Course Outline

COMP 1406: 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.

Course Information

Instructor Name	Instructor Email
Ava McKenney	avamckenney@scs.carleton.ca

Course Discord	Course Webpage
Information will be posted on Brightspace	http://brightspace.carleton.ca/

Course Delivery

This course will be delivered using a mix of asynchronous and synchronous delivery methods (i.e., using a blended approach). Primary lecture material and readings will be delivered via pre-recorded videos shared through Brightspace. Scheduled in-person lecture sessions will provide further discussion of course concepts and additional examples. Where possible, in-person sessions will be recorded and shared with students for later use. A mix of in-person and online office hours will be offered. We will be using Discord to support online interaction within the course. Students will be required to use an alias that includes their first and last name, as listed on Brightspace, in the course Discord and in any other online course meetings or activities (Zoom, etc.).

Required Textbook

This course will not require the purchase of any textbooks. Reading material from an online textbook will be shared on Brightspace.

SCS Laptop Requirement

Everyone enrolled in a 1st year COMP course after the 2020/2021 school year is required to have a laptop. For more information, please visit the SCS Laptop Requirement page. **A laptop will not be strictly required for any work in this course but may be beneficial to have for in-class activities.**

Assessment Scheme

Your performance in this course will be assessed using several components. These include a collection of **eleven quizzes**, **ten tutorials** and **four assignments**. The grades you achieve on these components will be weighted with the following scheme.

11 Quizzes (best 10 of 11 counted as 1% each)	10%
10 Tutorials (3% each)	30%
4 Assignments (10% each)	40%
1 Final Exam (to be scheduled by Exam Services)	20%

Assignments, tutorials, quizzes, and the exam must be completed individually without the assistance of other students. Discussing assignment, tutorial, and quiz problems is allowed, but you should write all your own code without any assistance from others. A few tutorials within the course will cover two topics and have double weight. This will be clearly stated on the tutorial specification and you will have more time to complete a double tutorial. **This course uses a double-pass rule. A grade of less than 50% on the final exam will result in a grade of F for the course, regardless of grades received on other assessments.**

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Learning Outcomes

If a student successfully engages with all lecture materials, completes the recommended practice problems, and regularly participates in supplementary activities, then by the end of this course that student should be able to:

- Implement computer programs using the object-oriented programming paradigm and 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
- Solve problems using a recursive approach
- Work with abstract data types to solve problems
- Apply exception handling to build fault-tolerant programs

Assignment Submission and Late Policy

All tutorials and assignments for the course will be due on Fridays at 11:59pm. A 48-hour grace period will be allowed for each submission. You may submit your tutorial/assignment solutions any time within this 48-hour window without penalty. Beyond this grace period, no further extensions will be possible for any reason.

Technical problems do not exempt you from this requirement, so if you wait until the last minute and then have issues with your connection, you will still receive a mark of zero. Consequently, you are advised to:

- periodically upload your progress (i.e., upload partially completed submissions)
- attempt to submit your final submission at least 30 minutes in advance of the due date and time
- **download your submission and verify the contents after submitting**

For each assignment, you will be submitting one or more files that contain source code. These files must be compressed into a "zip" file. If you do not compress your source code files or if you compress your files into another format (e.g., "rar", "tar", etc.), then your assignment will be rejected and will receive a mark of zero. Additionally, your assignment files and submission must follow the specified naming schemes. Any variation from the naming scheme specified in the file will result in a significant loss of marks.

If a source code file you submit does not run it will receive a mark of zero. Consequently, after you upload your submission to Brightspace you should 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 compiled
- 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 and your code may be penalized if it is poorly written. You are also expected to do the necessary preparatory work (i.e., devising an algorithm) before you start coding. You are expected to present a pseudocode algorithm before you will receive any assistance from the instructor or a teaching assistant.

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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. For more information, including the Standard Penalty Guideline, see https://science.carleton.ca/academic-integrity/.

Plagiarism

As defined by the 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 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.

Use of AI Systems (e.g., ChatGPT, etc.)

Many of the assessed activities in this course were designed to be completed by an individual student working alone. Unless it is explicitly stated otherwise, the use of any AI tool to complete work will be considered academic misconduct. This includes, but is not limited to, chatbots (e.g., ChatGPT, Google Bard, Bing Chart), research assistants (e.g., Elicit), and image generators (e.g., Stable Diffusion, Dall-E), etc.

Academic Accommodations

Carleton is committed to providing academic accessibility for all individuals. Please review the academic accommodation available to students here: https://students.carleton.ca/course-outline/.

Undergraduate Academic Advisor

The Undergraduate Advisor for the School of Computer Science is available in Room 5302HP; or by email at scs.ug.advisor@cunet.carleton.ca. . The undergraduate advisors can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisors will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and Writing Tutorial Services.

SCS Computer Laboratory

Students taking a COMP course can access the SCS computer labs. The lab schedule and location can be found at: https://carleton.ca/scs/tech-support/computer-laboratories/. All SCS computer lab and technical support information can be found at: https://carleton.ca/scs/tech-support/. Technical support staff may be contacted in-person or virtually, see this page for details: https://carleton.ca/scs/tech-support/contact-it-support/.

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Additional Notes

Including the time spent viewing and participating in lectures, completing tutorials and assignments, and working on other course material, students can expect to spend **at least ten (10) hours per week** on this course. Students are asked to pose all questions related to course content using the official course Discord server or during the in person lectures each week. Students should not email the instructor directly unless the question contains confidential information or is of a personal nature.

The instructor will attempt to answer every student inquiry received within 48 hours of the time the message was received, unless the email requests information that has already been addressed in the course Discord server or in the course outline. All emails regarding the course should be sent from your Carleton email account. To ensure that all announcements are received, **students are expected to check their Carleton email and the course Discord server on a daily basis.**

All materials created for this course (including, but not limited to, lecture notes, 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 in whole, without the written consent of the instructor, is strictly prohibited.

Students are invited to discuss any concerns with the instructor at the earliest opportunity.