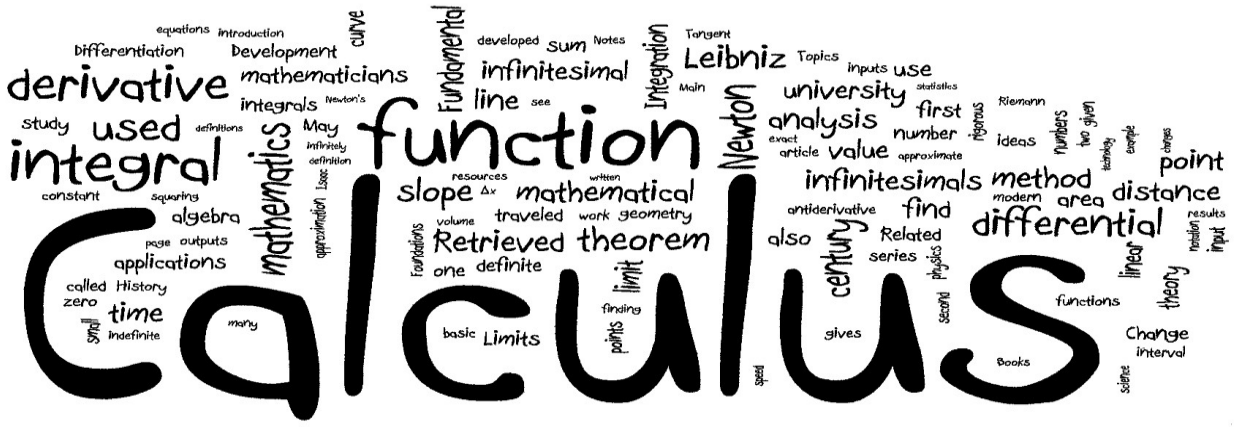

COURSE INFORMATION

MATH 1171 FDF: Calculus I

Fall 2021

Lectures:	MWF	4:30 PM – 5:30 PM	ZOOM
Lab:	F	3:30 PM – 4:30 PM	ZOOM

Instructor Dr. Christopher Chlebovec

Email cchlebov@lakeheadu.ca (the best way to contact me!)

Office Hours By Appointment

Course Site

This course has an online D2L site, which you access through *mycourselink* via myInfo or directly using the link

https://mycourselink.lakeheadu.ca

All information with regards to this course can be found on D2L and should be checked regularly. Lecture videos, notes and assignments will be posted and should be checked regularly. To view the videos you must log in with your Lakehead University credentials. It is recommended that you turn on notifications within the D2L course, so that you are alerted to any changes or announcements.

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:

Comprehensive Textbooks:

- *Calculus* by Stewart
- *Calculus by* Salas, Hille, Etgen
- *Calculus by* Thomas, Weir, Hass

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

- Calculus Volume 1 by Edwin Herman, Gilbert Strang
  https://openstax.org/details/books/calculus-volume-1

Course Description

This course will cover differential calculus and the beginning of integral calculus.

- Functions (definition, domain and range, representation of functions, piecewise functions, catalog of essential functions, symmetry, new functions from old ones, combining functions, composition of functions)

- Limits (intuitive definition, one-sided limits, infinite limits, limits laws, trigonometric limits, vertical and horizontal asymptotes, squeeze theorem, precise definition)

- Continuity (definition, types of continuous functions, types of discontinuities, intermediate value theorem)

- Derivatives (geometric and algebraic interpretation, differentiability and continuity, power rule, product rule, quotient rule, chain rule, implicit differentiation, higher derivatives, derivative formulas)

- Applications of Derivatives (extreme value theorem, mean value theorem, monotonicity and concavity, extrema, inflection points, first derivative test, second derivative test, optimization problems, rate of change in life and social sciences, related rates, curve sketching)

- Integrals (definite integral, The Fundamental Theorem of Calculus, indefinite integrals, u-substitution)

- Extra topics may be added, if time permits.

WeBWorK

WeBWorK is a free online homework system that will be required to complete the assignments and exams. The link that will enable you to access WeBWorK is found in the *Content* tab in the course site.

Labs

The lab will also be used to facilitate your understanding of the material and it will be beneficial to attend. Concepts will be reinforced through explanations and examples. You will also have time to work through questions yourself so that you can test your understanding.

Class Policies

Be sure to click the "mute" button on Zoom, when the lecture is taking place, as background noise will be distracting. If you have a question throughout the class, you may ask it in the chat or by clicking the "Raise Hand" button.

Academic Integrity

As per the Lakehead University Student Code of Conduct – Academic Integrity, students are required to act ethically and with integrity in academic matters and demonstrate behaviours that support the university's academic values.

In submitting your work (assignments and exams) throughout the course, the following must apply. Otherwise, it will constitute a breach of academic integrity.

o Completion of the work without the assistance of anyone;

o Other than class notes, the online textbook (OpenStax- Calculus I) and a nonprogrammable calculator, no sources or materials (print, online, or otherwise) have been accessed in the completion of the work.

o The assignments/examinations/lectures are protected by copyright. Reproduction or dissemination of these documents or the contents or format of this document in any manner whatsoever (e.g., sharing the content with other students or persons) is strictly prohibited and;

o Unless otherwise allowed by the course instructor, and, in accordance with Section III: Violations of this Academic Integrity Code, providing any false or misleading information, or by accessing any outside assistance, constitutes a breach of academic integrity as outlined in Lakehead University's Academic Integrity and Policies.

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 (10 %)

There will be weekly assignments posted on WeBWorK. ***Late assignments will not be accepted.***

B. Test I (25%)

The midterm is tentatively scheduled on **Friday, October 29**, during the lab time.

B. Test II (25%)

The midterm is tentatively scheduled on **Friday, November 26**, during the lab time.

D. Final Exam (40%)

The final exam date and time will be provided as soon as the university schedules it.