Instructor: Dr. G. Slade, Math Annex 1211, 604-822-3781, slade@math.ubc.ca.

Office hours: Mon. 14:00–14:50, Wed. 13:00–13:50, Fri. 10:00–10:50.


Other references:
Tom M. Apostol, “Mathematical Analysis”
Maxwell Rosenlicht, “Introduction to Analysis”
Arthur Mattuck, “Introduction to Analysis”
Kenneth Ross, “Elementary Analysis: The Theory of Calculus”
William F. Trench, “Introduction to real analysis” http://ramanujan.math.trinity.edu/wtrench/texts/TRENCH_REAL_ANALYSIS.PDF

Topics: The course will be based primarily on topics from the first five chapters of Rudin:

1. Number Systems (Chapter 1): ordered fields; rational, real and complex numbers; Archimedian property; supremum, infimum, completeness.

2. Sequences and Series of Real Numbers (Chapter 3): limits of sequences; algebra of limits; Bolzano–Weierstrass Theorem; Cauchy sequences, liminf, limsup; limits of series, convergence tests, absolute and conditional convergence; power series.

3. Metric Spaces (Chapter 2): metric spaces; convergence, completeness, completion; open sets, closed sets, compact sets, Heine Borel Theorem; connected sets.

4. Continuity (Chapter 4): functions, cardinality; continuity; continuity and compactness, existence of minimizers and maximizers, uniform continuity; continuity and connectedness, Intermediate Value Theorem; monotone functions and discontinuities.

5. Differentiation (Chapter 5): differentiation; Mean Value Theorem; L'Hôpital's Rule; Taylor's Theorem.

Evaluation: There will be homework assignments, two tests, and a final exam.

Homework: Nine assignments will be given and marked for credit. Assignments are due at the beginning of class on the due date. No late assignments will be accepted. The assignment schedule is as follows:

<table>
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<tr>
<th>Assignment given</th>
<th>Assignment due</th>
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<td>September 11</td>
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**Tests:** There will be two 50-minute tests held during the regularly scheduled class hours on the following dates:

   Wednesday, October 14,   Wednesday, November 18.

The midterms and final exam are closed book: no calculators, formula sheets, or other aids are permitted. Missing a test normally results in a mark of zero. Exceptions may be granted in two cases: prior consent of the instructor or a medical emergency. In the latter case, the instructor must be notified within two working days of the missed test, and presented with a doctor’s note immediately upon the student’s return to UBC. When an exception is granted for a missed test, there is no make-up test, and the final exam mark will be used.

**Final exam:** There will be a final examination during the December examination period.

**Final mark:** The final mark will be calculated (subject to possible scaling) as follows:

   - Homework: 10%
   - Tests: 20% each
   - Final exam: 50%

**Prerequisites:** Either (a) a score of 68% or higher in MATH 226 or (b) one of MATH 200, MATH 217, MATH 226, MATH 253, MATH 263, and a score of 80% or higher in MATH 220.

Updated August 6, 2015.