Program** includes six required courses.

Introduction to Energy Resource Management

Examine the four major components of energy management—supply, demand, regulation and environment—and the concepts and principles behind successful energy management. Topics include energy auditing and economic analysis; management control and maintenance systems; sustainability and high performance green buildings; alternative energy systems; boilers and fired systems; cogeneration and HVAC systems; ground source heat pumps; lighting and electrical management; natural gas purchasing; thermal storage; codes and standards; indoor air quality; utility deregulation and energy systems outsourcing; energy security risk analysis methods; and financing energy management projects.

Plant energy managers, utility energy auditors and analysts, consulting energy managers and engineers, demand-side managers, architects, construction planners and designers will benefit from this overview and prerequisite for the *Energy Resource Management Certificate Program*.

Energy Management: Supply

Learn to conduct market assessments and to develop sourcing and procurement strategies. Topics include energy management control systems, natural gas purchasing, opportunities in the spot market, thermal energy storage, alternative energy supplies, energy security and energy trading. You will also explore reliability and risk analysis methods, financing projects and tax considerations as well as strategic planning, cogeneration and the options, costs, benefits and constraints of “green sourcing.”

Energy Management: Regulatory

Learn the difference between regulations and tariffs pertaining to electrical generation, transmission and distribution and those pertaining to gas production, transmission and distribution. You will also survey indoor air quality standards, rate structures and how to conduct a load study. Explore emerging state and federal regulations and codes, as well as codes and standards for commercial and industrial uses and applications.

Energy Management: Demand

Learn how to conduct energy audits that integrate specialized auditing tools, energy economics, metering, performance contracting and financing with demand response, measurement, verification, equipment, applications and systems. Additional topics include: quantitative analysis of WAGES (water, air, gas, electricity and steam); optimization and analysis of performance for new and existing buildings; an overview of Leadership in Energy & Environmental Design (LEED); industrial insulation, waste-heat recovery and HVAC operations; fleet operation and maintenance; the latest lighting technologies and products; measurement and verification of energy savings; project management; and best practices and benchmarking.

Energy Management: Environment

Explore the range of environmental issues affected by energy use. Gain perspectives on current trends and technologies and examine the environmental fundamentals—planning, development and implementation—of WAGES (water, air, gas, electricity and steam) systems as well as renewable energy systems; purchasing/trading carbon offsets; the Climatic Change Action Plan; and best practices and methodologies for financing “green” investments.

Energy Management: Leadership

Examine the leadership issues involved in managing energy from organizational behavior and change management to project management and communication skills. Gain insight into how to develop your own leadership style. Learn how to successfully move your organization ahead by creating effective strategies for energy management, including your most important asset—people.

UC DAVIS EXTENSION ENGINEERING AND TECHNOLOGY



These courses may be taken individually or as part of the *Energy Resource Management Certificate Program*—**offered entirely online!**

QUARTERLY SCHEDULE OF COURSES	UNITS	F	W	SP	SU
REQUIRED COURSES (17 units)					
Introduction to Energy Resource Management	3	▲	▲	▲	▲
Energy Management: Supply	3	▲		▲	
Energy Management: Regulatory	3		▲		▲
Energy Management: Demand	3	▲		▲	
Energy Management: Environment	2		▲		▲
Energy Management: Leadership	3	▲		▲	
▲ Online Learning format					

Schedules are subject to change. Check our website for the latest schedule and course information: or call (800) 752-0881. F=Fall W=Winter SP=Spring SU=Summer

www.extension.ucdavis.edu/resource



This program is an approved educational provider for the following organization:

- Association of Energy Engineers