ELECTRICAL TECHNOLOGY, AUTOMATION TECHNICIAN - ASSOCIATE IN SCIENCE

Plan Code: 2991

The Associate in Science in Electrical Technology, Automation Technician will prepare students for entry-level employment in the automation systems maintenance and troubleshooting industry. This includes work in Advanced Manufacturing Facilities and companies that use underwater robots. The techniques used in both industries are similar and there is significant crossover between the two. Upon completion the student will be able to install, maintain, and repair automation 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 robotic, PLC and automation control systems.

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:		
ELECT 227	Variable Speed Drive Fundamentals	2
ELECT 230A	Robotics Technology - Design	2
ELECT 230B	Robotics Technology - Integration	2
ELECT 231	Electro-Hydraulics and Pneumatic Systems	2
ELECT 256	High Voltage Safety Awareness	1
ELECT 435B	Programmable Logic Controllers (PLC) 1	2
Subtotal Units		**11**
Required Subtotal		**39.5**
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, AUTOMATION TECHNICIAN - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3991

The Electrical Technology, Automation Technician Certificate of Achievement will prepare students for entry- level employment in the automation systems maintenance and troubleshooting industry. This includes work in Advanced Manufacturing Facilities and companies that use underwater robots. The techniques used in both industries are similar and there is significant crossover between the two. Upon completion of the Electrical Technology Certificate of Achievement and the Automation Technician Certificate of Achievement, the student will be able to install, maintain, and repair automation systems in a safe and workmanlike manner.

Program Student Learning Outcomes

- Develop procedures for the successful installation, maintenance and troubleshooting of robotic, PLC and automation control systems.

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:		
ELECT 227	Variable Speed Drive Fundamentals	2
ELECT 230A	Robotics Technology - Design	2
ELECT 230B	Robotics Technology - Integration	2
ELECT 231	Electro-Hydraulics and Pneumatic Systems	2
ELECT 256	High Voltage Safety Awareness	1
ELECT 435B	Programmable Logic Controllers (PLC) 1	2
Subtotal Units		**11**
Total Units		**39.5**

AUTOMATION TECHNICIAN - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3931

The Automation Technician Certificate of Achievement will prepare students for entry-level employment in the automation systems maintenance and troubleshooting industry. This includes work in Advanced Manufacturing Facilities and companies that use underwater robots. The techniques used in both industries are similar and there is significant crossover between the two. Upon completion the student will be able to install, maintain, and repair automation systems in a safe and workmanlike manner.

Program Student Learning Outcomes

- Develop procedures for the successful installation, maintenance and troubleshooting of robotic, PLC and automation control systems.

Program Requirements

Code Number	Course Title	Units
REQUIRED COURSES		
ELECT 227	Variable Speed Drive Fundamentals	2
ELECT 230A	Robotics Technology - Design	2
ELECT 230B	Robotics Technology - Integration	2
ELECT 231	Electro-Hydraulics and Pneumatic Systems	2
ELECT 256	High Voltage Safety Awareness	1
ELECT 435B	Programmable Logic Controllers (PLC) 1	2
Total Units		**11**