Math 3233 Course Outline

Winter 2021

Instructor: A.J. Dean, **email:** andrew.j.dean@lakeheadu.ca

Office hours: By zoom appointment. All communications for this class will be electronic.

References: An Analysis Textbook, by A.J. Dean, to be distributed in class.
Principles of Mathematical Analysis, by Walter Rudin;
Introduction to Real Analysis, by Bartle and Sherbert;
The Elements of Real Analysis, by Bartle.

Learner Outcomes: Successful students of this course will be able to: Compute limits of functions; Determine continuity of functions and construct proofs of basic results on limits and continuity; Understand the basic definition and properties of the derivative of a function; Understand the basic definition and properties of the Riemann integral, and determine integrability of functions; Understand the difference between different modes of convergence, including uniform, root-mean-square, and point-wise convergence of sequences of functions, and demonstrate these properties from the definitions in concrete examples; Use the Weierstrass M-Test to demonstrate uniform convergence of series of functions, and determine when term by term differentiation and integration of series is justified.

Marking Scheme: Grades will be based on weekly assignments. There will be 11 of these. They will be weighted equally, with the lowest grade being dropped.

Drop Date: The final date to withdraw from this course without academic penalty is Friday March 12.

Academic Dishonesty: All cases of academic dishonesty will be dealt with according to the university's Academic Integrity Code.

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