COMP 322 Course Outline

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Goals of the course

By the conclusion of this course, you will have achieved the following:

- Discernment of Distinctions: Develop a comprehensive understanding of the distinctions between C++, Java, and C, enabling you to navigate and appreciate the unique characteristics of each language.
- Memory Management Proficiency: Acquire the skills to adeptly manage memory in a programming environment devoid of garbage collection, demonstrating competence in a crucial aspect of software development.
- Application of C++ Features: Gain practical knowledge in utilizing key features of C++, enhancing your proficiency in leveraging the capabilities of this versatile programming language.
- Foundational Understanding of OOP: Master the basics of object-oriented programming, a fundamental paradigm in software development, enabling you to design and implement efficient and modular code.
- Strategic Application of Techniques: Familiarize yourself with a spectrum of potent techniques within the realm of C++, and develop the discernment to apply them judiciously, elevating the quality and efficiency of your programming endeavors.
- Broadened Programming Perspective: Cultivate a more nuanced and enriched understanding of programming by witnessing alternative approaches to problem-solving, particularly contrasting with the paradigms employed

Textbook

- The C++ Programming Language by Bjarne Stroustrup.
- Another highly recommended books are:
  - Accelerated C++: practical programming by example by Andrew Koenig and Barbara Moo.
  - C++ primer by Stanley B. Lippman, Josée Lajoie and Barbara E.Moo

Evaluation

- There will be three homework assignments and two quizzes:
  - 3 assignments worth 20% each (total 60%)
  - 2 quizzes worth 20% each (total 40%)

Assignments must be submitted electronically via mycourses, by the due date. Late assignments will be penalized by 10 percent per day up to a maximum of 2 days. For example, an assignment received 25 hours late will be eligible for at most 80% of the possible score. An assignment received 50 hours late will not be accepted except in extenuating circumstances (e.g. illness).

Approximate Schedule

1. 05 Jan - Hello World, Course introduction and some basics of C++
2. 12 Jan - Flow control, Functions and Input/Output
3. 19 Jan - Pointers and references (Assignment 1 out)
4. 26 Jan - Memory management
5. 02 Feb - More on pointers, arrays and strings
6. 09 Feb - Classes in C++ (Assignment 1 due)
7. 16 Feb - Quiz 1 (Assignment 2 out)
8. 23 Feb - Classes and Inheritance
9. 01 Mar - Reading week
10. 08 Mar – Operator Overloading (Assignment 2 due, Assignment 3 out)
11. 15 Mar - Exceptions
12. 22 Mar - Templates
13. 29 Mar- std template libraries and a word about C++14, 17 and 20. (Assignment 3 due)
14. 05 Apr - Quiz 2