RENEWABLE ENERGY TECHNICIAN WITH EMPHASIS IN SOLAR PV INSTALLATION AND MAINTENANCE

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 PV Installation and Maintenance*	A.S.	21*	38	4	42
Solar PV Installation and Maintenance Technician	C		24-26	-	24-26

At least 60 degree applicable units are required to earn an Associate degree.
*This Associate Degree is 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 field of solar energy. The courses enable individuals to be prepared to become certified by North American Board of Certified Energy Practitioners (NABCEP). The solar courses have also obtained NABCEP approval. In addition, one of the courses--Fundamentals of Solar Electricity (ECONMT 105 —54 hours)--prepares individuals to be able to take the NABCEP Photovoltaic (PV) Entry Level Certificate of Knowledge test. This Certificate program also prepares individuals and is required to successfully complete other renewable energy or energy efficiency Certificate of Achievement and degree programs at the college. As such, it serves as one of the "stackable" certificates in the renewable energy/energy efficiency certificate and degree pathway.

RENEWABLE ENERGY TECHNICIAN WITH EMPHASIS IN SOLAR PV INSTALLATION AND MAINTENANCE

Associate in Science Degree

Major Units: 42

Requirements for the Associate in Science degree in Renewable Energy Technician With Emphasis in Solar PV Installation and Maintenance may be met by completing 38 units of Required Courses and 4 units 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 are able to:

1. Use hand and power tools, testing equipment, and P.P.E required for performing solar (PV) installation and maintenance work in accordance with industry standards.
2. Perform solar (PV) installation and maintenance work utilizing hand and power tools, testing equipment, and other P.P.E. in accordance to industry standards.
3. Function effectively individually and as a member of a technical team to execute energy efficiency operations.

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	*Electrical Mathematics I (3)*	
-or- MATH 115 or higher	*Elementary Algebra (3-5)*	

SEMESTER II		UNITS
ECONMT 105	Fundamentals of Solar Electricity	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
ECONMT 205	Solar Energy Installation & Maintenance Principles and Practices	2
BLDGCTQ 010	Energy and Utility Industry Careers	3

SEMESTER IV		UNITS
CRPNTRY 148	Computer Assisted Estimating I	3

CODE COURSE OPTION – CHOOSE 1 OF THE FOLLOWING

1 or more courses from the following list of courses		UNITS
ECONMT 171	Electrical Codes and Ordinances I	3
PLUMBNG 028	Plumbing Code I	3

OTHER COURSE REQUIREMENTS

1 or more courses from the following list of courses		UNITS
ECONMT 105	Fundamentals of Solar Electricity	3
REF A/C 110	Solar Water & Pool Heating System Practices	2
REF A/C 165	Ice Storage Air Conditioning	4
BLDGCTQ 007	Weatherization - Practical Energy Efficiency Techniques	3
BLDGCTQ 008	Weatherization - Energy Efficiency Practices	1
BLDGCTQ 009	Energy Auditor – Residential	3
BLDGCTQ 012	Energy Auditor – Residential Practices	1

SOLAR PV INSTALLATION AND MAINTENANCE TECHNICIAN

Certificate of Achievement

Major Units: 24-26

A Certificate of Achievement in Solar PV Installation and Maintenance may be earned by successfully completing 24-26 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 utility 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 energy upgrade retro-fitting on existing residential and commercial buildings.

Recommended sequence of courses for the Solar PV Installation and Maintenance Technician certificate of Achievement.

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

PROGRAM LEARNING OUTCOMES (PLOs)

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

1. Use electrical drawings and other related documents and graphics to communicate information effectively.
2. Perform basic solar (PV) installation and maintenance work utilizing hand and power tools, testing equipment, and other P.P.E. in accordance to industry standards.

REQUIRED COURSE

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
ECONMT 116	Hand Tools and Wiring Practices	2

SEMESTER II		UNITS
ECONMT 129	Fundamentals of Alternating Current	3
CRPNTRY 111A	Construction IA	3
CRPNTRY 111B	Construction IB	2
ECONMT 100	(O.S.H.A.) Safety Standards: Construction and Industry	2

SEMESTER III		UNITS
BLDGCTQ 010	Energy and Utility Industry Careers	3
ECONMT 105	Fundamentals of Solar Electricity	3
ECONMT 205	Solar Energy Installation & Maintenance Principles and 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.