**Department of Mathematics**

 **Math 0110A Course Outline**

**1. Course Information**

**Course Information**

Course Name: Mathematics 0110A-Introductory Calculus

Sections Number: 001

Instructor: Nathan Kershaw

Academic term: Fall 2025

**Prerequisites**

One or more of Ontario Secondary School MCF3M, MCR3U, or equivalent.

**Anti-requisites**

Mathematics 1225A/B, 1230A/B, Calculus 1000A/B, the former 1100A/B, 1500A/B, Applied Mathematics 1413.

Unless you have either the prerequisites for this course or written special permission from your Dean to enroll in it, you may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on your academic record. This decision may not be appealed.

**2. Instructor Information**

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| --- | --- | --- | --- | --- |
| **Instructors** | **Email** | **Office** | **Phone** | **Office Hours** |
| Nathan Kershaw | nkershaw@uwo.ca | MC-275H | N/A | Tu Th 6:00pm – 6:50 pm |

Students must use their Western (@uwo.ca) email addresses when contacting their instructors and should use Math 0110 in the subject line. Office hours will be held in person.

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

 **Course Topics:**

Limits, continuity, definition of derivative, rules for differentiation, higher-order derivatives,

velocity, acceleration, implicit differentiation, related rates, exponential functions, logarithmic

functions, differentiation of exponential and logarithmic functions, maxima and minima, concavity,

curve sketching, optimization.

**Learning Outcomes:** Students will

• Be able to manipulate functions to accomplish required goals

• Explore limits of functions

• Understand instantaneous rates of change and how they compare with slope and average rates

of change

• Be able to calculate and interpret derivatives of single-variable functions

• Learn how to use exponential and log functions

• Solve application problems in a variety of areas

• Use derivatives to infer information about the graphs of functions

• Perform optimization with constraints

• Learn how to properly justify steps in mathematical calculations

**Key seasonal dates:**

Classes begin: September 4, 2025

Fall Reading Week: November 3 – 9, 2025

Classes end: December 9, 2025

Exam period: December 11 – 22, 2025

**Tentative schedule**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Dates** | **Textbook sections** | **Topics** |
| 0 | September 4 |  | Review of high school |
| 1 | September 9, 11 | 1.4, 1.5 | Operations and functions |
| 2 | September 16, 18 | 1.6, 1.3, 2.1 | Limits, continuity, average rate of change |
| 3 | September 23, 25 | 2.3, 2.2, 2.4 | Definition of derivative and short-cuts |
| 4 | Oct 2 (no class Sept 30) | 2.5, 2.6 | Derivative rules |
| 5 | October 7, 9 | 2.6, 2.7, 2.8 | Implicit, higher order derivatives, related rates |
| 6 | October 14, 16 |  | Catch up and Test 1 review |
| 7 | October 21, 23 | 4.1, 4.2, 4.3,  | Exponential and log functions |
| 8 | October 28, 30 | 4.3, 4.4, 4.5 | Derivatives of exponential and log functions |
| 9 | November 3-7 | Reading week – No classes |  |
| 10 | November 11, 13 | 3.1, 3.2 | Increasing/decreasing and max/min |
| 11 | November 18, 20 | 3.3, 3.4, 3.5  | Concavity, inflection, 2nd derivative test, optimization |
| 12 | November 25, 27 | 3.6 | Asymptotes and curve sketching |
| 13 | December 2, 4 |  | Catch up and review |

**4. Course Materials**

**Textbook**

Custom Textbook for MATH 0110A/B 1225A/B 1230A/B

The textbook (physical and eBook) can be found at <https://bookstore.uwo.ca/textbook-search?campus=UWO&term=W2025A&courses%5B0%5D=001_UW/MAT0110A>

The eBook version (book and solutions manual) costs $92. The physical version costs $116.25

**OWL Website:**

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](https://brightspacehelp.uwo.ca/) 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**

• Computer or laptop access

• Stable internet connection

• Paper, pencils, and erasers

**5. Methods of Evaluation**

**Grading Scheme and Assessment Dates**

The overall course grade will be calculated as listed below:

Assignments (10) 10%

Test 1 25%

Test 2 25%

Final Exam 40%

Test 1 will tentatively cover material from weeks 1, 2, 3, 4, 5.

Test 2 will tentatively cover material from weeks 5, 6, 7, 8.

The final exam is cumulative, but emphasizes material from weeks 10, 11, 12, 13

Test 1 will be held on Friday, October 17, 7:00 pm – 8:30 pm

Test 2 will be held on Friday, November 14, 7:00 pm – 8:30 pm

There will be 10 homework assignments done through webwork. The lowest grade will be dropped and the best counted twice. Tentative due dates for the webworks are: September 18, September 25, October 2, October 9, October 16, October 23, October 30, November 13, November 20, November 27

The term tests and the final exam are closed-book, no calculator, and no electronic devices. You will be required to bring your photo ID/student card to both tests and the final exam. The format of the tests and final exam includes a mixture of multiple choice and show-your-work long format problems. They may also include some true/false questions that require you to justify your response

**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](http://academicsupport.uwo.ca/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:

* 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**

There will be no makeup quizzes, so the weight from missed quizzes will be shifted to the other quizzes.

Makeup tests will be held for students with approved academic consideration. Students who miss the makeup with approved academic consideration will have the weight 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](https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=5&SelectedCalendar=Live&ArchiveID=#SubHeading_70)), especially for those who miss multiple final exams within one examination period.

**6. Additional Statements**

**6.1 Religious Accommodation**

When conflicts arise 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 of 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>

**6.2 Academic 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](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf).

**6.3 General Academic Policies**

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

**Use of @uwo.ca email:** 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 email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

**Requests for Relief** (formally known as “appeals”)

Policy on Request for Relief from Academic Decision:

<https://uwo.ca/univsec//pdf/academic_policies/appeals/requests_for_relief_from_academic_decisions.pdf>

Procedures on Request for Relief from Academic Decision (Undergraduate):

<https://uwo.ca/univsec//pdf/academic_policies/appeals/undergrad_requests_for_relief_procedure.pdf>

Procedures on Request for Relief from Academic Decision (Graduate):

<https://uwo.ca/univsec//pdf/academic_policies/appeals/graduate_requests_for_relief_procedure.pdf>

**6.4 Scholastic Offences**

Policy on Scholastic Offences: <https://uwo.ca/univsec//pdf/academic_policies/appeals/scholastic_offences.pdf>

Procedures on Scholastic Offences:

<https://uwo.ca/univsec//pdf/academic_policies/appeals/undergrad_scholastic_offence_procedure.pdf>

**Use of Electronic Devices During Assessments**

In courses offered by the Faculty of Science, the possession of unauthorized electronic devices during any in-person assessment (such as tests, midterms, and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, and wireless earbuds or headphones.

Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at your desk, on your person, or within reach during an assessment will be treated as a *scholastic offence*, even if the device is not in use.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought into the assessment room. It is your responsibility to review and comply with these expectations.

**Use of Generative AI Tools**

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**.

If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is your responsibility to seek clarification before using any AI tools in academic work.

**6.5 Support Services**

Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, requests for relief, 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. If you have any questions regarding accommodations, you may also wish to contact Accessible Education at

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

Learning-skills counsellors at Learning Development and Success ([https://learning.uwo.ca](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/>.