

Course outline: MATH 4151, WINTER 2011

Instructor: Dr. Razvan Anisca, RB 2049, email: ranisca@lakeheadu.ca

Office hours: Tuesday/Thursday 3:00-4:00 or email for an appointment

Textbook: Volker Runde, "*Advanced Honors Calculus*", available for downloading at:

<http://www.math.ualberta.ca/~runde/files/math217-notes.pdf>

(we will only use the first 135 pages of these notes)

Syllabus: Topology of \mathbf{R}^n . Continuity and differentiability of functions from \mathbf{R}^n to \mathbf{R}^m . Taylor's Theorem for functions of n variables. Maxima and minima. The Inverse Function Theorem and the Implicit Function Theorem. Integration in \mathbf{R}^n and Fubini's Theorem. Change of variables in multiple integrals.

Exam: The final exam will be a "take home" exam

Homework: There will be approximately 4 homework assignments during the term.

Grade: The final grade will consist of three parts: homework (40%), one individual presentations (30%) and final exam (30%).