

- **Still looking for a job?**
- **Malaysian Diploma / Degree holder?**
- **Interested in a career in ICT industry?**

COURSE: C++ Intermediate (Duration : 30 Days)

DURATION : 30 Days

C++ is a new version of C with object-oriented extensions. Most versions of C++ are currently implemented as preprocessors. That is, you write C++ source code, the C++ preprocessor (called CFront) then takes the C++ code and translates it into standard C code. The resulting C code is then fed to a regular C compiler for compilation into executable code. The programmer usually doesn't see the intermediate C code produced by CFront since the whole process is wrapped in a script (called CPlus in MPW) that invokes CFront and then pipes the intermediate code directly to the C compiler.

This training will look at some examples of intermediate code to give you a better idea of what CFront is doing to your C++ code. Knowing what the intermediate code looks like will help you to understand the cryptic error messages that you sometimes get during a build of a C++ program and will also help you to avoid certain C++ constructions that result in inefficient C code.



COURSE OUTLINE

1. Getting Started with C++
2. Managing Memory
3. Inheritance
4. Operator Overloading
5. Structures
6. Background to C++
7. Templates
8. Standard Templates Library
9. Exception handling
10. C++ Reference



REQUIREMENT

1. Malaysian citizen
2. Fresh graduates who are unemployed
3. Diploma or degree graduates
4. CGPA \geq 2.5 - Candidates who have GCPA below 2.5 will be required to sit for the pre-qualifying test provided.
5. Field of studies should be relevant to course selected

COURSE CONTENT

Module 1 : Getting Started with C++

Day 1

- A simple C++ program
- Simple input and output
- Exercise

Day 2

- Syntax: semicolons, whitespace, indentation, and comments
 - Exercise
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Module 2 : Managing Memory

Day 3

- New and delete
- Object copying
- Exercise

Day 4

- Copy constructor
- Assignment operator
- Exercise

Day 5

- The this pointer
 - Exercises
-

Module 3 : Inheritance

Day 6

- Simple inheritance
- Polymorphism

Day 7

- Object slicing
- Base initialization
- Exercise

Day 8

- Virtual functions
 - Exercise
-

Module 4 : Operator Overloading

Day 9

- NB: this is a brief introduction
- Operator functions
- Exercise

Day 10

- I/O operators
- Friends
- Exercise

Day 11

- Member operators
- Conversions
- Exercises

Module 5 : Structures

Day 12

- What are structures for?
- Defining structures

Day 13

- Using structures
- Initializing structure variables
- Exercise

Day 14

- Passing structures to functions
- Returning structures from functions
- Exercise

Day 15

- Pointers to structures
- Passing structure pointers to functions
- Abstract data types
- Exercise

Module 6 : Background to C++

Day 16

- User-defined types
- Encapsulation
- Exercise

Day 17

- Polymorphism
- The Standard Template Library
- Exercise

Day 18

- Namespaces
- Exercise

Module 7 : Templates

Day 19

- Introduction
- Template classes
- Exercise

Day 20

- Declaration and instantiation
- Template functions
- Exercises

Module 8 : Standard Templates Library

Day 21

- Namespaces reviewed
- Strings

Day 22

- Vectors
- Iterators

Day 23

- Hashes
- Iostreams
- Other types

Module 9 : Standard Templates Library

Day 24

- Simple use
- Exercise

Day 25

- Exceptions and derived classes
- Function exception declarations
- Exercise

Day 26

- Unexpected exceptions
- Exceptions when handling exceptions
- Exercise

Day 27

- Resource capture and release
- Exercise and review

Module 10 : Problem And Controversies

Day 28

- Standard Compliance
- Criticism
- Incompatibility With C
- Exercise

Module 11 : C++ Reference

Day 29

- Attributes by Group
- Attributes by Usage
- Attributes Programming
- Reference
- Attributes Samples
- Exercise

Day 30

- Individual Project Presentation, tips, dos and don'ts and certificate award