

Textbook

This class will not have a textbook required to purchase. There is a wealth of textbooks and calculus resources available to you and many can be found in the LU library. Here are some suggested references:

Free online textbooks that can serve as a supplement to the class notes:

<https://openstax.org/details/books/calculus-volume-1/>

Course Description

This course will cover the following material with focus on reinforcing the basics.

- Limits (intuitive definition, one-sided limits, infinite limits, limits laws, limits of exponential, logarithmic and trigonometric functions, vertical and horizontal asymptotes, indeterminate forms)
- Continuity (definition, types of continuous functions)
- Derivatives (geometric and algebraic interpretation, power rule, product rule, quotient rule, chain rule, implicit differentiation, higher derivatives, derivative formulas, derivatives of transcendental functions)
- Applications of Derivatives (monotonicity and concavity, extrema, inflection points, first derivative test, second derivative test, optimization problems, related rates, curve sketching,)
- Integration (Antiderivatives, The Fundamental Theorem of Calculus, Area Problems)

WeBWorK

WeBWorK is a free online homework system that will be required to complete the assignments. The link to access WeBWorK as well as login information will be provided to you on D2L.

Labs

The lab will also be used to facilitate your understanding of the material, and attending will be beneficial. Concepts will be reinforced through explanations and examples, and quizzes will be administered during lab sessions to assess your comprehension and encourage active participation.

Class Policies

While attendance is not mandatory, it is strongly recommended that you attend class, as your presence enriches the learning experience. If you choose to come, please arrive on time, as punctuality is appreciated. Additionally, ensure that your phone is turned off during class to minimize distractions. For midterms and exams, please note that no books, calculators, cell phones, or other electronic devices are allowed, and according to university policy, these devices must not be on your person during assessments.

Accommodations

Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please visit: <http://studentaccessibility.lakeheadu.ca>

Evaluation

A. Assignments (15 %)

There will be weekly assignments posted on WeBWorK.

Late assignments will not be accepted.

B. Quizzes (10 %)

Throughout the semester, online quizzes will be administered during lab periods, and attendance is mandatory.

C. Test I (25%)

Test I is tentatively scheduled for **February 25** during class time .

D. Test II (25%)

Test II is tentatively scheduled for **March 21** during the lab time .

E. Test III (25 %)

Test III will be a two hour test that is scheduled during the exam period.

Important Dates

First Day of Classes: Monday, January 6, 2025

Final Date to Register (Add): Friday, January 17, 2025

Winter Study Week: February 17, 2025 – February 21, 2025

Final Date for Withdrawal (Drop): Friday, March 7, 2025

Good Friday: Friday, April 18, 2025 (no classes)

Easter Monday: Monday, April 21, 2025 (no classes)

Final Day of Classes: Friday, April 4, 2025

Examination Period: April 7 – 17, 2025 (11 days)

Examination Contingency Date: April 19, 2025