Math 321/201 **Real Variables II** **2019W Term 2, Jan-Apr 2020**

Instructor:
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Office hours: See course webpage.

Course webpage: `http://www.math.ubc.ca/~slade/math321/321-web-20.html`

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."
Dr. Feldman has posted some notes at `http://www.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 (Chapter 7).

3. Power series; special functions; Fourier series (Chapter 8).

4. Functions of several variables; inverse and implicit function theorems (Chapter 9).

5. Other topics as time permits.

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:

Assignment given	Assignment due
January 10	January 17
January 17	January 24
January 24	January 31
January 31	February 7
February 14	February 28
February 28	March 6
March 6	March 13
March 13	March 20
March 27	April 3

Tests: There will be two 50-minute tests held during the regularly scheduled class hours on the following dates:
    Wednesday, February 12,   Wednesday, 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 8 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 or in a book, cite your source.

The midterms and final exam are closed book: no calculators, formula sheets, or other aids are permitted.

Missing a test without a valid reason results in a mark of zero. Missing a test for a valid reason normally results in the weight of that midterm 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 a test is to present to their instructor the Department of Mathematics self-declaration form for reporting a missed assessment within 72 hours of the midterm date. The form is here: `http://www.math.ubc.ca/~slade/Academic_Concessions_Self_Declaration_2019.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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