

Ultimate Summer Coding Camp



CONNECTING YOU

Presented by the Lethbridge Public Library and Sidney Shapiro, PhD,
of the University of Lethbridge's Dhillon School of Business

July 8 – 12, 2024

1:00-4:00pm

The Crossings Branch, Digital Learning Centre

Open to teens in grades 7-12



DHILLON
SCHOOL OF BUSINESS

Course Description:

Welcome to the ultimate coding summer camp, where creativity meets technology! Over five exciting afternoons you'll dive into the dynamic world of Python programming, web development, and adventure game design. No matter your experience level, this camp will empower you to unleash your inner coding wizard.

- **Day 1: Let's Code**
Ever wondered how to bring your ideas to life through code? Start your journey by learning the magic of Python. We'll build cool projects using variables, loops, and lists, making coding feel like second nature.
- **Day 2: More Coding Fun**
Level up your skills by mastering dictionaries, user inputs, and functions. You'll craft even more creative projects that challenge your problem-solving abilities while having a blast.
- **Day 3: Text-Based Adventure Game**
Prepare to embark on a wild journey as we build a captivating text-based adventure game. Shape the story using all the skills you've learned so far, crafting characters and plot twists to surprise and entertain.
- **Day 4: Build a Website**
Learn HTML and design and code a website.
- **Day 5: Connect Python to HTML**
Time to go pro! Discover how to blend Python's power with the web's magic using Flask. By the end of the day, you'll have a dynamic web app that tracks the location of the International Space Station in real-time.

Whether you're a beginner or a seasoned coding enthusiast, this camp will challenge and inspire you. Prepare for a week of learning, building, and fun! 🚀

Day 1: July 8 (1-4 PM)

- **Module 1: Let's Code**

- Introduction to Python Programming using Replit.com
- Basic Concepts:
 - Variables: Defining and using variables
 - Lists: Introduction to lists and basic list operations
 - Loops: **for** and **while** loops for iterative tasks
- Fun and Engaging Projects:
 - Building small interactive programs with the concepts learned

Day 2: July 9 (1-4 PM)

- **Module 2: More Coding**

- Advanced Python Concepts:
 - Dictionaries: Creating, accessing, and updating dictionary items
 - User Input: Handling user input for dynamic programs
 - Functions: Defining functions to organize code
- Interactive Projects:
 - Building projects that utilize dictionaries, user input, and functions

Day 3: July 10 (1-4 PM)

- **Module 3: Text-Based Adventure Game**

- Project Overview: Introduction to building a text-based adventure game
- Planning and Structuring the Game:
 - Utilizing functions, lists, and dictionaries to organize the game logic
 - Handling user input for player choices
- Coding Session:
 - Building the game's main storyline and key features

Day 4: July 11 (1-4 PM)

- **Module 4: Let's Build a Website**

- Introduction to Web Development:
 - Basics of HTML: Structuring web pages with tags, attributes, and styles
- Hands-On Project:
 - Designing and building a simple, static website

Day 5: July 12 (1-4 PM)

- **Module 5: Connecting Python to HTML with Flask**

- Introduction to Flask:
 - Setting up Flask for web development
 - Creating routes and handling requests
- Building the Program:
 - Integrating Python and HTML to build a web app that shows the location of the International Space Station
 - Testing and fine-tuning the web app