Math 1152: Calculus II for Social and Life Sciences (Winter 2024)

Instructor: Alex Hudyma   **Office:** RB 2005   **Email:** akhudyma@lakeheadu.ca

Class Times: Monday, Wednesday, Friday 11:30 am - 12:30 pm in RC 0005

Lab Times: Thursday 5:30 - 6:30 pm in RC 0005

Office Hours: Friday 1:30 - 2:30 pm in RB 2005 (or by appointment)

Textbook: There is no required textbook for the course as there are many great resources online. You will however be required to print (or download onto a tablet) the pre-made notes for the course. Practice problems will be assigned from the following open-source textbook:
Calculus Volume 2 by Edwin Herman, Gilbert Strang, found at this link.

Course Webpage: There is a page for the course on myCourseLink through myinfo. Announcements, WeBWorK login info, the textbook, practice problems, important dates, the syllabus, and any other course information will all be posted here.

Course Content: By the end of the course students will be able to: expand and evaluate finite sums from sigma notation; express the area under a curve as a Riemann sum and a definite integral; compute indefinite integrals of elementary functions; use the fundamental theorem of Calculus I and II to compute derivatives and definite integrals; use u-substitution to evaluate more complicated definite and indefinite integrals; find the area between multiple curves; use cross-sectional areas and the disc method to find volumes of solids; compute the arc length of a curve and the work done by a variable force; compute complicated integrals using integration by parts, trigonometric substitution, and partial fraction decomposition; compute improper integrals; solve elementary first order differential equations; solve separable first order differential equations; define sequences recursively and with a general term; find the limit of a sequence; classify boundedness and monotonicity of sequences; compute the nth partial sum of a series; prove convergence or divergence of infinite geometric, telescoping, and p series; apply the divergence, ratio, and root tests to infinite series; find the radius and interval of convergence for a power series; differentiate and integrate power series; and represent a function as a power series and/or Taylor series.

Class Policies: Paying attention during lecture, asking and answering questions, and otherwise participating when prompted are all ways to respect myself and your fellow students. Lakehead University will not tolerate any form of harassment or discrimination to students or instructors. Academic dishonesty (plagiarism, cheating, or impersonation of any kind) is a serious offence and penalties will be strictly enforced.

Grading Scheme:

Participation	5%
Assignments	10%
Test I	25%
Test II	25%
Final Exam	35%

Participation: MathMatize games will be played at random during lecture. Completing a game will contribute 0.5% to your grade, so you must complete 10 throughout the semester to fulfil this component.

Assignments: Homework will be assigned every week and is to be completed the following Friday via the online homework system WeBWoRK. Please note that late assignments will not be accepted under <u>any</u> circumstances, but your lowest assignment mark will be dropped in calculating your final grade.

Tests: There will be two tests given during the lab time (see schedule below). Please note that calculator use will not be permitted, and there will be no makeup tests. If a test is missed due to illness or another legitimate reason, email me as soon as possible (with documentation if applicable).

Final Exam: The final exam will be scheduled by the registrar during the examination period. It will be a three hour cumulative exam.

Accommodations: Lakehead University is committed to achieving full accessibility for persons with disabilities. This includes arranging academic accommodations for students with disabilities and/or medical conditions to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and 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 contact Student Accessibility Services http://studentaccessibility.lakeheadu.ca (SC0003, 343-8047, or sas@lakeheadu.ca).

Important Dates:

January 8th	First Day of Winter Term
January 19th	Final Date to Register
February 15th	Test I
February 19th-23rd	Winter Reading Week
March 21st	Test II
March 8th	Final Date to Withdraw
April 9th	Last Day of Winter Term
April 12th-22nd	Examination Period
April 23rd	Exam Contingency Date
April 26th	Marks Due