



## COURSE OUTLINE

### 1. **Course:** CPSC 231, Introduction to Computer Science for Computer Science Majors I - Fall 2024

#### Coordinator(s)

Name	Email	Phone	Office	Hours
Dr. Richard Zhao	richard.zhao1@ucalgary.ca	Zoom or Discord	ICT 748	Tuesdays 4-5pm and by appointment

#### Section(s)

Lecture 01 : MWF 11:00 - 11:50 - Online

Instructor	Email	Phone	Office	Hours
Office time James Tam	tam@ucalgary.ca	403 210-9455	VIA ZOOM LINK	Monday & Wednesday: 2:00 - 2:30 PM

Lecture 02 : MWF 11:00 - 11:50 in ES 162

Instructor	Email	Phone	Office	Hours
Dr Christian Jacob	cjacob@ucalgary.ca	403 220-7682	ICT 750	Wed, 2-3 pm

Lecture 03 : MWF 14:00 - 14:50 in ENA 101

Instructor	Email	Phone	Office	Hours
Dr Mea Wang	meawang@ucalgary.ca	403 220-6785	ICT 740	1pm - 2pm Mondays

This course introduces problem solving, the analysis and design of small-scale computational systems, and implementation using the Python programming language.

Basic Linux commands are also introduced.

To account for any necessary transition to remote learning for the current semester, courses with in-person lectures, labs, or tutorials may be shifted to remote delivery for a certain period of time. In addition, adjustments may be made to the modality and format of assessments and deadlines, as well as to other course components and/or requirements, so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff).

#### In Person Delivery Details:

All tutorials are in-person, regardless of which lecture section the student is enrolled in.

All exams are in-person, regardless of which lecture section the student is enrolled in.

#### Online Delivery Details:

This course is being offered online in real-time via scheduled meeting times, you are required to be online at the same time.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

For students enrolled in Lecture Section 01, the lectures are delivered online.

For students enrolled in Lecture Sections 02 and 03, the lectures are delivered in-person.

#### Course Site:

<https://d2l.ucalgary.ca> : CPSC 231 (Fall 2024) - Introduction to Computer Science for Computer Science Majors I

**Note:** Students must use their U of C account for all course correspondence.

#### Equity Diversity & Inclusion:

The University of Calgary is committed to creating an equitable, diverse and inclusive campus, and condemns harm and discrimination of any form. We value all persons regardless of their race, gender, ethnicity, age, LGBTQIA2S+ identity and expression, disability, religion, spirituality, and socioeconomic status. The Faculty of Science strives to extend these values in every aspect of our courses, research, and teachings to better promote academic excellence and foster belonging for all.

## 2. Requisites:

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

### Prerequisite(s):

Admission to Computer Science, Bioinformatics, or Natural Science with a primary concentration in Computer Science.

### Antirequisite(s):

Credit for Computer Science 231 and any of Computer Science 215, 217, 235, Data Science 211, Computer Engineering 339, Engineering 233, or Digital Engineering 233 will not be allowed.

### Note(s):

- a. See the statements at the beginning of the Computer Science entry.

## 3. Grading:

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar.

In determining the overall grade in the course the following weights will be used:

Course Component	Weight	Due Date (duration for exams)	Modality for exams	Location for exams
Exercises <sup>1</sup>	8%	Ongoing		
Assignment 1 <sup>2</sup>	6%	Sep 27 2024		
Assignment 2 <sup>3</sup>	7%	Oct 18 2024		
Midterm	30%	Oct 23 2024 at 06:00 pm (2 Hours)	in-person	TBD
Assignment 3 <sup>4</sup>	9%	Nov 08 2024		
Assignment 4 <sup>5</sup>	10%	Dec 06 2024		
Registrar Scheduled Final Exam	30%	Will be available when the final exam schedule is released by the Registrar	in person	Will be available when the final exam schedule is released by the Registrar

<sup>1</sup> Exercises are distributed during in-person tutorials and posted on D2L. Exercises should be submitted on D2L and will be marked for completion.

<sup>2</sup> A total of 5 personal days can be used for assignment extensions, across all assignments.

<sup>3</sup> A total of 5 personal days can be used for assignment extensions, across all assignments.

<sup>4</sup> A total of 5 personal days can be used for assignment extensions, across all assignments.

<sup>5</sup> A total of 5 personal days can be used for assignment extensions, across all assignments.

Each of the above components will be given a letter grade using the official university grading system (see [section F.1.1](#)). The final grade will be calculated using the grade point equivalents weighted by the percentages given above and then converted to a final letter grade using the official university grade point equivalents.

This course will have a Registrar Scheduled Final exam that will be delivered in-person and on campus. [The Final Examination Schedule](#) will be published by the Registrar's Office approximately one month after the start of the term. The final exam for this course will be designed to be completed within 2 hours.

Each instructor reserves the right to award students with bonuses at the instructor's discretion.

If a student receives F on the final exam, the final course grade will be F.

All submitted graded work in this course must be completed individually, following regulations on academic integrity. It is not acceptable to copy entire blocks of code from an AI, the web, or another person, even if it is cited.

The University of Calgary offers a [flexible grade option](#), Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/undergraduate-processes>

## 4. Missed Components Of Term Work:

Students who are absent from an in-course assessment or who miss a deadline to submit course work are responsible for understanding and following the recommended steps provided in this Course Outline, and in the event of unexpected circumstances, contacting their course instructor to determine the impact of the missed assessment. At the discretion of the course instructor, alternative arrangements may be considered for missed components of term work, as described in [Section G2.3](#) Absence from In-Course Assessments of the Calendar. For additional information and resources on the steps you can take in the event of unexpected circumstances interrupting your studies, see the website link in [Section M.1](#) of the Calendar.

The course instructor may ask for supporting documentation to confirm an absence. For information on supporting documentation

that you can provide, see [Section M.1](#) Supporting Documentation for Absences of the Calendar.

In the event that an alternative arrangement is denied by the course instructor, students can email [science@ucalgary.ca](mailto:science@ucalgary.ca) to discuss the matter further with an Associate Dean.

For a legitimate absence from the midterm exam, a makeup exam will be held one week later at a location to be determined.

For a legitimate absence from an assignment submission, the weight of the missed assignment will be distributed to the other assignments.

Requests should be submitted through an online form available on the course website.

Five "personal days" will be provided to all students. Use these days at your own discretion and without explanation during the course for assignment extensions. For example, you could submit your second assignment 3 days late and your final assignment 2 days late, or just your final assignment 5 days late. Personal day usages are automatically calculated when you submit an assignment late. Assignments will not be accepted if they are not submitted on time and all personal days have been used.

Exercises will not be accepted if they are not submitted on time.

## 5. Scheduled Out-of-Class Activities:

The following out of class activities are scheduled for this course.

Activity	Location	Date and Time	Duration
Midterm	TBD	Wednesday, October 23, 2024 at 6:00 pm	2 Hours

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.** If you have a conflict with the out-of-class-time-activity, please contact your course coordinator/instructor no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made.

## 6. Course Materials:

Recommended Textbook(s):

Ben Stephenson, *The Python Workbook, 2nd Edition*: Springer.

Software and system used:

[Python 3](#)

[PyCharm Community Edition](#)

[Linux - Fedora Cinnamon](#)

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- o A computer with a supported operating system, as well as the latest security, and malware updates;
- o A current and updated web browser;
- o Webcam/Camera (built-in or external);
- o Microphone and speaker (built-in or external), or headset with microphone;
- o Current antivirus and/or firewall software enabled;
- o Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

## 7. Academic Assessment & Examination Policy:

Exams must be completed individually, following regulations on academic integrity. Only a pencil and an eraser are allowed during exams. Electronic devices, including laptops, cell phones, and calculators, must be turned off and stored in bags.

### Artificial Intelligence (AI) Usage Policy:

Students may use AI tools in this course as learning aids or to help with solving specific errors encountered during assignments, but not for generating blocks of code to solve the assignment questions. Students are ultimately accountable for the work they submit.

Use of AI tools must be documented in an appendix for each assignment. The documentation should include what tool(s) were used, how they were used, and how the results from the AI were incorporated into the submitted work. Failure to cite the use of AI generated content in an assignment/assessment will be considered a breach of academic integrity and subject to Academic Misconduct procedures.

See also [Section G](#) of the Calendar, on Academic Assessments and Examinations.

## 8. Approved Mandatory And Optional Course Supplemental Fees:

There are no mandatory or optional course supplemental fees for this course.

## 9. Writing Across The Curriculum Statement:

Writing skills are not exclusive to English courses and, in fact, should cross all disciplines. The University supports the belief that throughout their University careers, students should be taught how to write well so that when they graduate their writing abilities will be far above the minimal standards required at entrance. Consistent with this belief, students are expected to do a substantial amount of writing in their University courses and, where appropriate, members of faculty can and should use writing and the grading thereof as a factor in the evaluation of student work. The services provided by the [Writing Support](#), part of the [Student Success Centre](#), can be utilized by all undergraduate and graduate students who feel they require further assistance. See also [Section E.2](#) of the University Calendar.

## 10. Human Studies Statement:

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

## 11. Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I](#) of the University Calendar.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the **Reappraisal of Graded Term work form**, found on the [Grade Reappraisals & Appeals](#) web presence to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See [Sections I.1 and I.2](#) of the Calendar and <https://science.ucalgary.ca/current-students/undergraduate/program-advising/grade-reappraisals-and-appeals>
- b. **Final Exam:** student seeking a reappraisal of a final grade should first attempt to review the final grade with the department or faculty offering the course. After which, if the student wishes to initiate a formal grade reappraisal, they should refer to [ucalgary.ca/registrar/student-centre/grades](https://ucalgary.ca/registrar/student-centre/grades) for more information. The student must indicate exactly what error was made in marking the final assessment and/or in computing the final grade. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See [Section I.3](#) Reappraisal of Final Grades of the University Calendar.

## 12. Other Important Information For Students:

- a. **Wellness and Mental Health Resources** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help

resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).

- b. **Student Wellness Services:** For more information, see their [website](#) or call [403-210-9355](tel:403-210-9355).
- c. **Student Success:** The Student Success Centre provides services and programs to ensure students can make the most of their time at the University of Calgary. Our advisors, learning support staff, and writing support staff assist students in enhancing their skills and achieving their academic goals. They provide tailored learning support and advising programs, as well as one-on-one services, free of charge to all undergraduate and graduate students. For more information visit: <https://www.ucalgary.ca/student-services/student-success>
- d. **Student Ombuds Office:** The Student Ombuds Office supports and provides a safe, neutral space for students. For more information, please visit [www.ucalgary.ca/ombuds/](http://www.ucalgary.ca/ombuds/) or email [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca)
- e. **Student Union (SU) Information:** The SU Vice-President Academic can be reached at [\(403\) 220-3911](tel:403-220-3911) or [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca); Information about the SU, including elected Faculty Representatives, can be found here: <https://www.su.ucalgary.ca>. Email your SU Science Reps: [science1@su.ucalgary.ca](mailto:science1@su.ucalgary.ca), [science2@su.ucalgary.ca](mailto:science2@su.ucalgary.ca), [science3@su.ucalgary.ca](mailto:science3@su.ucalgary.ca).

f. **Academic Accommodation Policy:**

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Accommodation in Academic Courses Form](#) and sending by email to [science@ucalgary.ca](mailto:science@ucalgary.ca) preferably 10 business days before the due date of an assessment or scheduled absence.

- g. **Academic Integrity and Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)  
[Student Academic Misconduct Policy](#) and [Procedure](#)  
[Faculty of Science Academic Misconduct Process](#)  
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

- h. **Copyright Legislation:** All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright ( [ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy](http://ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy) ) and requirements of the copyright act ( [laws-lois.justice.gc.ca/eng/acts/C-42/index.html](http://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) ) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.
- i. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.
- j. **Recording of Lecture:** Audio recording of lectures, other than where an audio recording is an accommodation, shall be permitted for individual private study only at the discretion of the instructor. For any other use, whether by duplication,

transcription, publication, sale or transfer of recordings, written approval must be obtained from the instructor for the specific use proposed. Any use other than that described above constitutes academic misconduct and may result in suspension or expulsion. For more information, see [Section E.6](#) Recording of Lectures of the University Calendar.

- k. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- l. **Surveys:** At the University of Calgary, feedback through the UCalgary Course Experience Survey provide valuable information to help instructors and programs evaluate the student experience. Your responses make a difference and facilitate instructors in improving the learning and teaching experience offered in our courses. For more information, please visit <https://www.ucalgary.ca/provost/teaching-learning/student-surveys>.
- m. **Emergency Evacuation/Assembly Points:** Assembly points for emergencies have been identified across campus. Assembly points are designed to establish a location for information updates from the emergency responders to the evacuees; from the evacuated population to the emergency responders. For more information, see the University of Calgary's Emergency Management website: <https://www.ucalgary.ca/risk/emergency-management/evac-drills-assembly-points/assembly-points>
- n. **Safewalk:** Campus security will escort individuals, day or night, anywhere on campus (including McMahon Stadium, Health Sciences Centre, Student Family Housing, the Alberta Children's Hospital and the University LRT station). Call [403-220-5333](tel:403-220-5333) or visit <https://www.ucalgary.ca/security/safewalk>. Use any campus phone, emergency phone or the yellow phone located at most parking lot pay booths. Please ensure your personal safety by taking advantage of this service.
- o. **Campus Supports & Resources:** A link to required information that is not course-specific related to student wellness and safety resources, can be found on the Office of the Registrar's website: <https://www.ucalgary.ca/registrar/registration/course-outlines>

#### Course Outcomes:

- o Read small procedural Python programs, identify any syntax any logic errors, identify type of data stored in specific variables and predict result of running code. This includes code that contains assignment, conditional and looping statements; arithmetic and boolean expressions; functions and recursive functions; input statements from the keyboard, mouse and files and output statements to the screen and files; creates new instances of classes and invokes methods on these instances and code that uses data structures such as lists and strings.
- o Write and run small Python procedural programs that contains assignment, conditional and looping statements; arithmetic and boolean expressions; functions and recursive functions; input statements from the keyboard, mouse and files and output statements to the screen and files; creates new instances of classes and invokes methods on these instances and code that uses data structures such as lists and strings.
- o Develop debugging skills to systematically identify and fix syntax and logic errors in procedural code written by self and others.
- o Create basic classes in Python that contain a constructor, instance variables and methods.
- o Design and implement a small application with a graphical user interface implemented using procedural Python code.

Electronically Approved - Aug 27 2024 12:26

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#### Department Approval

Electronically Approved - Aug 29 2024 12:41

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#### Associate Dean's Approval