

Mathematics 2124A Course Outline

1. Course Information

Course Information

Introduction to Mathematical Problems, Math 2124A, Fall 2024

List of Prerequisites

A minimum mark of 60% in one of [Calculus 1501A/B](#), [Numerical and Mathematical Methods 1414A/B](#), the former Applied Mathematics 1414A/B, the former Applied Mathematics 1413, or a minimum mark of 85% in [Calculus 1301A/B](#), [Integrated Science 1001X](#) with a minimum mark of 60% can be used in place of [Calculus 1301A/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 in the event that you are dropped from a course for failing to have the necessary prerequisites.

2. Instructor Information

Instructors	Email@uwo.ca	Office	Phone	Office Hours
Prof. Matthias Franz	mfranz	MC 103D	86538	TBA
Teaching Assistant	TBA	TBA	TBA	

Students must use their Western (@uwo.ca) email addresses when contacting their instructor or TA. The course number (Math 2124A) must be included in the subject line. The email must adhere to professional standards (proper salutation, complete sentences, correct English etc.).

Office hours will be held in person.

3. Course Syllabus, Schedule, Delivery Mode

Primarily for Mathematics students, but will interest other students with ability in and curiosity about mathematics in the modern world as well as in the past. Stresses development of students' abilities to solve problems and construct proofs. Topics will be selected from: counting, recurrence, induction; number theory; graph theory; parity, symmetry; geometry.

At a successful completion of the course, a student will be able to

- approach new mathematical problems using a variety of techniques,

- employ various proof methods,
- present a written solution in a legible and logically coherent way,
- present his/her solution on the board in a clear way.

The lectures are held in person.

Classes begin: September 5, 2024

Fall Reading Week: October 12 – 20

Classes end: December 6, 2024

Exam period: December 9 – 22, 2024

Contingency plan for an in-person class pivoting to 100% online learning: In the event of a health lockdown 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 instructor.

4. Course Materials

The course will be loosely based on the book: P. Zeitz, *The Art and Craft of Problem Solving*, 3rd edition, Wiley 2017. The book is optional and not required for the course. Gradescope may be used for assignments and tests.

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.

Technical Requirements

In the event of a health lockdown you will need a stable internet connection, computer with working microphone and webcam.

5. Methods of Evaluation

Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below. All dates are **tentative**.

Class Participation	5%
Midterm Test 1	25% (Oct 3)
Midterm Test 2	25% (Nov 7)
Final Exam	45%

Homework problems are assigned weekly or biweekly. Solutions are handed in (before the announced deadline) and will be corrected. The correction only serves as a feedback and does not affect the final grade. A student's participation mark is based on participating in in-class discussions and on presenting his/her own solutions to assigned problems in class. Only solutions that have been submitted on time can be presented.

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:

- final exam (Defined by policy)

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

There will be no make-up exams. If an assessment is missed, then its weight will be transferred 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.

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.

Electronic devices are not permitted during tests and exams.

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.

Tests and examinations in this course may be conducted 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**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at:

<https://remoteproctoring.uwo.ca>.

Support Services

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.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at

http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

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