RENEWABLE ENERGY GENERATION, TRANSMISSION, AND DISTRIBUTION: POWERLINE MECHANIC

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 Generation, Transmission, and Distribution: Powerline Mechanic*	A.S.	21*	34-36	6-7	40-43
Powerline Mechanic	C		18-20	-	18-20
Utility Industry Fundamentals	C		19-21	-	19-21

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.

PROGRAM OVERVIEW

LATTC offers Utility Industry Fundamentals and Powerline Mechanic Certificates of Achievement, as well as an Associate of Science degree in Renewable Energy Generation, Transmission, and Distribution with a Powerline Mechanic emphasis, for individuals interested in working in occupations in the utility industry sector—particularly transmission and distribution occupations. The courses comprising this program enable individuals to be prepared to obtain entry-level positions in the utility sector.

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Associate in Science Degree

Major Units: 40-43

Requirements for the Associate in Science degree in Renewable Energy Generation, Transmission, & Distribution: Powerline Mechanic may be met by completing 34-36 units of Required Courses and 6-7 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

Recommended sequence of courses for Renewable Energy Generation, Transmission, and Distribution AS Degree with Power line Mechanic Emphasis.

PROGRAM LEARNING OUTCOMES (PLOs)

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

1. Identify problems with overhead and underground powerline equipment and systems following established procedures and using a variety of troubleshooting techniques.
2. Analyze and solve routine technical problems related to electrical technology and power distribution by applying the principles of mathematics and science.
3. Install, maintain and remove power poles, transformers, structures and other utility equipment.

REQUIRED COURSES

SEMESTER I		UNITS
ECONMT 115	Fundamentals of D.C. Electricity	3
ECONMT 116	Hand Tools and Wiring Practices	2
ECONMT 100	(O.S.H.A.) Safety Standards: Construction and Industry	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 129	Fundamentals of Alternating Current	3
ECONMT 130	Principles of Industrial Electric Power	3
BLDGCTQ 010	Energy and Utility Industry Careers	3

SEMESTER III		UNITS
ELECL 601	Power Line Mechanic - Trainee (600 Hours)	15

MAJOR ELECTIVES

Select 6-7 units from the courses below		UNITS
ECONMT 105	Fundamentals of Solar Electricity	3
ECONMT 110	Renewable Energy Systems	3
ECONMT 205	Solar Energy Installation & Maintenance Principles and Practices	2
ECONMT 215	Small Wind Energy Systems Principles and Practices	3
REF A/C 105	Solar Water & Pool Heating System Principles	3
REF A/C 110	Solar Water & Pool Heating System Practices	2
REF A/C 165	Ice Storage Air Conditioning	4

POWERLINE MECHANIC

Certificate of Achievement

Major Units: 18-20

A Certificate of Achievement in Powerline Mechanic may be earned by completing 18-20 units of Required Courses with a "C" or better in each course.

PROGRAM LEARNING OUTCOMES (PLOs)

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

1. Practice appropriate procedures for self and others by safely utilizing equipment to complete industry procedures, including pole climbing, rigging and construction practices.

REQUIRED COURSES

		UNITS
ELECL 601	Power Line Mechanic - Trainee (600 Hours)	15
ECONMT 119	Applied Calculations and Measurements	3
-or- ECONMT 173	*Electrical Mathematics I (3)*	
-or- MATH 115	*Elementary Algebra (5)*	

UTILITY INDUSTRY FUNDAMENTALS

Certificate of Achievement

Major Units: 19-21

A Certificate of Achievement in Utility Industry Fundamentals may be earned by completing 19-21 units of Required Courses with a "C" or better in each course.

PROGRAM LEARNING OUTCOMES (PLOs)

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

1. Use utility distribution and transmission drawings and other related documents and graphics to communicate information effectively.
2. Calibrate, use, and maintain electrical utility tool, instrumentation and test equipment.

REQUIRED COURSES

		UNITS
ECONMT 100	(O.S.H.A.) Safety Standards: Construction and Industry	2
ECONMT 130	Principles of Industrial Electric Power	3
BLDGCTQ 010	Energy and Utility Industry Careers	3
ECONMT 115	Fundamentals of D.C. Electricity	3
ECONMT 116	Hand Tools and Wiring Practices	2
ECONMT 129	Fundamentals of Alternating Current	3
ECONMT 119	Applied Calculations and Measurements	3
-or- ECONMT 173	*Electrical Mathematics I (3)*	
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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.