

# ELECTRICAL TECHNOLOGY, SOLAR INSTALLATION AND MAINTENANCE - ASSOCIATE IN SCIENCE

Plan Code: 2994

This program will prepare students for entry-level employment in the solar electrical industry. Upon completion the student will be able to install, maintain, and repair solar electrical equipment and systems in a safe and workmanlike manner.

## Program Student Learning Outcomes

- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Analyze various types of solar power generation systems and demonstrate the ability to properly size systems to meet demand.

## Program Admission Requirement

New students must attend an Electrical orientation prior to enrollment. The program requisite is in place to ensure the safety and health awareness of LBCC electrical students.

## Program Requirements

This degree requires the completion of General Education coursework plus the following:

Code Number	Course Title	Units
<b>REQUIRED COURSES</b>		
ELECT 204	First Semester Fundamentals of DC Electricity	4
ELECT 209	Second Sem Fund of Motors/Generators	4
ELECT 212	Third Semester Fund of AC Electricity	4
ELECT 214	Fourth Semester AC Principles & Pract	4
ELECT 225	Algebra and Trigonometry for Technicians	4
ELECT 240	Introduction to National Electrical Code	3
ELECT 242	Electrical Code-Grounding	1.5
ELECT 253	OSHA Standards for Construction Safety	2
ELECT 435A	Motor Control Wiring and Troubleshooting	2
<b>Subtotal Units</b>		<b>28.5</b>
IN ADDITION, complete the following:		
ELECT 247	Electrical Code-Solar	1
ELECT 256	High Voltage Safety Awareness	1
ELECT 262	Solar 1-Grid-Tied Solar Photovoltaics	3
ELECT 263	Solar 2-Advanced Solar Photovoltaics	3
ELECT 275	Electrical Pipe Bending	1
ELECT 277	Blueprint Reading for Electricians	3
<b>Subtotal Units</b>		<b>12</b>
<b>Required Subtotal</b>		<b>40.5</b>
Complete one of the following: <sup>1</sup>		19-39

LBCC General Education (Plan A) (<https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-a/>)

CSU GE Breadth (Plan B) (<https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-b/>)

IGETC Pattern (Plan C) (<https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-c/>)

Electives (as needed to reach 60 degree-applicable units) <sup>2</sup>

**Minimum Degree Total 60**

<sup>1</sup> Units for the major may be double-counted for LBCC GE, CSU GE, or IGETC; see counselor for limitations.

<sup>2</sup> Elective units from course(s) numbered 1-599, if needed, to reach 60 degree-applicable units.

# ELECTRICAL TECHNOLOGY, SOLAR INSTALLATION AND MAINTENANCE - CERTIFICATE OF ACHIEVEMENT

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Plan Code: 3994

This program will prepare students for entry-level employment in the solar electrical industry. Upon completion of the Electrical Technology Certificate of Achievement and the Solar Installation and Maintenance Certificate of Achievement, the student will be able to install, maintain, and repair solar electrical equipment and systems in a safe and workmanlike manner.

## Program Student Learning Outcomes

- Analyze various types of solar power generation systems and demonstrate the ability to properly size systems to meet demand.

## Program Admission Requirement

New students must attend an Electrical orientation prior to enrollment. The program requisite is in place to ensure the safety and health awareness of LBCC electrical students.

## Program Requirements

Code Number	Course Title	Units
<b>REQUIRED COURSES</b>		
ELECT 204	First Semester Fundamentals of DC Electricity	4
ELECT 209	Second Sem Fund of Motors/Generators	4
ELECT 212	Third Semester Fund of AC Electricity	4
ELECT 214	Fourth Semester AC Principles & Pract	4
ELECT 225	Algebra and Trigonometry for Technicians	4
ELECT 240	Introduction to National Electrical Code	3
ELECT 242	Electrical Code-Grounding	1.5
ELECT 253	OSHA Standards for Construction Safety	2
ELECT 435A	Motor Control Wiring and Troubleshooting	2
<b>Subtotal Units</b>		<b>28.5</b>
IN ADDITION, complete the following:		
ELECT 247	Electrical Code-Solar	1
ELECT 256	High Voltage Safety Awareness	1
ELECT 262	Solar 1-Grid-Tied Solar Photovoltaics	3
ELECT 263	Solar 2-Advanced Solar Photovoltaics	3
ELECT 275	Electrical Pipe Bending	1
ELECT 277	Blueprint Reading for Electricians	3
<b>Subtotal Units</b>		<b>12</b>
<b>Total Units</b>		<b>40.5</b>

# SOLAR INSTALLATION AND MAINTENANCE - CERTIFICATE OF ACHIEVEMENT

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**Plan Code: 3934**

This program will prepare students for entry-level employment in the solar electrical industry. Upon completion of the Electrical Technology Certificate of Achievement and the Solar Installation and Maintenance Certificate of Achievement, the student will be able to install, maintain, and repair solar electrical equipment and systems in a safe and workmanlike manner.

## Program Student Learning Outcomes

- Analyze various types of solar power generation systems and demonstrate the ability to properly size systems to meet demand.

## Program Requirements

Code Number	Course Title	Units
<b>REQUIRED COURSES</b>		
ELECT 247	Electrical Code-Solar	1
ELECT 256	High Voltage Safety Awareness	1
ELECT 262	Solar 1-Grid-Tied Solar Photovoltaics	3
ELECT 263	Solar 2-Advanced Solar Photovoltaics	3
ELECT 275	Electrical Pipe Bending	1
ELECT 277	Blueprint Reading for Electricians	3
<b>Total Units</b>		<b>12</b>