

**The Hong Kong University of Science and Technology**

**UG Course Syllabus**

Course Title: Programming with C++

Course Code: COMP2011

No. of credits: 4-credit

Any pre-/co-requisites: COMP 1021 OR COMP 1022P OR COMP 1022Q (prior to 2020-21)  
OR ISOM 3230

Course Description

This course covers programming and data structures using C++. In addition to basic programming concepts such as variables and control statements, students will learn about arrays, pointers, dynamic data allocation, linked lists, stacks, queues, binary trees, recursion, and the basics of object oriented programming. Prerequisite(s): COMP 1021 OR COMP 1022P OR COMP 1022Q (prior to 2020-21) OR ISOM 3230. Exclusion(s): COMP 2012H

List of Topics

1. Introduction to computer programming
2. C++ basics: basic syntax, data types, operators
3. Control flow
4. Functions
5. Array and structure
6. Recursion
7. Scope
8. Struct
9. Pointers
10. Dynamic Data
11. Class
12. Stack and Queue
13. File input / output

Textbooks

[Big C++: Late Objects, 3rd Edition](#)

Cay S. Horstmann eBook ISBN:

9781119402978

Reference books

N/A

Grading Scheme

Lab exercises	10%
Programming assignments	24% (8%, 8% , 8%)
Quiz on C++ Basics	5%
Midterm	25%
Final exam	36%
Total	100%