

*Carleton University School of Computer Science*  
**COMP 2404 -- Introduction to Software Engineering**  
Course Outline – Fall 2015  
*Final version*  
*Last modified: Monday, August-31-15*

### Class Schedule

Classroom:	TBA
Class times:	Wed. and Fri. 13:00 – 14:30
Course web site:	<a href="#">cuLearn</a>

### Instructor Information

Instructor	Office	Telephone	Email	Office Hours
Dr. Christine Laurendeau	5376 HP	613-520-2600 x1253	christine.laurendeau@carleton.ca	posted on <a href="#">cuLearn</a>

### Teaching Assistants

Detailed TA information can be found on [cuLearn](#).

### Course Description

Introduction to object-oriented software development, with emphasis on design and implementation of medium-sized programs. Topics include abstraction, modularity, encapsulation, reusability, and design patterns.

### Topics Covered

The course will cover the following topics, although some material may be omitted due to time constraints:

- Basics of Object Design
  - Overview of software engineering principles
  - Basics of C++ development
  - Basics of classes
- Data Abstraction
  - Encapsulation
  - Inheritance
  - Design patterns
  - Overloading
  - Polymorphism
- Code Reuse
  - Templates
  - The Standard Template Library
  - Files and streams
- Software Robustness
  - Dealing with faults
  - Exception handling

### Prerequisites

COMP 2401

**Note:** Students who are granted equivalencies or transfer credits in lieu of the prerequisite course(s) and students who performed poorly in the prerequisites are responsible for learning all missing background material on their own.

### Textbook(s)

No textbook is required for this course. There are several good C++ references that you can use, including: Deitel and Deitel, "C++ How to Program", any recent edition, Prentice Hall.

## Evaluation

Students will be evaluated in this course according to the following measures:

Component	Weight	Due Date
Assignments	35 %	bi-weekly
Tutorials	10 %	weekly
Midterm	15 %	in-class (Nov. 4)
Final exam	40 %	TBA

## Evaluation Notes

- In order to pass the course, students must obtain a passing grade on the final exam.
- All assignment and midterm/test marking disputes must be addressed with the individual responsible for marking the work (TA or instructor), within **one week** of the marks being posted. In cases where a student and a TA cannot agree, the matter will be referred to the instructor for resolution.
- There will be no extra credit available in this course.
- Grade grubbing will not be tolerated.

## Course Material

- All concepts covered in class and during tutorials are part of the course material, including the course notes and annotations, all in-class coding exercises, tutorial exercises, and in-class and forum discussions.
- Lecture recordings may be provided, but **exclusively** as a supplemental study aid. They are **not** a substitute for lecture attendance and note taking. *Some lectures may not be recorded* for pedagogical or technical reasons, at the sole discretion of the instructor. Students are responsible for learning the material covered during all lectures, whether recordings are available or not.
- All materials created for this course (including course notes, coding examples, lecture recordings, tutorials, assignments, assignment code bases, marking schemes, tests, exams, and test/exam solutions) remain the *intellectual property* of the instructor. They are intended for the personal and non-transferable use of students registered in the course. Reposting, reproduction and/or distribution of any course materials, in part or in whole, without the written consent of the instructor, is illegal and **strictly prohibited**.

## Assignments

- There will be four (4) assignments in this course, and the assignment requirements will be posted on [cuLearn](#).
- Additional information and requirement clarifications will be posted in the assignment discussion forums on [cuLearn](#). Students are responsible for following all instructions posted in these forums.
- All assignments must be completed in the programming environment (Virtual Machine) provided for the course.
- All assignments are to be submitted on [cuLearn](#), before the due date and time. Do not email assignments to TAs or to the instructor. **LATE ASSIGNMENTS WILL NOT BE ACCEPTED FOR ANY REASON.**
- A maximum of one (1) assignment may be waived, for reasons of medical emergency only, supported by a completed [Carleton University Medical Certificate](#) form. No alternate documentation will be accepted. No additional assignments will be waived, for any reason.
- Assignments marks will be released to students when **all** the grading is completed.

## Collaboration Policy

Collaboration on assignments is restricted to members of the same group, which will consist of no more than two (2) students. Collaboration between groups is **strictly disallowed** and will be reported to the Dean of Science as an instructional offense. If you need help, please see a TA or your instructor. Posting assignment solutions online before the due date and time is also prohibited.

## Tutorials

Tutorial attendance:

- Tutorials begin on Sep. 14. All tutorial dates for the term are posted on [cuLearn](#).
- Tutorial attendance is **mandatory** and will be counted towards your final grade.
- You must attend the tutorial session for which **you are registered**. Permission to attend an alternate session must be obtained from the instructor **in advance** and will only be granted for reasons of medical emergency, supported by a completed [Carleton University Medical Certificate](#) form.
- Tutorial work **cannot** be submitted for credit. To get your grade, you must do the work during a tutorial session.

During your tutorial session:

- You **must** work on the tutorial provided. Anyone not working on the tutorial will be asked to leave the room.
- You must bring paper, pencils and a memory stick to each tutorial. You must **save your work** after the tutorial.
- Tutorial questions must be completed **in sequence**.
- Each tutorial builds on the previous one, and they must be completed **in sequence**. If you miss or do not finish a tutorial, you will have to complete the work before you can begin the next one.

Tutorial grading:

- Tutorial TAs will assign you a grade at the end of the tutorial.
- For each tutorial, you get one point (1% of your final grade) if:
  - you work on the tutorial during the entire session
  - you complete at least 50% of the tutorial work
- For each tutorial, you get zero if:
  - you are absent for any reason
  - you do other work during the session
  - you do not complete at least 50% of the tutorial work
  - you complete or even start the tutorial before the session
- Tutorial grading is at the discretion of the TA and is not negotiable.

## Communications Policy

- Students are expected to check their email on a **daily** basis. Important course-related announcements will be posted on [cuLearn](#) and forwarded to students' email accounts.
- Students are expected to respond to emails within 24 hours on weekdays.
- Questions posted on [cuLearn](#) will be answered within 24 hours on weekdays.
- All assignment related questions must be posted on [cuLearn](#).
- All non-confidential course-related questions must be asked during the lectures or posted on [cuLearn](#).
- Students are expected to ask all **other** questions in person during the instructor's office hours.
- The in-class time immediately before and after lectures is **not** considered office hours, as the instructor has other responsibilities and cannot give students undivided attention. Students with questions at those times will be asked to see the instructor during office hours.
- Students are expected to make judicious use of email when contacting the instructor. Most questions can be posted on [cuLearn](#). Emails that are discourteous or disrespectful, or that in any other way contravene the [Student Rights and Responsibilities Policy](#), will not be answered. Others can expect a reply within 24 hours on weekdays.
- The TAs are the first point of contact for students requiring help with assignments.
- The instructor is the first contact for students requiring help with the course material or academic advising.
- In case of technical issues with the installation or operation of the provided Virtual Machine, students are required to first **read the documentation** posted on [cuLearn](#). Additional assistance may be provided by the SCS technical support team, and **not** by the TAs or the instructor.
- The instructor's office hours are in effect from Sept. 2 to Dec. 7, excluding the week of the Fall Break.

## Undergraduate Academic Advisor

The Undergraduate Advisor for the School of Computer Science is available in Room 5302C HP, by telephone at 520-2600, ext. 4364 or by email at [undergraduate\\_advisor@scs.carleton.ca](mailto:undergraduate_advisor@scs.carleton.ca). The undergraduate advisor can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisor will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and the Writing Tutorial Services.

## University Policies

### Student Academic Integrity Policy

Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties which range from a reprimand to receiving a grade of F in the course or even being expelled from the program or University. Some examples of offences are: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found in the Undergraduate Calendar.

### Plagiarism

As defined by Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own". Such reported offences will be reviewed by the office of the Dean of Science.

### Unauthorized Co-operation or Collaboration

Senate policy states that "to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis". Please refer to the course outline statement or the instructor concerning this issue.

### Academic Accommodations for Students with Disabilities

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable) at <http://www2.carleton.ca/pmc/new-and-current-students/datesand-deadlines/>

### Religious Obligation

Write to the instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: <http://www2.carleton.ca/equity/>

### Pregnancy Obligation

Write to the instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: <http://www2.carleton.ca/equity/>

### Medical Certificate

The following is a link to the official medical certificate accepted by Carleton University for the deferral of final examinations or assignments in undergraduate courses. To access the form, please go to <http://www.carleton.ca/registrar/forms>