**Department of Mathematics**

 **Math 2250B, History of Mathematics, Course Outline**

**1. Course Information**

**Course Information**

Math 2250B, History of Mathematics, Winter 2024.

Lectures: Tues 11:30-1:30 PM, Thurs 11:30-12:30 PM

Class location: MC 10 8.

**List of Prerequisites**

Mathematics 1600A/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 Counselling) 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**

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| **Instructors** | **Email** | **Office** | **Phone** | **Office Hours** |
| Masoud Khalkhali | masoud@uwo.ca | MC137 | 86524 | TBA, in person |
|  |  |  |  |  |
| TBA |  |  |  |  |

Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

**3. Course Syllabus, Schedule, Delivery Mode**

**This course will provide a historical overview of the emergence of Mathematics and its impacts. Topics include: The origins of counting, Mathematics in the Ancient World (numbers, geometry, axioms); The emergence of algebra, analytic geometry and calculus (15th 17th century); Explosive modern growth (18th - 21st century).**

**Course Learning Outcomes:**

**The students will get a clear view of different eras in the development of mathematics, key figures of each era, and key theories discovered in that period. You will learn about important books written in each era, and learn a few results from each book. You will also learn about the dichotomy between algebra and geometry and how various cultures of mathematics perceived it and enriched this dichotomy. In particular we shall carefully examine Euclid’s elements and its impact on development of mathematics. Same with the historical development of calculus and some of its key figures. You will learn to see history of mathematics as part of history of ideas and recognize some of its deriving forces (e.g. intellectual curiosity, applications to other sciences, to every day life, and to industry).**

Classes: January 8, 2024- April 8, 2024

Exam period: April 11 – 30, 2024

**Contingency plan**

Although the intent is for this course to be delivered in person, should any university-declared emergency require some or all of the course to be delivered online, either synchronously or asynchronously, the course will adapt accordingly. The grading scheme will **not** change. Any assessments affected will be conducted online as determined by the course instructor.

**4. Course Materials**

Textbooks: Mathematics and Its History, John Stillwell. We shall follow selected material from the first

9 chapters of this book. The book by Merzbach and Boyer (A history of Mathematics) will also be used as a secondary source. The first text is more mathematical and gives more technical details, while the second gives a more global and conceptual perspective with less details.

Students are responsible for checking the course OWL site (http://owl.uwo.ca) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class.

All course material will be posted to OWL: http://owl.uwo.ca.

If students need assistance with the course OWL site, they can seek support on the OWL 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**

I expect you to attend all the lectures and take notes in class. Having a tablet could be helpful, but by no means necessary. Good old pen and paper suffices.

**5. Methods of Evaluation**

The final course grade will be determined as follows:

Final exam: 40%: The final exam is cumulative and covers the entire semester. It will be a 3 hours exam.

It is a written test.

Midterm: 30%: It is a written test. (Tuesday Feb 27, in class and in MC 106). There will be just one makeup midterm for

those who qualify. Time and place of the makeup midterm will be announced in due time. See item 5

below for student absences.

Homework: 30%. There will be 3 assignments. Your written answers are due in class (before lectures start). The due dates for each assignment will be posted in OWL.

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Details for each exam will be announced as the date approaches. All exams will be closed book:

notes or class material are not permitted. Calculators or other electronic devices (cell phones, ipads,

tablets, etc.) are not permitted either.

**6. Student Absences**

If you are unable to meet a course requirement due to illness or other serious circumstances, please follow the procedures below.

**Assessments worth less than 10% of the overall course grade:**

Missed assignments (due to illness or other serious situations) will be given one extra week to be completed and handed in. If this second deadline is missed the weight of the assignment will be added to your final exam weight.

**Assessments worth 10% or more of the overall course grade:**

For work totalling 10% or more of the final course grade, you must provide valid medical or supporting documentation to the Academic Counselling Office of your Faculty of Registration as soon as possible. For further information, please consult the University’s medical illness policy at

https://www.uwo.ca/univsec/pdf/academic\_policies/appeals/academic\_consideration.pdf.

The Student Medical Certificate is available at

https://www.uwo.ca/univsec/pdf/academic\_policies/appeals/medicalform.pdf.

If you miss the midterm, with valid medical or supporting documentation explained above, you will have a chance to write a makeup at a later time after the midterm. If you miss this makeup, the weight of the midterm will be added to your final exam weight.

**Absences from Final Examinations**

If you miss the Final Exam, please contact the Academic Counselling office of your Faculty 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, 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).

**Note:** missed work can *only* be excused through one of the mechanisms above.  Being asked not to attend an in-person course requirement due to potential COVID-19 symptoms is **not** sufficient on its own.

**6. Accommodation and Accessibility**

**Religious Accommodation**

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

<http://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.

**7. Academic Policies**

The website for Registrarial Services is http://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.

**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:

http://www.uwo.ca/univsec/pdf/academic\_policies/appeals/scholastic\_discipline\_undergrad.pdf.

**8. Support Services**

Please visit the Science & Basic Medical Sciences Academic Counselling 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.

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.

Learning-skills counsellors at the Student Development Centre (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/.