Math 217 (Fall 2018), Honors Advanced Calculus, I
CAB 269, MWF 10:00–10:50, R 17:00-17:50

Instructor
Volker Runde

Office hours
CAB 675, MWF 11–11:50 or by appointment (E-mail: vrunde@ualberta.ca)

Course content
1. the real number system and finite dimensional Euclidean space (axiomatic introduction of the real numbers, the Euclidean space $\mathbb{R}^N$, topology in $\mathbb{R}^N$);
2. limits and continuity (sequences, limits, continuity, global properties of continuous functions, uniform continuity);
3. differentiation of functions of several variables (partial derivatives, the directional derivative and the differential, partial derivatives of higher order, classification of stationary points, vector fields);
4. Riemann integration (Riemann integral in $\mathbb{R}^N$, Fubini’s Theorem, integration in polar, spherical, and cylindrical coordinates).

Texts
There is no required text, but
3. James S. Muldowney, Advanced Calculus Lectures Notes for MATH 217–317, Part I,
are recommended.

The course will be based on the first four chapters of


Those of you who have not taken MATH 117/118 at the U of A may find

http://www.math.ualberta.ca/~bowman/m117/m117.pdf

helpful.
Grading

The mark will be based on (approximately) weekly homework assignments (30%), an in-class-
midterm on October 19 (20%), and a final (50%). A total mark of 50% will yield a letter grade
of D or better, and a total mark of 90% will yield a grade of A (or better). Prior to both
the midterm and the final, a practice midterm/final will be made available. If the midterm is
missed for a valid reason according to the calendar, its weight will be transferred to the final;
if the final is missed for a valid reason according to the calendar, a deferred exam will be given
at a time and place to be announced. The homework assignments, solutions to them and to
the (practice) exams will be made available through the course webpage at

http://sites.ualberta.ca/~vrunde/math217/.

Statements required by calendar

- Policy about course outlines can be found in §23.4(2) of the University Calendar.

- The University of Alberta is committed to the highest standards of academic integrity
  and honesty. Students are expected to be familiar with these standards regarding aca-
  demic honesty and to uphold the policies of the University in this respect. Students are
  particularly urged to familiarize themselves with the provisions of the Code of Student Be-
  haviour (online at www.governance.ualberta.ca) and avoid any behaviour which could
  potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or
  participation in an offence. Academic dishonesty is a serious offence and can result in
  suspension or expulsion from the University.

- Audio or video recording of lectures, labs, seminars or any other teaching environment
  by students is allowed only with the prior written consent of the instructor or as a part
  of an approved accommodation plan. Recorded material is to be used solely for personal
  study, and is not to be used or distributed for any other purpose without prior written
  consent from the instructor.