

MATH 302
Sections 101 and 102

Introduction to Probability
2026–2027 WT1; 3 credits

Instructor: Jonathan Hermon. Please email me through Canvas.

Lectures: Section 101: MWF 1:00–1:50 pm, LSK 200.
Section 102: MWF 10:00–10:50 am, LSK 201.

Office hours: Monday and Friday, 2:00–3:00 pm, Math 114, starting in the second week of term, or by appointment.

Course website: [Canvas](#). Please ask content-related questions on [Piazza](#), except for questions specific to your circumstances.

Prerequisites: One of MATH 200, MATH 217, MATH 226, MATH 253, or MATH 254.

Text: We follow *Introduction to Probability* by Anderson, Seppäläinen, and Valkó. Other references of interest are R. L. Scheaffer's *Introduction to Probability and its Applications* and S. M. Ross's *A First Course in Probability*.

Outline: The course will include the following topics:

1. Sample spaces, events, and axioms of probability.
2. Counting principles, permutations, and combinations.
3. Independence and conditional probability; Bayes' formula.
4. Discrete random variables, expectation, and variance.
5. Continuous random variables, expectation, and variance.
6. Joint and conditional distributions.
7. Transformations of random variables.
8. Covariance and correlation.
9. Moment generating functions.
10. Chebyshev's inequality.
11. Law of large numbers and central limit theorem.

Evaluation: Approximately nine homework assignments, two midterms, and a final exam. Tentative midterm dates are October 19 and November 16, during regular lecture time in the regular classroom.

Written homework: Assignments must be typeset and submitted as PDFs through Canvas. Late submissions are not accepted. The lowest two assignment grades are dropped. Students may work together to understand the problems, but must write their solutions independently. No two submissions should look nearly identical. Students may research concepts online, but may not use solutions found online.

Grading scheme: Homework: 10%; midterms: 45% (22.5% each); final exam: 45%.

If your scaled final exam grade exceeds the average of your scaled midterm grades, the entire midterm weight transfers to the final exam, which then counts for 90% of the course grade.

Missed Assessments

- If you miss a midterm for valid reasons, its weight transfers to the final exam. Contact the instructor through Canvas and consult the departmental academic concession policies linked below.
- The lowest two homework grades are dropped, allowing two missed assignments without penalty.
- Final-exam academic concessions are handled through your Faculty Advising Office. See [academic concession information](#).

Please see Canvas for the tentative weekly schedule, assignment and exam details, typesetting guidance, and regrade procedures.

General Syllabus Information

The Mathematics Department has standard syllabus information. This includes standardised policies for

- academic concessions (i.e., missed assignment, quiz, midterm)
- academic integrity (i.e., cheating)
- registration issues (your instructors have no control over anything to do with registration)
- misc student resources

You can find that information here: <https://www.math.ubc.ca/general-syllabus-information>

Student Resources

Science Advising	Health and Wellbeing	Centre for Accessibility
Academic Concession (Final Exam)	Academic Integrity	Counselling Services

Statement on UBC's Policies and Resources to Support Student Success: UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available here: <https://senate.ubc.ca/policies-resources-support-student-success>.