CPSC 351 - Theoretical Foundations of Computer Science II

COURSE OUTLINE - Fall 2026

A. COURSE INFORMATION

1. Course Description & Learning Outcomes

Please see the university calendar for the course description and pre-requisites:

https://calendar.ucalgary.ca/courses/1645381 (CPSC 351)

By the end of this course, you will be able to:

- Able to perform advanced transformations and operations on fundamental discrete structures.
- Familiar with common discrete probability distributions (e.g., uniform, binomial, Poisson, geometric, hypergeometric).
- Able to apply concentration bounds (e.g., Markov, Chebyshev and Chernoff bounds).
- Able to devise abstract representations of computational problems.
- Able to construct various types of proofs about discrete structures, including direct proofs, indirect proofs, and mathematical induction.
- Able to specify the behaviour of programs through pre- and postconditions, and prove the correctness of iterative and recursive programs.
- Able to design and analyze abstract machine models including finite automata and Turing machines, and explain the relationship to the classes of computational problems that can be solved by these models.
- Able to classify computational problems as regular, not regular, decidable, or undecidable.

2. Instructional Team

Role	Name	Get in Touch By
Primary Instructor	Wayne Eberly	Office Hours: 3-4pm, Tuesdays and Thursdays, in ICT 613 or online. Additional information will be provided on the course web site.

3. Course Activities

Activity	Day/Time	Location
Lecture 01	TR 12:30 - 13:45 - Online	
Tut 01	TR 14:00 - 14:50	KNB 130
Tut 02	MW 17:00 - 17:50	KN 120
Tut 03	MW 12:00 - 12:50	MS 205

Activity	Day/Time	Location
Tut 04	MW 13:00 - 13:50	BI 542
Tut 05	MW 08:00 - 08:50	MS 205
Tut 06	TR 14:00 - 14:50	MS 325
Tut 07	MW 12:00 - 12:50	MS 325

Out-of-Class Activity	Day/Time	Location
Term Test #1	Wednesday, October 14, 2026 at 6:00 pm (90 Minutes)	Details and schedule will be shared on D2L
Term Test #2	Wednesday, November 4, 2026 at 6:00 pm (90 Minutes)	Details and schedule will be shared on D2L

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.

4. Course Resources

Course Site

CPSC 351 L01-(Fall 2026)-Theoretical Foundations of Computer Science II

Textbooks
No textbooks are required.

A course material will be provided on the course's D2L site.

5. Assessment Components

Assessment	Due Date / Location	Weight
Participation	Participation marks will be obtained by attending and performing activities in lectures and tutorials, providing peer feedback to other members of assignment groups, and providing feedback about the course to the instructor. Additional information about participation marks will be provided on the course web site.	5%
Assignment One, Part One	Sep 23 2026	5%
Assignment One, Part Two	Oct 09 2026	10%

Assessment	Due Date / Location	Weight
Term Test 1	Oct 14 2026 Out-of-class	15%
Term Test 2	Nov 04 2026 Out-of-class	15%
Assignment Two, Part One	Nov 06 2026	5%
Assignment Two, Part Two	Nov 20 2026	10%
Assignment Three	Dec 04 2026	15%
Registrar Final Exam	Scheduled by Registrar	20%

Detailed assessment information and expectations can be found on the course D2L.

Group Work Assessment

Students will work in groups of between 3 and 5 students when completing assignments, using assignment groups selected by the instructor. Each student in a group will receive the same grade for each assignment.

6. Letter Grade Conversion

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Minimum Percent Required	95	90	85	80	75	70	66	62	58	55	50	< 50%

Grade Limiting Statement

Each student's overall percentage grade will be ***rounded up*** to obtain a whole number between 0 and 100 - which will be used to obtain a letter grade using the conversion table.

Students must obtain a weighted average of C- (58%) or higher on the test component of the course - including the term tests and the final examination - in order to receive a grade of C- or higher in this course.

7. Missed Course Assessments

We understand that unexpected circumstances can arise during the term. The table below outlines what to do in different situations so we can help you as effectively as possible.

Assessment	What to Do	Options/Next Steps

Assignment One, Part One , Assignment One, Part Two , Assignment Two, Part One , Assignment Two, Part Two , Assignment Three	All assignments are being submitted by teams that are selected by the instructor. A policy for the submission of late work will be provided on D2L and repeated in assignment instructions. If a team fails to submit an assignment at all then the mark for the assignment will be 0.	Teams may email eberly@ucalgary to describe extenuating circumstances when requesting exceptions to this policy - with the understanding that it is unlikely that exceptions will be made.
Participation	Due to the large number of participation activities and the very small number of marks that each activity is worth, all missed activities will receive zero grades.	No exceptions to the above rule will be made, so there are no "next steps" to take.
Term Test 1 , Term Test 2	Students should email eberly@ucalgary.ca as soon as possible if they miss a term test. Documentation to explain the absence (in any form accepted by the University of Calgary) will also be required, but this will generally not be required immediately.	The instructor will reply with further instructions after receipt of a student's notification of a missed term test. The instructor's email reply should be read carefully, and all instructions in it should be followed.
Final Exam	If you miss a Registrar-scheduled final exam, you must follow the Deferred Final Exam (DFE) process. Begin by visiting the Registrar's website for full instructions.	The Registrar will communicate with you regarding the status of your deferred exam application. If approved, the Registrar will post the date, time, and location of your deferred exam in your Student Centre.

Extended Absence / Significant Disruption: If you experience an interruption that affects multiple assessments or several weeks of learning, additional support may be needed. Please inform the instructional team via email as soon as you are able. You can consult the UCalgary Course Interruption resource for guidance: https://www.ucalgary.ca/current-students/course-interruption

B. COURSE POLICIES

1. Academic Integrity

Academic integrity is a core part of your learning and of our shared academic community. All work you submit must represent your own thinking and effort, unless collaboration or specific tools are explicitly allowed. Academic misconduct includes (but is not limited to) plagiarism, cheating, unauthorized collaboration, and the use of unapproved aids.

Below are the academic integrity expectations specific to this course:

Acceptable & Prohibited Tools & Resources

Use of generative AI when completing assignments, or carrying out activities to earn participation marks, is not allowed.

Exam Policy

Students will be allowed to use a double-sided letter-sized page of notes, which can be either printed or handwritten, as an aid for each test. ***No other aids are allowed.***

Resources & Support

The Student Success Centre offers workshops, tools, and a student academic integrity handbook to help you understand expectations and avoid common pitfalls. They also provide guidance on citation, collaboration, and working with sources. Learn more at: ucalgary.ca/student-services/student-success/learning/academic-integrity

If you ever have questions about how to apply academic integrity principles in this course, please reach out. We are here to help you navigate expectations and develop strong academic skills.

2. Grade Reappraisal

If you believe there has been an error in the marking of your work, you may request a grade reappraisal. The goal of this process is to ensure fairness and accuracy while maintaining consistent academic standards.

Informal Review

A form for the submission of regrade requests will be provided.

Formal Grade Reappraisal Request

If concerns remain after discussions with the course instructor, you may submit a formal reappraisal request. A formal reappraisal may result in the grade being raised, lowered, or left unchanged. Please see the Faculty of Science guidelines on the grade reappraisal process: science.ucalgary.ca/current-students/undergraduate/science-advising/grade-reappraisals-and-appeals

C. SUPPORTS

You don't have to navigate university alone. Here are resources available to support your success and well-being:

Undergraduate Science Centre(USC)	Support for program planning, course selection, and academic regulations
Student Wellness Services	Physical and mental health support, including counselling, medical services, and wellness programs. ucalgary.ca/wellness-services/services
Student Success Centre	Help with study skills, writing support, time management, and academic strategy development. ucalgary.ca/student-services/student-success
Libraries and Cultural Resources	Research support, access to scholarly resources, citation help, and subject?specific librarians. library.ucalgary.ca

Safety Resources	Safewalk: 403-220-5333 | Campus Security: 403-220-5333 Available 24/7 for safety escorts, emergency response, and campus support.

For a comprehensive list of student wellness and safety resources, please visit: ucalgary.ca/registrar/registration/course-outlines

D. UNIVERSITY POLICIES

For detailed university policies, please consult the Academic Calendar at calendar.ucalgary.ca

1. Academic Accommodations

We are committed to supporting your learning. If you require academic accommodations, please follow the University of Calgary's established policies and procedures. Reaching out early helps ensure that the appropriate supports can be arranged.

Accommodations for Disability or Medical Conditions

Students who require accommodations related to a disability or ongoing/temporary medical condition should contact Student Accessibility Services (SAS). SAS works with students and instructors to set up academic accommodations such as extra time, note-taking support, or exam adjustments. Website: ucalgary.ca/student-services/access/

Accommodations Based on Other Protected Grounds

Students seeking accommodations based on protected grounds other than disability (e.g., religion, family status, gender expression or identity) should submit a Request for Accommodation in Academic Courses Form. Please email the completed form to science@ucalgary.ca at least 10 business days before the relevant assessment or planned absence.

2. Copyright and Intellectual Property

Course materials (including lectures, notes, assignments, exams) are the intellectual property of the instructor and are protected by copyright. Unauthorized sharing, distribution, or posting of course materials is prohibited and may result in disciplinary action under the Non-Academic Misconduct Policy. Students must read and comply with the University's Acceptable Use of Material Protected by Copyright Policy: ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy

3. UCalgary Notice of Collection

The University of Calgary (UCalgary) respects your privacy and is committed to ensuring the privacy of all students, staff, and community members. Your personal information is being collected under the authority of section 4(c) of the Protection of Privacy Act (POPA). It will be collected, used and disclosed for the purposes outlined in UCalgary's Notice of Collection, Use and Disclosure of Personal Information and managed in accordance with UCalgary's Privacy Management Program. Your personal information may be input into automated systems to generate content or make decisions, recommendations, or predictions. Assignments can only be returned to the student and will be accessible only to authorized faculty and staff. If you have questions regarding this notice or UCalgary's collection, use, or disclosure of your personal information, please contact accessandprivacy@ucalgary.ca.

Approval Date: Aug 14 2026 06:54

The University of Calgary, located in the heart of Southern Alberta, both acknowledges and pays tribute to the traditional territories of the peoples of Treaty 7, which include the Blackfoot Confederacy (comprised of the Siksika, the Piikani, and the Kainai First Nations), the Tsuut'ina First Nation, and the Stoney Nakoda (including Chiniki, Bearspaw, and Goodstoney First Nations). The City of Calgary is also home to Métis Nation within Alberta (Nose Hill Métis District 5 and Elbow Métis District 6).