

ELECTRICAL TECHNOLOGY

- Electrical Program Preparation - Certificate of Completion (<https://lbcc-public.courseleaf.com/noncredit/programs-of-study/electrical-technology/electrical-program-preparation-certificate-completion/>)
- FCC Amateur Radio Technician Preparation - Certificate of Completion (<https://lbcc-public.courseleaf.com/noncredit/programs-of-study/electrical-technology/fcc-amateur-radio-technician-preparation-certificate-completion/>)
- IPC-620 Wire Harness Assembly and Inspection - Certificate of Completion (<https://lbcc-public.courseleaf.com/noncredit/programs-of-study/electrical-technology/ipc-620-wire-harness-assembly-inspection-certificate-completion/>)
- Power Generation Technician - Electrical - Certificate of Completion (<https://lbcc-public.courseleaf.com/noncredit/programs-of-study/electrical-technology/power-generation-technician-electrical-certificate-completion/>)
- Robotics Exploration - Certificate of Completion (<https://lbcc-public.courseleaf.com/noncredit/programs-of-study/electrical-technology/robotics-exploration-certificate-completion/>)

ELECT 600 0 units **Electrical Program & Safety Preparation** **9 hours lecture**

Grading: non graded.

This is a preparation and orientation course for the Electrical Technology Program. Students planning on enrolling in either the ELECT or CISCO series of classes must complete this class. Topics covered will include curriculum guide navigation, electrician trainee status, program completion certificates, program math requirements and substitutions, Associate Degree requirements, student safety and personal protective equipment, expectations of students in the program and examples of expected work product.

ELECT 601 0 units **Computer Applications for Tech Reports** **18 hours lecture, 36 hours laboratory**

Corequisite: ELECT 600.

Grading: non graded.

The course will consist of an introduction to the various software programs used in the electrical technology program. Students will develop all the components of a complete engineering technical report. The course will utilize computer applications to research and complete technical reports and documentation. Included are Computer Aided Design Software, Word, Excel, Visio, Constructor, and web-based communication and information research.

ELECT 602 0 units **Electrical Mathematics** **54 hours lecture**

Corequisite: ELECT 600.

Grading: non graded.

This course is designed for students enrolled in the Electrical Technology Program or Industry professionals coming back to complete continuing education units. This course covers the learning and application of mathematics and pre-algebra needed in the electrical industry. Faculty will utilize guided learning activities to help students to take meaningful measurements and apply mathematics and electrical formulas to solve problems. Students will learn how to apply topics such as arithmetic, fractions, decimals, percentages, graphing, measurement, and pre-algebra to better understand how to solve electrical formulas.

ELECT 619B 0 units **FCC Amateur Radio Technician Lic. Prep.** **36 hours lecture**

Recommended Preparation: ELECT 630A.

Grading: non graded.

This course prepares students to take the FCC Technician License exam for Amateur Radio Operators. Students will learn all the elements contained in the licensing exam as well as participate in example exams. This class will cover the latest test banks as directed by the FCC. Students will learn through lecture topics, computer aided material and hands-on examples.

ELECT 620A 0 units **Electric Cable Termination IPC-620C** **18 hours lecture, 54 hours laboratory**

Grading: non graded.

This course is the first of two courses where students learn proper cable termination methods and practices while working under the industry standard IPC/WHMA-A-620. The IPC/WHMA-A-620 standard provides the electronics industry with the most current criteria for the performance and acceptance of cable and wire harness assemblies. Students are prepared for entry level jobs in the aerospace and industrial harness and wiring industries.

ELECT 620B 0 units **Electric Cable Inspection IPC-620C** **18 hours lecture, 18 hours laboratory**

Grading: non graded.

This course is the second of two courses where students learn cable harness and wire inspection methods per IPC/WHMA-A-620. Students will use their cable assemblies from ELECT 620A and are taught proper cable inspection methods and practices. The IPC/WHMA-A-620 provides the electronics industry with the most current criteria for the performance and acceptance of cable and wire harness assemblies. Students are prepared for entry level jobs in the aerospace and industrial harness and wiring industries.

ELECT 630A 0 units **Intro to Electronics** **9 hours lecture, 18 hours laboratory**

Grading: non graded.

This course provides hands-on experience covering basic electronics and electronic assembly. Electronic components are covered as well as soldering techniques and kit assembly. Students are introduced to schematic reading, basic circuit analysis as well. This class provides a pathway to additional classwork in electronics, RF communication and robotics.

ELECT 630B 0 units **Introductory Robotics Camp** **9 hours lecture, 18 hours laboratory**

Recommended Preparation: ELECT 630A.

Grading: non graded.

This course provides hands-on experience that will introduce students to the fundamentals of Industrial Robotics as well as Underwater Robotics. This is a hands-on class and students will learn how to program Omron Industrial Robots and how to pilot underwater robots.

ELECT 632A 0 units

Electrical Power Generation

18 hours lecture, 54 hours laboratory

Recommended Preparation: ELECT 602.

Grading: non graded.

This course provides hands-on experience covering the connection and operation of a power generation system, including electrical connections, control systems and documentation. This covers the electrical half of a diesel or CNG electric power generation system.

ELECT 632B 0 units

Power Generation Troubleshooting

18 hours lecture, 54 hours laboratory

Recommended Preparation: ELECT 632A.

Grading: non graded.

This course provides hands-on experience troubleshooting motor generator based power generator systems covering possible faults and operational problems and proper methods of troubleshooting and repair. Test procedures, service schedules and general maintenance are covered.