

Course Description: A second course in programming emphasizing problem solving and computational thinking in an object-oriented language. Topics include abstraction, mutable data structures, methods, inheritance, polymorphism, recursion, program efficiency, testing, and debugging.

Precludes additional credit for BIT 2400, BUSI 2402, COMP 1406, ITEC 2400, ITEC 2401, SYSC 2004. Prerequisite(s): COMP 1005 or COMP 1405.

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Lectures: Tuesday and Thursday: 2:35 pm – 5:25 pm

Tutorials: A1 - Tuesday and Thursday: 5:35 pm – 6:55 pm

Locations: Lecture and tutorial locations are posted in Carleton Central.

Course Website: all course materials and resources will be available on Brightspace.

Online platform for Q/As: all questions about lectures, tutorials, exams, and course material will be answered on Brightspace Discussion Forums.

Teaching assistants (TAs): a list of teaching assistants and their emails and office hours will be posted on the course website. Office hours will be a combination of in-person and online sessions.

Learning Modality:

- Lectures will be synchronous (in person and online). Effort will be made to record and post lecture recordings on Brightspace. In unavoidable circumstances (e.g., instructor's illness), class will be carried out synchronously on Zoom.
- Tutorials will be synchronous with flexible online and on campus attendance. You must bring a laptop to the tutorials.
- Attendance will not be taken in lectures or tutorials. Tutorials will be drop-in sessions when TAs will be available with tutorial and assignment-related assistance.
- Assignments and weekly quizzes will be asynchronous and online via Brightspace.
- The final exam will be synchronous and in person. See [here](#) for the *Distance Exam* option.

Learning Outcomes:

Upon successful completion of COMP1006/1406, students should be able to:

- Implement object-oriented computer programs using the Java programming language
- Understand and effectively apply the key principles of object-oriented programming: encapsulation, abstraction, inheritance, and polymorphism
- Understand the basic memory model of Java programs
- Work with abstract data types to solve problems
- Apply exception handling to build fault-tolerant programs
- Create basic graphical user interfaces using the JavaFX library
- Save data to and load data from files

Recommended Textbook:

This course does not require any official textbook. An online textbook can be found [here](#). Reading material from this textbook will be shared on Brightspace.

Assessment Scheme:

In this course, students will be evaluated according to the following criteria.

Criteria	#	Total %	Tentative dates*
Quizzes	Best 10 of 11	10%	Weekly quizzes on Brightspace, start the week of July 2nd.
Tutorials	Best 10 of 11	30%	Weekly assignments on Brightspace and synchronous tutorial activities, start the week of July 2nd.
Assignments + Self-evaluation quizzes	4	40%	Self-evaluation quizzes are associated with assignments, more information will be available in Brightspace later.
Final Exam	1	20%	Scheduled by the Registrar.
Bonus	the remaining weekly quiz and tutorial scores	2%	Will be applied at the end of the term.

*Dates are subject to change. Announcements will be made in the class and on the course website.

Collaboration is NOT allowed on any assessment criteria. Assignments, tutorials, quizzes, and the final exam must be completed individually. Discussing assignments, tutorials, and quiz problems is allowed on a high level, but students should write code without any assistance from others.

- The use of any AI system to generate assignment code will be considered academic misconduct. This includes, but is not limited to, chatbots (e.g., ChatGPT, Google Bard, Bing Chat), research assistants (e.g., Elicit), and image generators (e.g., Stable Diffusion, Dall-E), etc. Students are not allowed to post questions/answers online (to sites like Chegg, CourseHero, etc.) and are never permitted to share or upload course materials without explicit permission from their instructor.
- There is a separate plagiarism policy document for this course in Brightspace. Students must read this document thoroughly and must agree to adhere to this policy (and to all policies stated in this course outline) before the assignment resources will be made available.
- If you are still unsure of the expectations regarding academic integrity (how to use and cite references, how much collaboration with lab or classmates is appropriate), you are invited to discuss any concerns with the instructor at the earliest opportunity.

Late policies: all quizzes, tutorials, and assignments for the course are due on **Friday at 11:59 pm (night)**. A 56-hour grace period is granted for each submission and ends on **Monday at 8 am (morning)**. TA office hours and forum monitoring are not available during the grace period. You may submit your quiz/tutorial/assignment solutions at any time within this grace period with no penalty. Beyond this submission window, extensions will not be possible for any reason.

This course does not use a double pass rule. To pass this course, a student must obtain at least 50% of the overall course weight.

Software Requirements:

Java programming language will be used in this course. You must download the latest JDK for your computer's operating system from the official website of Oracle (<https://www.oracle.com/technetwork/java/javase/downloads/index.html>). Be sure to install the JDK and not just the JRE. You may use JDK 17 or higher for this course.

In addition, you will benefit from using an IDE (Integrated Development Environment) to develop your projects. You are recommended to download and configure IntelliJ - Community edition. You should post all IDE configuration problems to the official student forum to seek help.

IntelliJ IDEA IDE

<https://www.jetbrains.com/idea/>

IntelliJ Getting Started Tutorials:

<https://www.jetbrains.com/idea/documentation/>

Weekly Quizzes:

Every week a set of practice problems related to the lecture materials will be posted on Brightspace. These questions will test your knowledge of the concepts and advantages of the object-oriented programming language. Two attempts per quiz are allowed. **The best 10 quiz scores will be counted.**

Tutorials:

Tutorials will be done weekly. To receive full marks, you must submit the completed work on Brightspace by the end of the deadlines. **The best 10 tutorial scores will be counted.** A few tutorials within the course will cover two topics and have double weight (double tutorials). This will be clearly stated in the tutorial specification and students will have more time to complete a double tutorial.

Assignments:

All assignments will be made available in Brightspace and you will use Brightspace to submit your assignments. **All assignment scores will be counted.**

Tutorial/Assignment submission: multiple submissions are allowed before the due date. You are expected to work on your assignments consistently once they are released and upload your progress on Brightspace periodically. As a result, **the instructor does not grant exemptions for the assignments due to sudden sickness, or any technical problems** such as problems regarding internet connectivity or computer hardware or software. **No provision is made for missed tutorials/assignments, and no extra credit tutorials/assignments will be available.** Therefore, you are advised to:

- periodically upload your progress (i.e., upload your progress whenever a change is made).
- attempt to submit your final submission at least one hour in advance of the due date and time.

For each assignment, you will be submitting one or more files that contain source code, and these files must be given the correct filename and provided in the specified format. **Assignments that are incorrectly named or in the incorrect format will be penalized and may receive a zero (0) mark.**

If any of the source code files you submit **does not run, it will receive a zero mark.** Consequently, after you upload your submission to Brightspace you must re-download it immediately and ensure that:

- your submission is a "zip" file that is not corrupt (i.e., it can be opened properly).
- each of your source code files can be run from an IDE or command line without error.
- each of your source code files can be viewed in a text editor (for marking purposes).
- your submission and each of your source code files follow the proper naming scheme.

You are expected to demonstrate **good programming practices at all times.** Your code may be penalized if it is poorly written.

Final Exam:

The time and the format of the final exam will be announced later in the term. The registrar's office will schedule the exam time and more information can be found on their website close to the exam time. For the **Distance/Off-campus Exam** information and **application deadlines**, see here <https://carleton.ca/ses/distance-exams/>. The deferral process for formally scheduled exams is handled through the registrar's office as well, see the registrar's website for more details.

Grading and Appeal:

All assignments and tutorials will be graded by the TAs. It is your responsibility to ensure that your marks (assignments, tutorials, quizzes) published in Brightspace are correct within **seven (7) days** from the date the marks were released. Concerns or complaints about the grading must be communicated first to the TA who marked your work, then, if the result is unsatisfactory, to the instructor within that time. After those 7 days, all marks are considered final and will not be changed under any circumstances.

Bonus: the remaining weekly quiz and the tutorial scores, if completed, will be used as bonus points (2%). This is completely optional; not attempting the bonus activities will not negatively impact your final grade.

SCS Computer Laboratory: students taking a COMP course can access the SCS computer labs. The lab schedule and location can be found [here](#). All SCS computer lab and technical support information can be found [here](#). Technical support staff may be contacted in person or virtually, see this [page](#) for details.

Additional Notes

- In addition to the time spent on reading/viewing lecture materials and completing tutorials, students can expect to spend **at least twenty (20) hours per week** on this course. Students are responsible for following all course materials, including lecture

notes, tutorial exercises, and all materials discussed in class and on the official discussion forums.

- Students are asked to **post all questions related to the course on the official discussion forum**; students **should not email the instructor directly** unless the question contains confidential information or is personal.
- The instructor will attempt to answer every student's email received within two (2) working days of the time the message was received unless the email requests information already posted on Brightspace, or in this course outline. To ensure that all announcements are received, **students are expected to check their email daily**.
- All materials created for this course (including, but not limited to, lecture notes, recorded videos, in-class examples, tutorial exercises, assignments, examinations, and posted solutions) remain the intellectual property of the instructor. These materials are intended for the personal and non-transferable use of students registered in the current offering of the course. Reposting, reproducing, or redistributing any course materials, in part or whole, without the written consent of the instructor, is strictly prohibited.

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 that range from a reprimand to receiving a grade of *F* in the course or even being expelled from the program or University. Examples of punishable offences include plagiarism and unauthorized cooperation or collaboration. Information on this policy may be found [here](#). Any student who violates academic integrity (intentionally or not) must be reported to the Associate Dean (Undergraduate) who will investigate the matter.

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. Standard penalty guidelines can be found [here](#).

Unauthorized Co-operation or Collaboration. Senate policy states that "to ensure fairness and equity in the 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.

Accommodations: Carleton is committed to providing academic accessibility for all individuals. Please review the academic accommodation available to students [here](#).

For information about Carleton's academic year, including registration and withdrawal dates, see [Carleton's Academic Calendar](#).