

(Note: Lab units completed for the Certificate of Achievement do not count toward these eight units.)

ES 70LX, 70LY, 70LZ (1-3 units)	Energy Management Technology and Principles of Building Performance Laboratory	
ES 71LX, 71LY, 71LZ (1-3 units)	The Building Envelope and Climate Responsive Building Design/Construction Laboratory	
ES 72LX, 72LY, 72LZ (1-3 units)	Heating, Ventilation and Air Conditioning (HVAC) Systems Laboratory	
ES 78LX, 78LY, 78LZ (1-3 units)	Energy Management Systems and Controls Laboratory	
ES 79LX, 79LY, 79LZ (1-3 units)	Renewable and Alternative Energy Systems Laboratory	
ESCI 63	Photovoltaic (PV) Technology Field Project (2)	
Total Units Required		42

Energy Management and Building Science A.A. Degree

This program trains students in 21st century energy management/climate policy principles, practices, and technology; environmental science principles; laws of thermodynamics; and effective design and management of energy systems and a sustainable society based on energy efficiency principles. The program also prepares students in Level 2 advanced field-based practices in energy management protocols, monitoring and evaluation of energy equipment and systems. The trained Energy Management Technician is able to apply these practices and principles to local and statewide case studies and collaborate with key stakeholders in the energy management/climate policy field.

Student Learning Outcomes - upon completion, students will be able to:

- investigate and communicate the relationships between energy management/climate policy and ecological principles and evaluate the role of energy management in fostering a sustainable society.
- demonstrate an understanding of energy management principles, laws of thermodynamics, effective design of energy systems and a sustainable society utilizing energy management systems.
- apply these concepts and techniques to local and statewide case studies to develop strategies for implementing effective energy management systems.
- identify and interact with the key stakeholders in energy management/climate policy including the public, governmental agencies, industry, and non-profits to enhance global, cultural, social and environmental well-being.

1. Meet the A.A./A.S. degree requirements. (Page 48)		
2. Complete the course requirements listed for the Certificate of Achievement and the Certificate of Achievement-Advanced.		42
3. Complete the following.		
ES 95	Introduction to Environmental Careers	1
ESCI 1	Environmental Science I	4
ESCI 1L	Environmental Science I Lab	1

Complete a minimum of four (4) units from the following:		4
ES 50	Introduction to Environmental Protection and Pollution Prevention (4)	
ES 55	Ten Steps to Effective Learning in Environmental Studies (1)	
ES 61B	Environmental Protection and Pollution Prevention: State and Federal (4)	
ES 63	Agenda 21: Blueprint for Sustainability (1)	
ES 68	Community-Based Coalitions & Stakeholders (1)	
ES 90	Environmental Research and Field Methods (4)	
ES 95B	Environmental Studies Internships (2)	
ESCI 50	Introduction to Wildlife Corridor Technician: Connectivity (4)	
Major	Energy Management and Building Science	52 units
GE	General Education (31-42 units)	
Electives	Elective courses req'd. when major units plus GE units total is less than 90	
Total Units Required		90 units

Environmental Compliance and Pollution Prevention Certificate of Achievement

This is a 21st century career program in which students are trained in environmental compliance (law and policy) and pollution prevention principles, practices, and technologies that cover air, water, land, food production, environmental health and justice, and sustainable cities. Environmental compliance/pollution prevention specialists work at local, state, federal, and international levels applying environmental compliance and pollution prevention strategies in an effort to achieve a more sustainable society. Certificate of Achievement-level students are trained in Level 1 introductory sustainability practices and protocols and monitoring and evaluation techniques.

Student Learning Outcomes - upon completion, students will be able to:

- investigate and communicate the relationships between environmental law, protection, and pollution prevention and apply the knowledge gained to environmental solutions.

1. Meet the requirements for this certificate level. (Page 48)		
2. Complete the following.		
ES 2	Humans, the Environment and Sustainability	4
ES 6	Introduction to Environmental Law	4
ES 50	Introduction to Environmental Protection and Pollution Prevention	4
ES 56	Introduction to Environmental Health	4
ES 61A	Environmental Protection and Pollution Prevention: Local and Regional	4
ES 62A	Introduction to ISO 14001 and Sustainability Management Plans (SMP)	1
ES 62B	ISO 14001: Environmental Mgmt. Systems (EMS) and Sustainability Mgmt. Plans (SMP)	1
ES 64	AB 32 (CA Global Warming Solutions Act of 2006)	1
ES 65	Environmental Stewardship	1
ES 66	Environmental Leadership	1
ES 95	Introduction to Environmental Careers	1
Total Units Required		26

Environmental Compliance and Pollution Prevention

Certificate of Achievement-Advanced

This is a 21st century career program in which students are trained in environmental compliance (law and policy) and pollution prevention principles, practices, and technologies that cover air, water, land, food production, environmental health and justice, and sustainable cities. Environmental compliance/pollution prevention specialists work at local, state, federal, and international levels applying environmental compliance and pollution prevention strategies in an effort to achieve a more sustainable society. Certificate of Achievement-Advanced level students are trained in Level 2 advanced sustainability practices and protocols and monitoring and evaluation techniques.

Student Learning Outcomes - upon completion, students will be able to:

- investigate and communicate the relationships between environmental law, protection, and pollution prevention and apply the knowledge gained to environmental solutions.
- communicate and critically evaluate the relationship between laws, history, values, stakeholders, and strategies to assist in implementing environmental solutions through the use of data analysis, targets and timetables.

1. Meet the requirements for this certificate level. (Page 48)
2. Complete the Certificate of Achievement course requirements. 26
3. Complete the following.

ES 58	Introduction to Green Building	1
ES 61B	Environmental Protection and Pollution Prevention: State and Federal	4
ES 62C	ISO 14001: Integration of an Environmental Mgmt. System (EMS) and Sustainability Mgmt. Plan (SMP)	1
ES 62D	ISO 14001: Voluntary Audit	1
ES 63	Agenda 21: Blueprint for Sustainability	1
ES 90	Environmental Research & Field Methods	4
ESCI 1	Environmental Science	4
ESCI 1L	Environmental Science Lab	1
	Total Units Required	43

Environmental Compliance and Pollution Prevention

A.A. Degree

This is a 21st century career program in which students are trained in environmental compliance (law and policy) and pollution prevention principles, practices, and technologies that cover air, water, land, food production, environmental health and justice, and sustainable cities. Environmental compliance/pollution prevention specialists work at local, state, federal, and international levels applying environmental compliance and pollution prevention strategies in an effort

to achieve a more sustainable society. A.A. degree-level students are trained in Level 2 advanced sustainability practices and protocols and monitoring and evaluation techniques. A.A. degree-level students receive additional training in environmental studies, biodiversity, energy management and environmental education.

Student Learning Outcomes - upon completion, students will be able to:

- identify and interact with the key stakeholders in environmental compliance, pollution prevention and environmental health and justice, including the public, governmental and resource agencies, agriculture and industry, and non-profits to enhance global, cultural, social and environmental well-being.

1. Meet the A.A./A.S. degree requirements. (Page 48)
2. Complete the course requirements listed for the Certificate of Achievement and the Certificate of Achievement-Advanced. 43
3. Complete the following.

ES 79	Renewable and Alternative Energy Systems	1
ES 91X	Environmental Education and Nature-Based Learning	2
ESCI 50	Introduction to Wildlife Corridor Technician: Connectivity	4
	Complete a minimum of five (5) units from the following:	5
ES 1	Introduction to Environmental Studies (4)	
ES 55	Ten Steps to Effective Learning in Environmental Studies (1)	
ES 67	Environmental Team-Building (1)	
ES 68	Community-Based Coalitions & Stakeholders (1)	
ES 69	Energy Reliability and Your Organization (1)	
ES 70	Introduction to Energy Management Technology (1)	
ES 80	California Field Studies (1)	
ES 85A	California Native Plants and Animals (2)	
ES 91Z	Environmental Education and Nature-Based Learning (4)	
ES 95B	Environmental Studies Internship (2)	
ESCI 19	Environmental Biology (5)	
ESCI 20	Introduction to Biodiversity (5)	
ESCI 21	Biodiversity 2 (5)	
ESCI 61	Introduction to Photovoltaic (PV) Technology (3)	
	<i>Major Environmental Compliance and Pollution Prevention</i>	55 units

*GE General Education (31-42 units)
Electives Elective courses req'd. when major units plus GE units total is less than 90
Total Units Required 90 units*

Environmental Education and Nature-Based Learning

Certificate of Achievement

(Pending state approval. Check with the department for the status.)

This certificate program introduces students to Environmental Education Technician & Nature-Based Learning, which includes ecological concepts and principles, applied learning strategies, stewardship ethics and leadership and team-building skills.