

RENEWABLE ENERGY TECHNICIAN W/ SOLAR THERMAL EMPHASIS



Pathway: Construction, Maintenance & Utilities
Chair: William (Bill) Elarton, Room SQ/B-122
(213) 763-3700, cdm@lattc.edu

Award Title	Award Type	GE Units	Required Course Units	Major Elective Units	Major Units
Renewable Energy Technician: Solar Thermal*	A.S.	21*	38	4	42
Solar Thermal Installation & Maintenance Technician	C		30	-	30

At least 60 degree applicable units are required to earn an Associate degree.

*This Associate Degree may be eligible for a reduction of General Education requirements from 21 to 18 units; please consult with a counselor for more details.

For additional related certificates, refer to programs under Energy Systems Technology Fundamentals.

PROGRAM OVERVIEW

LATTC offers a series of courses for individuals interested in working in the new, emerging renewable energy and energy efficiency industry. This degree program includes courses that enable individuals to: (1) have the requisite knowledge and skills to obtain employment in the energy/utility sector, (2) be prepared to obtain solar thermal installation and maintenance entry-level occupations, and (3) obtain skills and expertise to pursue other renewable energy and/or energy efficiency occupations.

By fulfilling the program requirements, students have the necessary knowledge and skills for a career in residential and commercial solar thermal and renewable energy-related occupations.

RENEWABLE ENERGY TECHNICIAN: SOLAR THERMAL

Associate in Science Degree
Major Units: 42

Requirements for the Associate in Science degree in Renewable Energy Technician with Emphasis in Solar Thermal may be met by completing 38 units of Required Courses and 4 unit of Major Electives with a "C" or better along with General Education units. Information on the General Education unit requirements may be found in the catalog under Graduation Requirements..

PROGRAM LEARNING OUTCOMES (PLOs)

Upon completion of the **Degree** program, students will be able to:

1. Perform solar thermal installations and maintenance work utilizing hand and power tools.
2. Certify the proper and safe operation of solar thermal systems utilizing proper test equipment.
3. Calculate solar thermal system efficiency, performance, and installation costs.

REQUIRED COURSES

SEMESTER I			UNITS
ECONMT 115	Fundamentals of D.C. Electricity		3
ECONMT 116	Hand Tools and Wiring Practices		2
ECONMT 119	Applied Calculations and Measurements		3
	- or - ECONMT 173 <i>Electrical Mathematics I (3)</i>		
	- or - MATH115 or higher <i>Elementary Algebra (3-5)</i>		
SEMESTER II			UNITS
REF A/C 105	Solar Water & Pool Heating System Principles		3
ECONMT 129	Fundamentals of Alternating Current		3
ECONMT 100	(O.S.H.A.) Safety Standards: Construction and Industry		2
CRPNTRY 111A	Construction IA		3
SEMESTER III			UNITS
REF A/C 100	Air Conditioning Project Management		3
ECONMT 110	Renewable Energy Systems		3
CRPNTRY 111B	Construction IB		2
BLDGCTQ 010	Energy and Utility Industry Careers		3
REF A/C 110	Solar Water & Pool Heating System Practices		2
REF A/C 165	Ice Storage Air Conditioning		4

SOLAR THERMAL INSTALLATION & MAINTENANCE TECHNICIAN

Certificate of Achievement
Units: 30

A Certificate of Achievement in Solar Thermal Installation & Maintenance may be earned by successfully completing a minimum of 30 units from the Required Courses listed below with a "C" or better grade in each course.

PROGRAM OVERVIEW:

Program outcomes include; the use of hand and power tools to perform entry level laborer work within the solar thermal energy sector, demonstration of sustainable industry principles and practices, perform calculations & measurements commiserate to entry level laborer work within the utility energy sector, and work independently & interdependently to safely accomplish shared professional outcomes. Skills gained from the program prepare a student for employment with contractors, individual facilities management companies, and other private or public agencies doing energy efficient building or performing solar thermal energy upgrade retro-fitting on existing residential and commercial buildings.

Upon successful completion of this program a student will have the basic knowledge and skills for employment in the solar thermal area of the energy industry at the entry level.

PROGRAM LEARNING OUTCOMES (PLOs)

Upon completion of the **Certificate** program, students will be able to:

1. Students will perform solar thermal installations and maintenance work utilizing hand and power tools.
2. Students will certify the proper and safe operation of solar thermal systems utilizing proper test equipment.
3. Students will analyze solar thermal problems and efficiency with the measurement of temperatures, pressures and flow rates.

REQUIRED COURSES

SEMESTER I UNITS

ECONMT 119	Applied Calculations and Measurements	3
or ECONMT 173	Electrical Mathematics I (3)	
or MATH 115 or higher	Elementary Algebra (3-5)	
ECONMT 115	Fundamentals of D.C. Electricity	3

SEMESTER II UNITS

CRPNTRY 111A	Construction IA	3
REF A/C 105	Solar Water & Pool Heating System Principles	3
REF A/C 110	Solar Water & Pool Heating System Practices	2
ECONMT 129	Fundamentals of Alternating Current	3

SEMESTER III UNITS

CRPNTRY 111B	Construction IB	2
REF A/C 165	Ice Storage Air Conditioning	4
ECONMT 100	(O.S.H.A.) Safety Standards: Construction and Industry	2
BLDGCTQ 010	Energy and Utility Industry Careers	3
ECONMT 116	Hand Tools and Wiring Practices	2

USEFUL LATTC LINKS:

College Catalog: <http://college.lattc.edu/catalog/>

Financial Aid Office: <http://college.lattc.edu/financialaid/>

Counseling Department: <http://college.lattc.edu/counseling/>

General Education Information: <http://college.lattc.edu/catalog>

Construction, Design, and Manufacturing Pathway: <http://college.lattc.edu/cdm>

You can register in these classes by logging on to the Student Information System at <http://college.lattc.edu/student/new-students/register-now/>

For additional information consult a LATTC college counselor.