

ELECTRICAL (ELEC)

This is a list of the Electrical (ELEC) courses available at KPU.

Enrolment in some sections of these courses is restricted to students in particular programs. See the Course Planner - kpu.ca/registration/timetables - for current information about individual courses.

For information about transfer of credit amongst institutions in B.C. and to see how individual courses transfer, go to the BC Transfer Guide bctransferguide.ca

ELEC 1100 **2 Credits**

Basic Skills

Students will study effective learning and job search techniques. They will problem-solve using mathematics and apply science concepts appropriate to the electrical trade.

ELEC 1110 **1 Credits**

Workplace Safety

Students will be exposed to and learn the application of safe work practices, Worksafe BC Standards and Regulations, lockout and confined space procedures. They will learn practical components of rigging, scaffolding, and ladders. Students will also receive an orientation in Workplace Hazardous Materials Information System (WHMIS).

ELEC 1120 **5 Credits**

Basic Electrical Theory

Students will be introduced to the nature and principles of electricity, the operation of electrical devices and the operation of testing / metering equipment. They will focus on the analysis and problem solving of Direct Current (DC) circuits. Students will learn the basic principles of magnetism and the principles of alternating current (AC).

ELEC 1130 **1 Credits**

Code and Blueprint Reading

Students will be introduced to the history and importance of the Canadian Electrical Code (CEC). They will learn the CEC and other related regulatory standards. Students will be introduced to the use of construction drawings, manufacturer's specifications, and job and material planning.

ELEC 1140 **1 Credits**

Wiring Devices, Lighting and Controls

Students will learn the safety procedures and operating principles of manual and magnetic motor starters and control circuits. In addition, students will learn the operation of LED and incandescent lighting and will connect and test three-way and four-way switches to control these types of lighting. The installation of lighting standards, and their various types, as well as the ratings of switches and receptacles will be examined. Students will also perform data cable terminations.

ELEC 1150 **10 Credits**

Installation of Low-Voltage Distribution Systems

Students will use shop projects and hands-on activities to reinforce electrical theory and Electrical Code knowledge. They will receive practical training for the job site. Students will learn the importance of workplace safety.

ELEC 1300 **4 Credits**

Electrical Design and Renewable Energy

Students will apply the principles of electricity to analyze the operation of electrical devices and verify the operating conditions of electrical systems using testing / metering equipment. They will compare different types of renewable energy sources and equipment and the cost-effectiveness of each type. Students will use grid-tie equipment to modify the energy collected from a renewable supply and test the output of the equipment to verify that it is compatible with the utility supply. They will design a stand-alone renewable power supply that will perform in a manufacturing environment.