
Instructor:	Connor Hillen (He/Him)	Lecture Hours:	Tue. Thu. 14:35-15:55
Email:	connorhillen@cunet.carleton.ca	Website:	https://brightspace.carleton.ca
Office Hours:	Available on Brightspace	Location:	Refer to Class Schedule

Carleton University acknowledges the location of its campus on the traditional, unceded territories of the Algonquin nation.

1. About the Course

Calendar Description: Introduction to system-level programming with fundamental OS concepts, procedures, primitive data types, user-defined types. Topics may include process management, memory management, process coordination and synchronisation, inter-process communication, file systems, networking, pointers, heap and stack memory management, and system/library calls.

Prerequisite(s): (COMP 1006 or COMP 1406 or SYSC 2004) with a minimum grade of C-.

Textbooks and Other Resources: In lieu of a textbook, course notes have been made available online.

- M. Lanthier, C. Laurendeau, and D. Nussbaum, *COMP2401 Course Notes*. [Online]
<https://people.scs.carleton.ca/~clarend/Courses/COMP2401/Notes/>
- These notes are also available on the course website

Objectives: This course is here to introduce you to the C programming language and the introductory concepts of systems programming which underlie your computer programming and computer use. The objective is to introduce you to the principles behind systems programming, gain some proficiency working in the C programming language and building C programs, and be comfortable writing and designing programs which work at a lower level and necessitate working with memory directly.

Topics Covered: While minor areas may be adjusted for time, students who complete all material, attend all lectures, and perform all readings should be able to:

- Implement basic coding practices in the C language (eg. loops, conditions)
- Selecting appropriate data types to solve problems in C
- Design and implement static and dynamic data structures in C, such as linked lists
- Execute builds of C programs using command line and makefiles
- Organise program structure to follow clean coding practices in C
- Perform file input/output tasks
- Implement concurrent programming techniques, including process management and threads
- Utilise (or at least understand the capabilities of) graphics libraries and shell scripts

Technology: All students are required to work using the course virtual machine (VM). Information about the virtual machine will be posted to Brightspace. **Make sure to use the latest VM for COMP2401.**

Learn more about VMs here: <https://carleton.ca/scs/tech-support/virtual-machines/>

2. Assessments

Grading: There will be **five (5) assignments approximately biweekly** starting on the week of September 16th, **5 Knowledge Check quizzes**, an online **midterm exam**, and a formally scheduled **final exam**. A schedule is available on the Tentative Course Calendar on the course website. Your final grades will be calculated as following:

Assignments (4 x 12%, 1x6%)	54%
Assignment Knowledge Check Quizzes (Online, Best 4 of 5 x 1.5%) ..	6%
Midterm Exam (Online Asynchronous, March 8 - March 10)	15%
Final Exam (Formally Scheduled)	25%

Assignments: You will be uploading your submissions to Brightspace. Your lowest grade assignment will be automatically reweighted to 6%. You are expected to work on your assignments **consistently** upon release, and upload your progress to the submission periodically. As you are expected to submit periodically and consistently, issues near the submission deadline will not be considered for exemptions. Assignments involved in cases of academic integrity offences will **not** be considered for the lowest-grade reweighting.

All students are provided with exactly one assignment extension. Once during the course, you may submit an assignment up to one week past the deadline, submitted to the “Resubmissions” assignment page on the course website. No additional extensions will be considered. If you are experiencing medical issues, you may send a self-declaration form (linked below) to the instructor and have at most **one** assignment exempt. All non-exempt assignments will be evenly re-weighted, to 1x9% and 3x15%. **If you are experiencing ongoing medical issues and require accommodations beyond these policies, you may petition the dean of undergraduate affairs.**

Tutorials: Each week, starting on January 16th, tutorial sessions will be held in the room specified on your registration information. Tutorial attendance is optional, but provides a scheduled time to work and receive TA support. Each week, optional tutorial activities will be released with content relevant to the week’s lectures and assignments to provide focused study support. During tutorial sessions, you may ask for help about either the current assignment or help for the current/recent optional tutorial activities. Tutorial activities are not graded.

Completion of tutorial activities is highly recommended to support your understanding of the course material. As tutorial materials are not assessed, you are free to collaborate on and discuss tutorials and their solutions with your peers and with TAs, but **you may not discuss or collaborate on assignments** with anyone at any time.

Knowledge Check Quizzes: These are short online quizzes used to help you gauge how well you know the material needed for the active assignment. They are released alongside the assignments, and are due one week after they are assigned. Your lowest grade knowledge check quiz will be dropped.

Midterm Exam: The midterm exam will be held online using Brightspace and can be completed any time within the 48-hour period. The full schedule details can be found on the tentative calendar posted to the course website. During the days that the exam is running, no lectures will be held; you may use the scheduled lecture time, but due to the asynchronous nature, no additional support will be offered during this period. If you are ill and unable to write the midterm during this time, please submit a medical self-declaration form and the weight of the assessment will be shifted to the final exam.

Self-Declaration Form: <https://carleton.ca/registrar/cu-files/covid-19-self-declaration-form/>

3. Important COMP 2401 Course Policies

Plagiarism Policy: A separate **plagiarism policy document** which describes what might be considered an academic offence in this course can be found on the course website. Students **must read this document thoroughly** and must agree to adhere to this policy and all policies stated in this course outline **before course resources will be made available**.

For information about up-to-date penalties regarding academic integrity violations, refer to the following resource: <https://science.carleton.ca/students/academic-integrity/>

48-hour Regret Clause: If you have committed an academic integrity offence and you regret your action, you may email the instructor within 48 hours of submitting the offending material expressing your regret. The assessment will receive a mark of zero, and the violation will be held on record for the remainder of the course, but not sent to the dean unless an additional case of misconduct is suspected.

Communication Policy: In order to reduce the volume of emails and expedite responses, the only emails that should be sent to the instructor, teaching assistants, or lab coordinators should **require confidentiality** or is personal in nature, and be handled via direct email from a Carleton email address.

Students are expected to **check their Carleton email addresses daily for announcements**. Reminders for upcoming assignment deadlines will be handled using the default Brightspace notifications system, so if you require reminders, check that your Brightspace settings will send notifications.

Students should only **expect responses within 3 business days** during **business hours (8:30AM - 5:30PM, Monday - Friday)**. Plan ahead - questions asked over the weekends may go unanswered until the following week.

To make sure communication is handled in a timely manner, follow these guidelines:

1. Any **email communication** must include **[COMP 2401A]** in the subject line and include all relevant information for your inquiry. Please include your name, student ID, details on your inquiry, and the steps you have already taken to overcome your problem, if relevant.
2. **Assignment questions** should *first* be dealt with by discussing with a TA during office hours or via the Brightspace forums
3. **Course material assistance** can be handled via Brightspace forums or, if time allows, during either instructor or TA office hours.
4. **For technical issues**, first look on the Brightspace forums or the course resources, then check the [SCS technical support page](#), then inquire with teaching assistants who may forward your concern to the instructor.
5. **Students must behave in a professional manner in all communications**. Any communication that is seen as abusive, discourteous, or unprofessional may be moderated, ignored, or reported to the university for disciplinary action.

Grade Disputes: It is **your responsibility** to ensure that quiz, tutorial, and assignment marks posted to Brightspace are accurate and correct **within one week** of the date the marks were released. Concerns must first be communicated to the teaching assistant that graded the assessment, then if the result is unsatisfactory, can be forwarded to the instructor. After one week, **no further consideration will be offered and marks will not be changed**.

4. Important Considerations

1. **Verifying the correctness of assignment submissions is your responsibility.**
 - a. You are expected to **submit regularly** as you work on the assignment, and create regular backups.
 - b. You are expected to **download and test your submission on the course virtual machines** to make sure it is both complete and correct. If your submission is missing files, or if your code can not be run, or if your code can not be opened and read for marking purposes, you may receive a grade of zero. **This is an important policy to remember, as we will not accept files after the deadlines**, outside of the automatic extension policy.
 - c. You are expected to **verify all submission requirements** (eg. file types, file names) are met. If files are named incorrectly or packaged incorrectly, you may be penalised up to receiving a zero.
 - d. You are expected to submit long before the final deadline. A submission grace period will be provided, but any submissions beyond this period fall under the automatic extension policy.
2. **You can expect to spend at least eight (8) hours per week on this course, in addition to lecture time.**
3. **You are required to have a laptop.** Every student that has been enrolled in a 1000-level course or above offered by the School of Computer Science after the 2020/2021 school year is **required to have a laptop**. For information is available here: <https://carleton.ca/scs/scs-laptop-requirement/> and then review the requirements at <https://carleton.ca/scs/scs-laptop-requirement/laptop-specs/>.
4. **Questions should be posed on official course discussion boards.** As per the communication policy, all email communication should be kept to a minimum and utilised only if the nature is private or personal.
5. **All materials created for this course 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**.

5. Course Modality

All lectures in this course will be held in-person, and in-person attendance is expected. For your convenience and in case of illness, all lectures will be **attempted to be streamed and recorded via Zoom**, but quality of the stream and recording can not be guaranteed. The links to the Zoom meeting will be available on the course website. There is always the risk of technical issues occurring with these lectures, and students should make an effort to attend in-person if they are comfortable and capable. **Please note that recordings may take up to one week (7 days) to post, and should not be relied upon as a consistent alternative to attendance.**

Please note that by participating in these lectures, either online or in-person, that you may be included in these recordings. When attending on Zoom, Zoom will always notify meeting participants that a meeting is being recorded. It is not possible to disable this notification.

*These recordings will only be available to the members of this class, and **I ask that everyone be respectful and not allow others to view the recordings.** At the end of the course, the recordings will be deleted.*

Please note that recordings are protected by copyright. The recordings are for your educational use, and you are not permitted to publish to third party sites. **If you have concerns about being recorded**, please email the instructor directly so we can discuss these.

Please note that modality may change if necessary - for example, courses may be pre-recorded or online-only if the instructor falls ill.

6. Special Considerations

It is important to remember that COVID-19 is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real.

There are a number of actions you can take to lower your risk and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.

Feeling Sick? Remaining vigilant and not attending work or school when sick or with symptoms is critically important. **If you feel ill or exhibit COVID-19 symptoms do not come to class or campus.** If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. **In all situations, you must follow Carleton's symptom reporting protocols.**

Masks? Carleton has paused the COVID-19 Mask policy, but continues to **strongly recommend masking when indoors**, particularly if physical distancing cannot be maintained. It may become necessary to quickly reinstate the mask requirement if pandemic circumstances were to change.

Vaccines? While proof of vaccination is no longer required as of May 1 to attend campus or in-person activity, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. **Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible, and submit their booster dose information in cuScreen as soon as possible.** Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.

All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 website (<https://carleton.ca/covid19/>) and review the Frequently Asked Questions (FAQs) (<https://carleton.ca/covid19/faq/>). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca.

Doctor's note or medical certificate: in effect for Winter 2023 term. In place of a doctor's note or medical certificate, students are advised to complete the [self-declaration form](#) available on the Registrar's Office website to request academic accommodation for missed course work including exams and assignments. Students should also discuss with the course instructor the required accommodations arising from the COVID-19 situation.

7. School of Computer Science Information

Undergraduate Advisor: The Undergraduate Advisors for the School of Computer Science are 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/>

8. University Policies

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

Pregnancy Obligation. Please contact your 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 [Equity Services](#).

Religious Obligation. Please contact your 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 [Equity Services](#).

Academic Accommodations for Students with Disabilities. If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC 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 your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the [Paul Menton Centre website](#).

Survivors of Sexual Violence. As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Accommodation for Student Activities. Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your 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, see [the policy](#).

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. Examples of punishable offences include: plagiarism and unauthorised co-operation or collaboration. Information on this policy may be found [here](#).

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](#).

Unauthorised 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.

...And I hope you enjoy the course and have a great term!