Course Description

This course teaches learners how to write a program in the C++ language, including how to set up a development environment for writing and debugging C++ code and how to implement data structures as C++ classes. It is the first course in the Accelerated CS Fundamentals specialization, and subsequent courses in this specialization will be using C++ as the language for implementing the data structures covered in class.

Skills

Students should be familiar with programming already, for example with an interpreted scripting language such as Python or JavaScript. Students should also be proficient at the user operation of a computer system and be able to download, install and update software.

Course Goals and Objectives

Upon successful completion of this course sequence, you will be able to:

- Write a C++ program, including setting up an interactive development environment, debugging and linking to libraries of helpful pre-existing routines.

- Understand the C++ memory model, including its use of pointers and how memory is allocated and deallocated.

- Implement abstract data structures as C++ classes using constructors, destructors, member functions and operators.

- Engineer C++ software solutions using class hierarchies and templates.

Textbook and Readings

There is no required textbook. Please see the weekly overview pages for more information about readings for the according week.

Course Outline

Week	Topics
1	Orientation; Writing a C++ Program