

# POWER LINE TECHNICIAN (PTEC)

This is a list of the Power Line Technician (PTEC) courses available at KPU.

## **PTEC 1098** **3 Credits**

### **Physics and Math for Power Line Technicians**

Students will learn the physics underlying electric power distribution and power line rigging, and the math necessary to use that physics. They will learn to predict the current, voltage, and power usage in various electric circuits, up to and including circuits of resistors in series and parallel with more than one power supply and circuits of resistors, capacitors and inductors in series or in parallel. Students will also learn to predict the forces involved in ensuring the safe construction and maintenance of electrical power lines.

*Prerequisites: Prerequisites: [ABEM 0082 or 0011 or PSPM 1082 or MATP 1011 or Math 1093 or Principles of Math 11 or Applications of Math 11] and [ABEP 0088 or 0011 or PSPP 1088 or PHYP 1012 or Physics 11]*

## **PTEC 1101** **3 Credits**

### **Electrical Safe Work Practices and Regulations**

Students will be introduced to provincial and electrical utility-specific safety regulations and policies. They will explore personal protective equipment selection, field communication procedures, energized line limits of approach, equipment and grid lock-out procedures and grounding as related to the electrical utilities industry. Students will perform practical exercises including: Fire Suppression, WHMIS, First Aid Level 1, and will acquire Transportation of Dangerous Goods training. They will operate in diverse environments (manhole, bucket truck, pole top).

## **PTEC 1103** **1.5 Credits**

### **Introductory Computer Skills**

Students will learn basic personal computer skills to search the Internet and to communicate information through e-mail, word processing, spreadsheets, and presentation software.

## **PTEC 1105** **1.5 Credits**

### **Communications and Team Building**

Students will practise and apply elements of communication skills, teamwork, problem-solving, and situational leadership. They will write resumes, cover letters, and will practise interviewing skills. Students will learn to respond effectively to critical incidents.

## **PTEC 1106** **1.5 Credits**

### **Applied Electrical Theory**

Students will learn the fundamental principles of electrical theory. They will apply these principles to single-phase motors and generators, single-phase transformation and transformer construction, polarity, ratios, series and parallel installation, and load checks. Students will also learn about single-phase, primary and secondary metering for the utility industry.

## **PTEC 1107** **1.5 Credits**

### **Electrical Tools and Instruments**

Students will learn the care and use of tools commonly used in the electric utility industry. They will learn how to select, use, and maintain hand tools and common power tools. Students will complete practical exercises.

## **PTEC 1108** **1.5 Credits**

### **Electrical Utility Equipment**

Students will operate some of the heavy equipment used in the electric utility industry and will care for hydraulic-equipped vehicles. They will gain familiarity with heavy-line equipment.

## **PTEC 1109** **1.5 Credits**

### **Basic Rigging and Lifting**

Students will learn the physics and practices of safe equipment-assisted lifts. They will use basic rigging and lifting equipment.

## **PTEC 1110** **3 Credits**

### **Electrical Utility Climbing**

Students will identify, select, use, and maintain electric utility wood-pole climbing equipment. They will test poles to assess if they can be climbed safely. Students will climb wood poles and structures, and will work on elevated and suspended platforms.

## **PTEC 1111** **2.5 Credits**

### **Electrical Overhead and Underground Distribution**

Students will learn the key parameters used in the identification and selection of electrical overhead hardware and supports. They will learn the principles of construction and maintenance of distribution lines. Students will identify line status and identify and select pertinent installation hardware to construct distribution lines.

## **PTEC 1113** **1 Credits**

### **Physical Fitness**

Students will practise to meet industry's physical bona fide occupational requirements embodied in a physical capacity test. They will complete a series of aerobic, strength, and flexibility routines performed three times a week to develop aerobic capacity.