

ELECTRICAL TECHNOLOGY, CISCO CERTIFIED NETWORK INSTALLATION ASSOCIATE - ASSOCIATE IN SCIENCE

Plan Code: 2992

This program will prepare students for entry-level employment in the networking installation and troubleshooting industry. This includes industries that implement internet protocol for factory automation and residential automation control systems. Upon completion the student will be able to install, maintain, and repair CISCO networking equipment and systems in a safe and workmanlike manner.

Program Student Learning Outcomes

- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Develop procedures for the successful installation, maintenance and troubleshooting of CISCO related network infrastructure.

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 |
|---|---|-------------|
| REQUIRED COURSES | | |
| 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 |
| Subtotal Units | | 28.5 |
| IN ADDITION, complete the following: | | |
| CISCO 250 | Communications Cabling Installation | 2 |
| CISCO 251 | Introduction to Networks | 2 |
| CISCO 252 | Switching Routing Wireless Essentials | 2 |
| CISCO 253 | Enterprise Network Security Automation | 2 |
| Subtotal Units | | 8 |
| Required Subtotal | | 36.5 |
| Complete one of the following: ¹ | | 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) ²

Minimum Degree Total **60**

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

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

ELECTRICAL TECHNOLOGY, CISCO CERTIFIED NETWORK INSTALLATION ASSOCIATE - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3992

This program will prepare students for entry-level employment in the networking installation and troubleshooting industry. This includes industries that implement internet protocol for factory automation and residential automation control systems. Upon completion of the Electrical Technology Certificate of Achievement and the CISCO Certified Network Installation Associate Certificate of Achievement, the student will be able to install, maintain, and repair CISCO networking equipment and systems in a safe and workmanlike manner.

Program Student Learning Outcomes

- Develop procedures for the successful installation, maintenance and troubleshooting of CISCO related network infrastructure.

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 |
|--------------------------------------|---|-------------|
| REQUIRED COURSES | | |
| 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 |
| Subtotal Units | | 28.5 |
| IN ADDITION, complete the following: | | |
| CISCO 250 | Communications Cabling Installation | 2 |
| CISCO 251 | Introduction to Networks | 2 |
| CISCO 252 | Switching Routing Wireless Essentials | 2 |
| CISCO 253 | Enterprise Network Security Automation | 2 |
| Subtotal Units | | 8 |
| Total Units | | 36.5 |

CISCO CERTIFIED NETWORK INSTALLATION ASSOCIATE - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3932

This program will prepare students for entry-level employment in the networking installation and troubleshooting industry. This includes industries that implement internet protocol for factory automation and residential automation control systems. Upon completion of the Electrical Technology Certificate of Achievement and the CISCO Certified Network Installation Associate Certificate of Achievement, the student will be able to install, maintain, and repair CISCO networking equipment and systems in a safe and workmanlike manner.

Program Student Learning Outcomes

- Develop procedures for the successful installation, maintenance and troubleshooting of CISCO related network infrastructure.

Program Requirements

| Code Number | Course Title | Units |
|-------------------------|--|----------|
| REQUIRED COURSES | | |
| CISCO 250 | Communications Cabling Installation | 2 |
| CISCO 251 | Introduction to Networks | 2 |
| CISCO 252 | Switching Routing Wireless Essentials | 2 |
| CISCO 253 | Enterprise Network Security Automation | 2 |
| Total Units | | 8 |

NETWORK CABLING SPECIALIST - CERTIFICATE OF ACCOMPLISHMENT

Plan Code: 4089

Students earning this CISCO award have demonstrated knowledge and understanding of national cabling installation standards and best practices. This CISCO award is intended for vocational students preparing for immediate employment as a low-voltage communications cabling installer.

Program Student Learning Outcomes

- Build a fiber and copper corporate backbone network between a Main Telecommunications closet and a Distributed Telecom closet and test all connectivity by placing data hosts at both ends and run connectivity tests between them.
- Provide a completed documentation system that will be usable by any industry professional in the data and telephony field, for the service of any moves, adds and changes on that same infrastructure.

Program Requirements

| Code Number | Course Title | Units |
|-------------------------|-------------------------------------|----------|
| REQUIRED COURSES | | |
| CISCO 250 | Communications Cabling Installation | 2 |
| Total Units | | 2 |