# Meeting Time & Location

Thursday, 5 pm – 8 pm, (Hybrid Class)

# Course Description

This course introduces Computer Studies students to the principles and processes governing software design and development. Software development processes are explored in the context of procedural and object-oriented paradigms (C/C++). Topics include the use of functions, conditional statements, for and while loops, object-oriented programming such as classes and objects, arrays, strings, inheritance, stack, push, and exceptions in order to design and implement, test, inspect and debug applications using C++. Students will learn how to leverage industry standard tools for design and development. Laboratory work/assignments will focus on developing applications using C++.

# Resources

Study resources will be provided via Blackboard

# **Modern C++ for Absolute Beginners: A Friendly Introduction to C++ Programming Language and C++11 to C++20 Standards**

Author: [Slobodan Dmitrović](https://www.amazon.ca/Slobodan-Dmitrovi%C4%87/e/B08F81RBHZ/ref=dp_byline_cont_book_1)

# Instructor

Syem Ishaque

[syem.ishaque@GeorgianCollege.ca](mailto:syem.ishaque@GeorgianCollege.ca)

# Office Hours

Meetings can be made by email request.

**Expectations for Success-** To be successful in this course you need to attend class regularly, ask for help when you need it, and strive to complete all work to the best of your ability within the required time frames. **The passing grade for all courses if 50%, or Letter grade of P (Pass) or S(Satisfactory) Note: Due to COVID-19 all assignments, exams or presentations will be “synchronous/asynchronous” study for the remainder of the semester**.

Please refer to the ***Georgian College Academic Policies and Procedures***, available at: <http://www.georgiancollege.ca/admissions/policies-procedures/>

# Evaluation

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| --- | --- |
| **40% - Class Assignment** |  |
| Assignment (10% each) x 4 (Individual) | 40% |
| **30% - Exam** |  |
| Mid-term | 30% |
| **30% -** **Final Project** |  |
| Final Project (Individual) | 30% |
| **Evaluation is comprised of:**  **Presentation/Assignments 55%**  **Test 45%**  **Evaluation:** Tests/Examinations/Assignments must be written/submitted at the time specified. Requests for adjustments to that schedule must be made before the Tests/Examinations/Assignments date to the faculty member. Failure to do so will result in a mark of ‘0’, unless and illness/emergency can be proven with appropriate documentation at no cost to the college. |  |

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| **Course Content** |

- Functions

- Classes and Objects

- Conditional Statements, For and While Loops

- Pointers

- Arrays and Strings

- Functional Apps

- Games

- Mobile Apps

# Schedule of Activities

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| WEEK | | | LESSON |  | | | | |  | |
|  |  | | | | | | |  |  | |
| 1 | September 8th - Overview of Introduction to C++ (Online) | | | | | | |  |  | |
| 2 | September 15th – Installing compilers, and First Programs.  (Online) | | | | | | |  |  | |
| 3 | September 22nd – Fundamentals of C++. **Assignment # 1 (Due in 1 week) (**In Class**)** | | | | | | |  |  | |
|  | |  | | |  | |  | | | | |
| 4 | September 29th – Arrays and Strings, Pointers and Conditional Statements (Online) | | | | |  | |  | | |
| 5 | | October 6th - For, While Loops and Switch Statements. **Assignment # 2 (Due in 1 week) (**Online**)** | | | |  | |  | | |
| 6 | | October 13th - Functions (Online) | | | |  | |  | | |
| 7 | | October 20th – **Midterm (**In Class**)** | | | |  | |  | | |
| 8 | | Reading Week (no classes) | | | |  | | October 24th- October 30th | | |
| 9 | | November 3rd – Classes and Objects (Online) | | | |  | |  | | |
| 10 | | November 10th – Classes and Inheritance **Assignment 3 (Due in 1 week)** (In Class) | | |  | | |  | | | |
| 11 | | November 17th – Files, Exception Handling, Stack and Queue **Assignment 4 (Due in 1 week)** (Online) | | |  | | |  | | | |
| 12 | | November 24th – Design processes to implement functional apps using C++ (In Class) | | |  | |  | | |
| 13  14  15 | | December 1st – Final Project Details and Work Session (Online)  December 8th –***Final Presentations Work Period*** (Online)  December 15th – Final Presentation Due date (Online) | | |  | |  | | |
|  | | ***Note:***  ***Project – (Group) Final Project Online Video Submissions*** | | |  | |  | | |
|  | | **The sequence and content of this syllabus may change due to unanticipated opportunities or challenges, or to accommodate the learning styles of the students** | | |  | |  | | |

Emergency evacuation

•     Evacuate buildings when a fire alarm is activated or an official announcement is given.

•     Familiarize yourself with all fire exit doors of classrooms and buildings you may occupy.

•     Do not re-enter a building until instructions are given by the Fire Department or College Personnel.

<http://www.georgiancollege.ca/about-georgian/campus-safety-and-security/fire--tab/>

Lockdown

•    Lockdown is initiated when there is a potential or actual violent incident on campus that could result in a serious injury or threat to life.

•    Students are notified of a lockdown through mass communication systems. Instructions for students to sign up for text message alerts can be found on the main menu page of Banner, “Lockdown Alerts”.

•    Familiarize yourself with the College Lockdown procedures:

<http://www.georgiancollege.ca/about-georgian/campus-safety-and-security/lockdown--tab/>

•    Lockdown tests will occur each semester.

Sexual violence

- Learn about options and resources available to those who require support or who wish to support others.

<http://www.georgiancollege.ca/about-georgian/campus-safety-and-security/sexual-violence-tab/>

Campus closures

- Weather can impact driving conditions and operations at Georgian College campuses.  It’s important to consider your personal safety in deciding when to come to class or to work.

<http://www.georgiancollege.ca/about-georgian/campus-safety-and-security/campus-closures-tab/>

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