

## **Program Description:**

Gateway to Technology (or Gateway to Tech) is a 120h program for youth interested in technology. The program helps students gain a better understanding of the tech sector and introduces youth to the careers and occupations in the Information, Communication and Technology sector.

Introduction to Gateway to Technology: <https://youtu.be/aJrFQQQ0jI8>

Goals of the Gateway to Tech program include:

- Promoting the benefits of education as key to labour market participation;
- Supporting the development of essential employability skills for Okanagan region youth;
- Introducing youth the careers and occupations in the Information, Communication and Technology sector;
- Providing Information Technology skill development workshops; and
- Helping youth overcome barriers to employment.

Youth that complete the Gateway to Tech program will:

- Understand a variety of occupations in the tech sector and the skills and training required to gain employment in these occupations.
- Gain direct skills related to computer fundamentals and mobile coding.
- Be connected with local employers and supporting associations to broaden awareness of the IT sector and its opportunities in the Okanagan Valley.

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## Gateway to Tech Outline

### **Information Technology (IT) Essentials Camp (60 hrs)**

These workshops cover the fundamentals of computer and career skills for entry level IT jobs. This component includes hands-on lab activities that provide practical experience for youth to help them understand IT fundamentals. Simulation tools help youth hone their troubleshooting skills and allow them to practice what they learn. Youth will get immediate feedback on their learning through the activities.

Module high-level key learning outcomes include:

- Introduction to computer components and peripherals
  - Students will be able to:
    - Identify, install and troubleshoot the core components of a personal computer
    - Understand and configure the basic management elements of a personal computer, including disk management, file systems, boot management, and OS configuration
  
- Introduction to wireless networking
  - Students will be able to:
    - Understand the basic elements of wireless network planning and design
    - Understand basic configuration elements and troubleshooting processes for wireless networks
    - Configure a wireless router
  
- Introduction to local area network management
  - Students will be able to:
    - Understand the core components of a local area network infrastructure
    - Configure the basic elements of a Windows Server for the purposes of local area network management
    - Configure foundational group policy for the purposes of client and network management.
  
- Introduction to computer and Internet security
  - Students will be able to:
    - Understand the most common computer and network threats and invasion techniques, and then learn to install and configure simple applications to protect against viruses, malware, phishing and social engineering attacks.

- Introduction to scripting for network and system administrators
  - Students will be able to:
    - Write simple batch files and PowerShell scripts to accomplish, automate, and simplify routine tasks

## Introduction to Coding Camp (60 hrs)

These workshops cover the fundamentals of modern Web Programming, covering Front and Back-End development along with server and database management. The students will create their own websites from scratch using the tools and languages taught in the class and will host the site on their own machine. The students will get immediate feedback on their learning through the activities and quizzes in the class.

Module high-level key learning outcomes include:

- Intro to Linux and LAMP - Students will be introduced to the Linux environment and the command line. They will learn how to install and use their own LAMP (Linux, Apache, MySQL, NodeJS/PHP) Server software.
  - Learning Objectives:
    - Become familiar with the Linux operating system
    - Understand the Linux file structure
    - Learn to change the file structure and environment using the command line.
    - Practice installing and using LAMP software
    - Understand how to serve up websites using NodeJS
- HTML - HTML is the standard markup language for creating Web pages. Students will learn to create web pages from scratch.
  - Learning objectives:
    - Gain the knowledge to create their own web page
    - Create hyperlinks and blocks
    - Insert graphics and video
- CSS - Cascading Style Sheets is a language that describes the style of an HTML document. Students will learn to beautify their HTML documents.
  - Learning objectives:
    - Work with colours and fonts
    - Create dynamic buttons and menus
    - Create different CSS files for different looks
- JavaScript I – Variables, Control Flow and Loops - JavaScript is a powerful programming language that adds dynamic interactivity to millions of sites on the web. This module will introduce the basics of JavaScript.

- Learning objectives
  - Define variables, initialization and assignment
  - Be able to write and understand decisions and Boolean conditions
  - Utilize iterations
  
- JavaScript II – Arrays, Functions and Objects - This module will delve a bit deeper into more advanced JavaScript programming concepts.
  - Learning objectives
    - Understand arrays
    - Create and use functions
    - Design and utilize objects
  
- SQL - SQL (Standard Query Language) is a standard language for storing, manipulating and retrieving data in databases. Students will gain an understanding of what a database is, how to create a database and how to retrieve data from it.
  - Learning Objectives:
    - Understand what a database is
    - Database creation
    - Using SQL to retrieve data
    - Creating normalized databases

**Total hours: 120**

# Gateway to Technology

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## **Assessment:**

Youth are assessed by instructors through a variety of hands-on evaluation, quizzes and projects. Attendance and active participation are expected. A percentage grade will be given at the end of the session.

## **Credit:**

Students will receive high school credits upon completion of the Gateway to Tech training. Students will be provided a statement of completion from Okanagan College.