

Instructor: Dr. G. Slade, slade@math.ubc.ca.

Office hours: Via Zoom at the times indicated on Canvas.

Teaching assistant: The TA for the course is Adam Martens. For concerns about marking please send email to martens@math.ubc.ca.

Course webpage: Course materials will be found on Canvas <https://canvas.ubc.ca/courses/85200>.

Lectures on Zoom: During periods determined by the University as unhealthy for in-person classes, including January 10-21, lectures will be given on Zoom (click on the Zoom link in Canvas) at the scheduled hours MWF 09:00-09:50. You are strongly encouraged to attend Zoom classes at those times, and to take notes as you would do in a blackboard lecture. Online lectures will be recorded and available in Zoom Cloud Recordings on Canvas. When authorised by the University, in-person classes will resume and Zoom will not be used.

Piazza: There is a link to Piazza on Canvas. Please use Piazza for questions that arise in your learning and for questions about all issues related to the course. For personal matters please use email to Dr. Slade.

Text: Walter Rudin, "Principles of Mathematical Analysis" 3rd edition, McGraw Hill, 1976.

A solutions manual is here: <https://minds.wisconsin.edu/handle/1793/67009>.

Alternate references:

Tom M. Apostol, "Mathematical Analysis," 2nd edition, Addison-Wesley, 1974.

Dr. Feldman has posted some notes at <https://personal.math.ubc.ca/~feldman/m321/>.

Topics: The course will be based primarily on topics from Chapters 6, 7, 8, 9 of Rudin:

1. The Riemann–Stieltjes integral (Chapter 6).
2. Sequences and series of functions; uniform convergence; equicontinuity (Chapter 7).
3. Power series; special functions; Fourier series (Chapter 8).
4. Functions of several variables; inverse function theorem (Chapter 9).

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

Homework: Eight 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.* When a due date has an online class, assignment submission is via Canvas. When a due date has an in-person class, assignment submission is via a hard copy handed in at the start of class.

The assignment schedule is as follows:

<u>Assignment given</u>	<u>Assignment due</u>
January 14	January 21
January 21	January 28
January 28	February 4
February 11	February 18
February 18	March 4
March 4	March 11
March 11	March 18
March 25	April 1

Tests: There will be two 50-minute tests held during the regularly scheduled class hours on the following dates:

Friday, February 11, Friday, March 25.

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

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

Homework: 10% (best 7 assignment marks)

Tests: 20% each

Final exam: 50%

Prerequisite: MATH 320.

Course policies: You are encouraged to discuss assignment problems with each other; it is a good way to learn. However, the solutions that you write up should be in your own words. Never copy your solutions from each other. If you find a solution on the internet, a book, or elsewhere, cite your source.

The midterms and final exam are closed book: no calculators, formula sheets, or other aids are permitted. (This is subject to change if in-person tests are not possible.)

Missing an assessment without a valid reason results in a mark of zero. Missing an assessment for a valid reason normally results in the weight of that assessment being transferred to the final exam. Examples of valid reasons include illness and travel to play a scheduled game for a varsity team. Examples of reasons that are not valid include conflicts with personal travel schedules or conflicts with work schedules. Any student who misses an assessment is to present to their instructor the Department of Mathematics self-declaration form for reporting a missed assessment within 72 hours of the assessment date. The form is here: https://secure.math.ubc.ca/Ugrad/ugradForm/Student_Declaration_Academic_Concession_MATH.pdf. This policy conforms with the UBC Vancouver Senate's Academic Concession Policy V-135 and students are advised to read this policy carefully: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,329,0,0>.

University policies: UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available on the UBC Senate website <https://senate.ubc.ca/policies-resources-support-student-success>.

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