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Course Outline

Course Title	Programming C++
Course Code	PROG 2100
Hours	60
Credits	4
Prerequisites	PROG 1400, SAAD 1001, PROG 2007
Co-Requisites	
Conditions	

Course Description

This course introduces learners to the C++ programming language, focusing on the use of pointers, memory management, generic programming and the Standard Template Library. Exploration of the language in a project context aims at reinforcing object-orient design principles; use of idioms design patterns; use of UML in design and documentation; and utilization of third-party libraries.

Rationale

C++ is still one of the most popular programming languages. Offering a balanced mix of high-level and low-level language features, C++ is used in a broad range of applications – from programming device drivers, embedded and system software, to high-performance computing and game programming. This course will focus on features underrepresented in, or absent from, languages like Java, or C#: pointers and dynamic data structures (low-level features) on one side, and template meta-programming (high-level features) on the other.

Learning Outcomes

Students are required to successfully complete each course outcome. In keeping with NSCC's approach to portfolio learning, students will have demonstrated the ability to:

1. Demonstrate understanding of object-oriented programming paradigms by developing command-line and console-based applications in C++.

2. Design and implement systems of interacting objects using classes and utilizing encapsulation, inheritance, abstraction, and polymorphism.

3. Illustrate the concept of streams through creation, modification and consumption of data.

4. Apply the principles of memory management through the dynamic creation, manipulation and destruction of related objects.

5. Explore components of the standard template library (STL).

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6. Manage exceptions in applications using error-handling techniques.

Grading

The pass for this course is   60%

Required Supplies

Under Development

Other Learning Resources

See your Instructor for details.

Other Information

Not Applicable

Other Course Notes

It is the responsibility of the student to review and understand all Nova Scotia Community College policies, most specifically the Student Community Standards, Academic Integrity, Student Appeals, Use of Copyright Materials, and Academic Accommodation policies. Policies directly applicable to students are referenced in the student handbook. The policies and procedures can be found on the College website: Policies & procedures (https://nscc.ca/policies/)

If you have questions about policies and/or procedures, you are encouraged to ask Faculty, your Academic Chair or Staff at Student Services.

Workplan

A workplan for this course is attached and will be reviewed by your faculty member(s) within the first week of class study.