



Math1228B 570
Methods of Finite Mathematics
Winter 2026

Instructor: Dr. Luisa Liboni
Email: luisa.liboni@uwo.ca

Course Information

Mode of Instruction: In Person

Calendar Description:

Permutations and combinations; probability theory. This course is intended primarily for students in the Social Sciences, but may meet minimum requirements for some Science modules.

Pre-requisite(s): One or more of Ontario Secondary School MCV4U, MHF4U, MDM4U, Mathematics 0109A/B, Mathematics 0110A/B, Mathematics 1225A/B, Mathematics 1229A/B.

Anti-requisite(s): Mathematics 2124A/B, Mathematics 2155F/G, Statistical Sciences 2035, Statistical Sciences 2141A/B, Statistical Sciences 2857A/B.

Extra Information: 3 lecture hours

Course Weight: 0.50

Breadth: CATEGORY C

Subject Code: MATH

Notice: Unless you have either the requisites for this course (fulfilment of pre-requisites, no anti-requisite conflicts), or special permission from your Dean to enrol in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Math 1228A Course Outline (King's Campus)

1. Course Information

Course Information

This course is Math 1228A, sections 570 and 571. The lecture material is presented in-class- with additional learning materials on Brightspace. The King's sections of this course are run in common with main campus, meaning our tests and final exam are in common. The course coordinator at main campus is Dr. Allen O'Hara, Department of Mathematics. Your first contact for course issues is your section instructor.

Section	Instructors	Email
570/571	Dr. Luisa Liboni	luisa.liboni@uwo.ca

List of Prerequisites: One or more of Ontario Secondary School MCV4U, MHF4U, MDM4U, Mathematics 0105A/B, 0109A/B, 0110A/B, 1225A/B, 1229A/B.

List of Antirequisites: Mathematics 2124A/B, 2155F/G, Statistical Sciences 2035, 2141A/B, 2857A/B.

Unless you have either the requisites for this course or written special permission from your Dean's Designate (Department/Program Counsellors and Science Academic Advisors) to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees if you are dropped from a course for failing to have the necessary prerequisites.

2. Contacting the Instructor

Students must use their Western (@uwo.ca) email addresses when contacting their instructors, and the subject line MUST contain "Math 1228" or the e-mail may be disregarded.

Office hours for each individual instructor will be posted by said instructor on the OWL site for the course.

3. Course Syllabus, Schedule, Delivery Mode

Math 1228 (Methods of Finite Mathematics) covers: techniques of counting, probability, discrete and continuous random variables. Students are expected to demonstrate an understanding of these concepts and an ability to apply them in solving a variety of problems.

Students should make a serious effort to understand all course material and do all the assigned homework. The student must assume responsibility for staying up to date with course content and for

being aware of posted deadlines. It is up to the student to seek out help when needed. The student is responsible for being aware of all relevant information posted on the OWL web site.

In the event of a COVID19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will not change. Any remaining assessments will also be conducted online as determined by the course coordinator.

Learning Outcomes

A successful student in this course will be able to:

1. Set up counting tree diagrams from given information and use those trees to calculate unknown set sizes.
2. Break down complicated counting problems into simpler calculations corresponding to the individual counting techniques presented in the course.
3. Apply their understanding of conditional probability to create and work with probability trees.
4. Recognize and calculate probabilities related to repeated independent trials.
5. Calculate mean, variance, and standard deviations for random variables.
6. Use normal approximation to answer questions about discrete random variables using normal random variables.

4. Course Materials

All course material will be posted to OWL: <https://westernu.brightspace.com/>

Students are responsible for checking the course OWL site (<https://westernu.brightspace.com/>) regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the course OWL site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

A (required) custom textbook is posted (free) on the course OWL site. Note: It is not an e-book, just pdf files.

Technical Requirements

Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for any relevant services.

5. Methods of Evaluation

The overall course grade will be calculated as listed below:

Assessment	Weight	Notes
Online Quizzes	20% (total)	Only the best 5 of the 6 quizzes count
Term Test 1	20%	Covers Chapter 1.
Term Test 2	20%	Covers Chapter 2.
Final Exam	30%	Cumulative.
Flex	10%	The best of the three tests gets additional weight

Students will be assessed on the basis of online quizzes, two term tests, and a final exam. The quizzes are completed in OWL. See the Quiz Schedule and Quiz Information posted on the Course Information page on the course site in OWL. The 2 Term Tests are each 90 minutes in length. Test 1 will cover Chapter 1 of the textbook, while Test 2 will cover (only) Chapter 2 (but Chapter 1 material comes up in the context of Chapter 2).

The Final Exam, 3 hours in length and covering all course material, will be scheduled by the Registrar's Office during the December Exam Period. Tests and examinations in this course will be in-person and handwritten on paper, if possible. More information regarding the style of tests and exams will be given during the course.

Each Term Test will count for 20%. The student's best 5 of the 6 Online Quizzes will each count for 4%, for a total of 20%. The Final Exam will count for 30%.

*The remaining 10% weight will be assigned to whichever of the three tests/exams (Test 1, Test 2, Final Exam) is the student's best mark.

Your mark in the course will be the mark that you earn based on your demonstrated understanding of the course content, assessed using the outlined criteria. Extra credit assignments are not available, and assessments cannot be rewritten to obtain a higher mark. So, students are encouraged to take the course material and the methods of assessment seriously.

General information about missed coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs* posted on the Academic Calendar:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person.

The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage: https://registrar.uwo.ca/academics/academic_considerations/

All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

All Academic Consideration requests must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one Academic Consideration request **without supporting documentation** in this course. However, the following assessments are excluded from this, and therefore always require formal supporting documentation:

- Term Test 2
- The Final Exam

When a student *mistakenly* submits their one allowed Academic Consideration request **without supporting documentation** for the assessments listed above or those in the **Coursework with Assessment Flexibility** section below, the request cannot be recalled and reapplied. This privilege is forfeited.

Evaluation Scheme for Missed Assessments

For eligible assessments, that is the term tests and (under circumstances given below) online quizzes, students with Academic Considerations should contact their section professor. In the case of term tests, a makeup exam will be offered during the week following the date of the term test. In the case of missed quizzes or missed makeup term tests, the weight will be shifted to the final exam.

When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam). See the Academic Calendar for details (under [Special Examinations](#)), especially for those who miss multiple final exams within one examination period.

Coursework with Assessment Flexibility

By policy, instructors may deny Academic Consideration requests for the following assessments with built-in flexibility:

Flexible Completion Quizzes. This course has 6 quizzes, and the 5 quizzes with the highest marks are counted towards your final grade. Should extenuating circumstances arise, students do not need to request Academic Consideration for the first missed quiz. Academic consideration requests will be denied for the first missed quiz. Academic Consideration requests may be granted when students miss more than 1 quiz, and these additional (2nd, 3rd...) missed quizzes will be reweighted to the final exam.

Deadline with a No-Late-Penalty Period Assignments. Students are expected to submit each of the online quizzes by the deadline listed. Should extenuating circumstances arise, students do not need to request Academic Consideration and they are permitted to submit their assignment up to 48 hours past the deadline without a late penalty. Academic Consideration requests may be granted only for extenuating circumstances that started before the deadline and lasted longer than the No-Late-Penalty Period (48 or 72 hours).

6. Additional Statements

Religious Accommodation

When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university's EDID website for the recognized religious holidays:

<https://www.edi.uwo.ca>.

Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf.

Academic Policies

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf,

the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

Class Policies: All students are expected to engage in a professional and respectful manner. This includes all interactions with peers, as well as communication between TAs or your Professor. Failure to do so will result in academic discipline.

Recording of lectures, tutorials, or office hours without the explicit consent of the Professor or TA is grounds for academic discipline.

Course content created by a faculty member is considered the faculty member's intellectual property; it should not be distributed, shared in any public domain, or sold by a student or other third party without prior written consent of the faculty member.

NO calculators or other electronic devices or any other aids are allowed on tests and exams. Any work submitted by a student for grades must be the student's own work.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

In The Event that Tests/Exams Cannot be Held In-Person: If, at some point during the course, it becomes not possible to hold scheduled in-person tests, then any remaining tests and examinations will be conducted online, using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide personal information (including some biometric data) and the session will be recorded. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at: <https://remoteproctoring.uwo.ca>. Any test or exam which is being conducted online will consist of only multiple choice questions. The date, time, coverage and weight of the test/exam is not expected to be affected by this change.

Support Services

Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.

KING'S UNIVERSITY COLLEGE

GENERAL COURSE POLICIES

2025-2026

1. Academic Accommodations, Consideration for Absences

Academic Accommodation (Accessibility)

Accessibility Services works to ensure that academic programs are accessible to all students, and supports students who may have a condition related to, but not limited to, vision, hearing, mobility, different ways of learning, mental health, chronic illnesses, chronic pain, autism spectrum disorder, ADD/ADHD, and temporary conditions (beyond short-term academic consideration). Accessibility Services provides recommendations for accommodation based on medical documentation or psychological and cognitive assessment. The accommodation policy can be found here [Academic Accommodation for Students with Disabilities](#). Information on Accessibility Services at King's can be found [here](#).

Academic Consideration for Student Absence

If a student is unable to meet a course requirement due to substantial but temporary extenuating circumstances (medical or compassionate), they should follow the procedures below.

In some cases, where instructors have built flexibility into their assessments, this flexibility will already address consideration needs.

Requests for academic consideration should be directed to the Academic Advising Office of your faculty/college of registration. Requests must be made as soon as possible and no later than 48 hours after the missed assessment.

As a rule, documentation is required for academic consideration. For academic consideration requests on medical grounds, the Student Medical Certificate is available at https://www.kings.uwo.ca/kings/assets/File/currentStudents/courses_enrollment/exams_and_tests/SMC-Feb-2025.pdf.

Students are permitted one academic consideration request without supporting documentation per term per course.

Instructors may designate one assessment per half-course weight as requiring formal supporting documentation. Please refer to the course outline for each course.

For further information, please see:

https://uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf

Absences from Final Examinations

If you miss the Final Exam, contact the Academic Advising Office of your faculty/college of registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (the name given by the University to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a “Multiple Exam Situation” (e.g., more than 2 exams in 23-hour period, or more than 3 exams in a 47-hour period).

If a student fails to write a scheduled Special Examination, the date of the next Special Examination (if granted) normally will be the scheduled date for the final exam the next time this course is offered. The maximum course load for that term will be reduced by the credit of the course(s) for which the final examination has been deferred. See the Academic Calendar for details (under [Special Examinations](#)).

Religious Accommodation

Students should consult the University's list of recognized religious holidays, and should give notice in writing to the instructor and Academic Advising Office if a course requirement will be affected by a religious holiday/observance. Notice must be given as early as possible, and no later than two weeks prior to an examination, and one week prior to a midterm test date. It is the responsibility of such students to inform themselves concerning the work done in classes from which they are absent and to take appropriate action.

2. Support Services

Accessibility, Counselling and Student Development at King’s University College:

<https://www.kings.uwo.ca/current-students/student-services/>

Students experiencing emotional or mental health distress can access services at King’s University College: <http://www.kings.uwo.ca/current-students/campus-services/student-support-services/personal-counselling/>

Good2talk is a good online and phone 24/7 resource for students and is available in English, Mandarin, and French: <https://good2talk.ca>, 1-866-925-5454

MentalHealth@Western provides a complete list of options about how to obtain help:

https://www.uwo.ca/health/mental_wellbeing/

Academic Support Services at King’s University College:

<https://www.kings.uwo.ca/current-students/academic-resources/>

GBSV Support:

King’s is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at:

<https://www.kings.uwo.ca/about-kings/safe-campus/gender-and-sexual-violence/>

You can reach someone supports at Kings by emailing Care@kings.uwo.ca or calling 519-930-4640 to reach a social worker who can offer help.

You can also reach Western’s Gender-Based Violence & Survivor Support Case Manager by [email](#) or by calling 519-661-3568.

Further supports can be found on this website: <https://www.kings.uwo.ca/about-kings/safe-campus/gender-and-sexual-violence/>

See also https://www.uwo.ca/health/student_support/survivor_support/get-help.html

University Students' Council offers many valuable support services for students, including the health insurance plan: <http://westernusc.ca/services/>

3. Statement on Use of Electronic Devices

Use of Electronic Devices: Unless explicitly stated otherwise, you are not allowed to have a cell phone, or any other electronic device, with you during tests or examinations. Unauthorized possession of such a device during a test or examination constitutes an academic offence.

Use of Laptops, Tablets, and Smartphones in the Classroom: King's University College at Western University acknowledges the integration of new technologies and learning methods into the curriculum. The use of electronic devices such as laptop computers, tablets, or smartphones can contribute to student engagement and effective learning. At the same time, King's recognizes that instructors and students share jointly the responsibility to establish and maintain a respectful classroom environment conducive to learning.

The use of electronic devices by students during lectures, seminars, labs, etc., shall be for matters related to the course at hand only. Students found to be using electronic devices for purposes not directly related to the class may be subject to sanctions under the Student Code of Conduct; see <https://www.kings.uwo.ca/current-students/student-affairs/code-of-student-conduct1/>

Inappropriate use of electronics (e.g., laptops, tablets, smartphones) during lectures, seminars, labs, etc., creates a significant disruption. As a consequence, instructors may choose to limit the use of electronic devices in these settings. In addition, in order to provide a safe classroom environment, students attending in-person class sessions are strongly advised to operate laptops with batteries rather than power cords.

4. Statement on Academic Offences

King's is committed to academic integrity. Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, is posted at

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

It is expected that students will submit work that is truly their own, completed without external assistance (human or artificial) except as explicitly permitted by the course instructor. Check with your instructor on what tools, including generative AI (ChatGPT, translation tools, grammar-checking tools) are permitted in the course. Because a tool is permitted in one course, that does not mean it is permitted in other courses.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system; see https://elearningtoolkit.uwo.ca/tools/Originality_Reports - TurnItIn.html.

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

5. Copyright of Course Material

Lectures and course materials, including PowerPoint presentations, tests, outlines, and similar materials are protected by copyright. Faculty members are the exclusive owner of copyright in those materials they create. Students may take notes and make copies for their own use. Students may not allow others to reproduce or distribute lecture notes and course materials publicly (whether or not a fee is charged) without the express written consent of a faculty member. Unauthorized sharing of class content is subject to academic discipline.

Similarly, students own copyright in their own original papers and exam essays. If a faculty member wishes to post a student's answers or papers on the course website, they should ask for the student's written permission.

6. Use of Recordings

Participants in this course are not permitted to record the sessions, except where recording is an approved accommodation and/or the participant has the prior written permission of the instructor. Unauthorized recording and/or sharing of class content is subject to academic discipline.

7. Policy on Attendance

Any student who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course, will be reported to the Dean of the Faculty offering the course, after due warning has been given. On the recommendation of the department concerned, and with the permission of the Dean of that Faculty, the student will be debarred from taking the regular examination in the course.