

# RENEWABLE ENERGY TECHNICIAN W/ SOLAR THERMAL EMPHASIS



**Pathway: Construction, Maintenance & Utilities**  
**Office: Sequoia Hall/B - Room 122**  
**Email: [cdm@lattc.edu](mailto:cdm@lattc.edu)**  
**Phone: (213) 763-3700**

Award Title	Academic Plan	Award Type	GE Units	Required Course Units	Major Elective Units	Major Units
Renewable Energy Technician: Solar Thermal*	T031089C	A.S.	21*	38	4	42
Solar Thermal Installation & Maintenance Technician	T031082D	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. These programs are Financial Aid Eligible.

## 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:

- Perform solar thermal installations and maintenance work utilizing hand and power tools.
- Certify the proper and safe operation of solar thermal systems utilizing proper test equipment.
- 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 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:

- Students will perform solar thermal installations and maintenance work utilizing hand and power tools.
- Students will certify the proper and safe operation of solar thermal systems utilizing proper test equipment.
- 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, Maintenance & Utilities Pathway:

<http://pathways.lattc.edu/catalog-programs/cmu/>

To register: <http://college.lattc.edu/student/new-students/register-now/>

For additional information consult a LATTC college counselor.