



Energy Management and Building Science

Biological, Health, Environmental
Sciences Division/ES Dept.
Kirsch Center Room 218
408-864-8628, 8773

Counseling Center
Student and Community
Services Bldg. 2nd Fl.
408-864-5400

Career Services Info.
Student and Community
Services Bldg. 2nd Fl.
408-864-5400

Please visit the Counseling Center to apply for certificates and degrees, and for academic planning assistance.

Certificate of Achievement Level Requirements

A minimum "C" grade in each major course.
Note: A maximum of six (6) quarter units may be transferred from other academic institutions.

Certificate of Achievement-Advanced Level Requirements

1. A minimum "C" grade in each major course.
2. Demonstrated proficiency in English and mathematics as evidenced by eligibility for EVRT 1A or ESL 5 and eligibility for MATH 114.
Note: A maximum of 18 quarter units may be transferred from other academic institutions.

A.A./A.S. Degree Requirements

1. Completion of all General Education (GE) requirements (31-42 quarter units) for the A.A./A.S. degree. GE units must be completed with a minimum 2.0 GPA ("C" average).
2. Completion of all major requirements. Each major course must be completed with a minimum "C" grade. Major courses can also be used to satisfy GE requirements (except for Liberal Arts degrees).
Note: A maximum of 22 quarter units from other academic institutions may be applied toward the major.
3. Completion of a minimum of 90 degree-applicable quarter units (GE and major units included). All De Anza courses must be completed with a minimum 2.0 GPA ("C" average).
All De Anza courses combined with courses transferred from other academic institutions must be completed with a minimum 2.0 GPA ("C" average).
Note: A minimum of 24 quarter units must be earned at De Anza College.

Major courses for certificates and degrees must be completed with a letter grade unless a particular course is only offered on a pass/no-pass basis.

Energy Management and Building Science

Certificate of Achievement

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 will also prepare students in Level I introductory energy management practices, protocols, monitoring and evaluation of energy equipment and systems.

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.

1. Meet the requirements for this certificate level.
2. Complete the following.

ES 1	Introduction to Environmental Studies	4
ES 58	Introduction to Green Building	1
ES 64	AB 32 (CA Global Warming Solutions Act of 2006)	1
ES 65	Environmental Stewardship	1
ES 66	Environmental Leadership	1
ES 67	Environmental Team-Building	1
ES 69	Energy Reliability and Your Organization	1
ES 70	Introduction to Energy Management Technology	1
ES 70LX	Energy Management Technology and Principles of Building Performance Lab.	1
ES 71	The Building Envelope	1
ES 71LX	The Building Envelope and Climate Responsive Building Design/ Construction Lab.	1
ES 72	Heating, Ventilating & Air Conditioning (HVAC) Systems	1
ES 73	Electric Motors and Drives	1
ES 74	Lighting Distribution Systems	1
ES 75	Electric Power Systems	1
ES 76	Energy Star Products	1
ES 76A	Solar Thermal Systems	1
ES 78	Energy Management Systems and Controls	1
ES 79	Renewable and Alternative Energy Systems	1
ESCI 61	Introduction to Photovoltaic (PV) Technology	3
	Total Units Required	26