COMP2006-02 – Introduction to C++

syllabus SDVA

Meeting Time & Location: **S2017**

Tuesday, 16hr00 to 19hr00, B-225

NB. There is no class on 27 June due to reading week.

Course Description:

Students will learn to use the Object Oriented Programming principles of encapsulation, polymorphism and inheritance in the C++ programming language. Students will obtain knowledge of C++ grammar and syntax. Emphasis is placed on the powerful programming techniques supported by C++, including object manipulation and reusability, function/operator overloading, pointers and dynamic memory allocation.

Resources:

Required Textbook: N/A
Development Platform: C++ compiler of your choice

Additional resources will be provided as required during the course.

Instructor:

Mr. Jason Gubbels, M.Sc.Eng., M.Eng., M.Ed., C.E.T., P.Eng.
Email: Jason.Gubbels@GeorgianCollege.ca

Office Hours:

Please email or discuss office hours with instructor after the lesson.
Instructor mail can be left in their drop box in A143 between 8 AM and 4 PM.

Expectations for Success:

To be successful in this class you need to:

- Attend class regularly, take notes, and participate
- Ask for help as often as you require
- Review class notes and material regularly
- Access the Blackboard site often
- Understand how you learn best

Learning Outcomes:

Upon successful completion of this course the student will have reliably demonstrated the ability to:

1. Use predefined objects and classes to create or modify a C++ application.
2. Create new objects and classes to represent entities from a problem domain to become proficient in building programming solutions for real world problems.
3. Design, develop and deploy C++ applications in order to recognize the value of object oriented programming techniques
4. Construct objects that interact in a useful way in applications in order to recognize the value of object-oriented programming techniques.

Course Content:

i. Language/Grammar: data types and declarations, operators and control structures, statements, built-in and user-defined functions, scope, local, and global variables, arrays
ii. C++ libraries: standard input/output, standard template library
iii. Memory Management: pointers, references, and dynamic memory allocation
iv. Classes: constructors and destructors, encapsulation, member access levels, data members and member functions
v. Inheritance and Polymorphism

Evaluation:

Tests/examinations/assignments must be written/submitted at the time specified. Requests for adjustments to that schedule must be made before the test/exam/assignment date to the faculty member. Failure to do so will result in a mark of "0", unless an illness/emergency can be proven with appropriate documentation at no cost to the College.

The passing grade for all courses is 50%, or letter grade of P (Pass) or S (Satisfactory) unless otherwise noted below. The passing weighted average for promotion through each semester of a program is 60% and is a requirement to graduate.

Evaluation is comprised of:

Tests (40%):	Assignments (60%):
Mid-Term – 20%	Six assignments worth 10% each
Final Exam – 20%	(Details to be published on Blackboard)

Assignment rubric(s) will be provided if required when the assignment is given.
All sources must be properly referenced as per Georgian College guidelines.
Due dates will be provided in class and posted on Blackboard.

Georgian

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SCHEDULE OF ACTIVITIES			S2017
Wk	**Date**	**Content**	**Due**
1	9 May	Course introduction Intro to C/C++ including data types, declarations, and operators Get the compiler environment operational	
2	16 May	Control Structures Local and global variables	
3	23 May	Functions (built-in and user-defined) Inheritance and Polymorphism	Assn 1 Due
4	30 June	Arrays and Strings	
5	6 June	Pointers References	Assn 2 Due
6	13 June	Continuation in Pointers, Arrays, Functions	
7	20 June	C++ Libraries Mid-Term Exam	Midterm Exam
8	27 June	**No Class - Reading Week**	Assn 3 Due
9	4 July	Objects and Classes: Constructors and Destructors Encapsulation Member Access Levels	
10	11 July	Data Structures	Assn 4 Due
11	18 July	Memory Management Dynamic Memory Allocation	
12	25 July	Advanced Topics I	Assn 5 Due
13	1 Aug.	Advanced Topics II	
14	8 Aug.	Object Oriented Programming	Assn 6 Due
15	15 Aug.	Course wrap up Final exam	Exam

NB. Brackets represent associated text references if applicable

The sequence and content of this syllabus may change due to unanticipated opportunities or challenges, or to accommodate the learning styles of the students.Personal images, images of your projects and images of events may be taken throughout the semester. If you do not want your work/image used for College and Program promotional purposes, please fill out and submit a Disclaimer Form, available from Tannis Peacock in Room D127, to your Program Coordinator.

Prior Learning Assessment (PLA): S2017

This course is eligible for PLA. If you feel that you have acquired equivalent skills and knowledge, through life and work experience, you can request an assessment. Contact your program coordinator or the Office of the Registrar. The decision regarding availability of PLA or method of challenge cannot be appealed.

Appeals:

A student at Georgian College can appeal the following:

A. A mark on the assignment, test, examination or practical experience;
B. A final mark for a course or co-op work term;
C. Missing or incorrect assessment information on a grade report and/or transcript

What if I need help?

Instructor: Email me and we can set up a time to meet or discuss through email. I'm also usually available before and after class.
Peer Tutor: If you need help outside class hours you can request a peer tutor from PeerServices (inside Library Commons – 1st floor in K Building). The service is free.
Student Success Centre: If you need disability services, learning strategists, or counsellors,you can go to the Student Success Centre in room B110.

Emergency Evacuation:

• Evacuate buildings when a fire alarm is activated or an official announcement is given. Review the evacuationguidelines
• **Students requiring assistance in emergency situations must inform their faculty duringthe first week of class**
• Familiarize yourself with all fire exit doors of rooms/buildings you may occupy
• Do not re-enter a building until instructions are given by the Fire Department or College Personnel

Lockdown:

- Lockdown is initiated when there is a potential or actual violent incident on campus that could result ina serious injury or threat to life
- Students can download the safe@georgian app to stay updated onCampus Safety and Security information including lockdown. 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 Procedure (pdf)
- Lockdown tests occur each semester

Resources:

- Get Out, Hide, Fight LockdownVideo
- NEW Lockdown Model – Get Out, Hide, Fight: Lockdown Tools and Tactics andFAQs.

Sexual Violence Procedure and Protocol:

SDVA

- All members of the Georgian College community have a right to work and study in an environment thatis free from sexualviolence.
- The College is committed to preventing sexual violence and creating a safe space for anyone in theCollege community who has experienced sexualviolence.
- All reported incidents of sexual violence will be investigated to the best of the administration'sability and in a manner that ensures dueprocess.
- Familiarize yourself with the Sexual Violence Procedure and Protocol (pdf).

Unscheduled Campus Closure:

For reference refer to unscheduled Campus Closure Procedure#2-102

Timing of Closures/Notifications

Closure	Decision	Communication/ Notification*	Notes
College has made the decisionto close a campus or location inthemorning:	6:00AM	By 6:30a.m.	If re-opening for noonor evening classes isbeing considered, this willbe mentioned in themessage
College closes a campus(s) inthe morning and expects to re-openby12:00noon	9:30 AM	By 10:00a.m.	Only affects classesbeginning at 12 noon orlater
Closure expected to continuepast12:00noon	9:30 AM	By 10:00a.m.	
College intends to re-openforevening classes which commenceat 5 p.m. orlater	2:30 PM	By 3:00p.m.	
College intends to NOT re-openforeveningclasses:	2:30 PM	By 3:00p.m.	

***Notification will be made via:** College website, radio and television announcements through local and regional media, college telephone system automated message, Blackboard, all student email to college accounts, Georgian College Facebook site, and Georgian College Twitter feed

STUDENT SERVICES AND SUPPORTS – Barrie Campus (April 2017) **S2017**

Advisors: (located in Library Commons)

- First point of contact for transition support; you can ask any question and together we will find the answers!
- We can show you how to learn more effectively and efficiently with study skills including time and task management, note-taking, effective studying, giving a presentation and taking tests
- We will offer correct referrals and connections to the supports that you may need

Call 705.728.1968 ext. 1307 to book an appointment and meet your advisor.

Peer Tutors: (located in Library Commons)

- Available to all students to facilitate understanding of course content
- To find out more about one-on-one tutors, make an appointment with the Peer Services Advisor by calling 705.728.1968 ext. 1307

Learning Centres: (Located in Library Commons)

- Drop-in tutoring for specific program-related courses
- Our Centres include (drop-in, telephone, skype and 1:1 appointments)

Writing Support

- Get free help with your writing assignments!
- Create outlines for your assignments and work on sentence structure and paragraph development
- Access resources to check your references (e.g. APA or MLA)
- Math Support
- Get free help with math!
- Make sense of math questions
- Understand word problems; Work with formulae

Accessibility Services (B110):

- Support for students whose success at college may be affected by a disability
- Ongoing support from our Accessibility Advisors including arranging a confidential psychoeducational assessment
- Training in the use of specialized computer technology by our Adaptive Technologists
- Classroom and test accommodations

Library:

- Research Help (find books, articles and websites on your topic)

Counselling (B110):

- Free, confidential counseling is provided to all students by phone and/or office appointments
- Counselors are on call every day of the week for urgent needs or students can book an appointment

Testing Services (B121):

- Accommodated testing
- Missed/Makeup testing
- Proctoring services are also available for external and Ontario Learn exams

Co-operative Education & Career Success (B115):

- Co-op and internship preparation and support
- Career assessments and exploring options
- Job search strategies
- Labour market information
- Resume/cover letter review and development
- Interview practice
- Graduate employment information
- Links to job postings and online resources