

Real Variables II - Math 321

Spring 2015

- **Instructor:** *Malabika Pramanik*
- **Mathematics Building, Room 214**
- **Phone:** *(604)822-2855*
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- **Office hours:** *To be announced on the course website.*

- **Web page :** The course website is

<http://www.math.ubc.ca/~malabika/teaching/ubc/spring15/math321/index.html>

Homework assignments and all relevant course information (such as changes to office hours if any, or solutions to homework problems if needed) will be posted here.

- **Text :** *Principles of Mathematical Analysis (third edition)* by W. Rudin.

- **Other references :**

- *Mathematical Analysis*, by Tom M. Apostol.
- *Real Analysis*, by Neal Carothers.
- *Introduction to real analysis*, by William F. Trench. This book is freely available online at

http://ramanujan.math.trinity.edu/wtrench/texts/TRENCH_REAL_ANALYSIS.PDF

- **Lectures :** Monday, Wednesday, Friday 9-10 am in Mathematics Building, Room 104.

- **Prerequisites :** Math 320.

- **UBC Course description :**

- The Riemann or Riemann-Stieltjes integral
- Sequences and series of functions, uniform convergence
- Approximation of continuous functions by polynomials
- Fourier series
- Functions from \mathbb{R}^m to \mathbb{R}^n , inverse and implicit function theorems

These topics are contained in Chapters 6-9 of the textbook.

- **Course Policies :**

- Homework problems will be posted weekly on the course website, and collected at the end of class every Friday. Writing proofs is an integral component of this course, and as such homework solutions should be carefully prepared with special attention to detail and mathematical rigour. Answers should be clear, legible and in complete English sentences.
- You are encouraged to discuss homework problems with each other. However, the solutions that you write up should be entirely your own.
- Occasionally, a set of practice problems may be provided to supplement the material being taught in class. You do not need to hand in the solutions to these problems, but it is strongly recommended that you work through them. Exam questions will be largely modeled on these problems.
- In addition to homework, there will be a *midterm and a final exam*. The midterm will be 50 minutes long and held during class time on **Friday February 27**. Your total score will be a weighted average of your homework, midterm and final scores, with the breakdown as follows.

Homework	25%
Midterm	25%
Final exam	50%

- The midterm and final exam will be strictly closed book; no formula sheets or calculators will be allowed.
- Missing a homework or midterm normally results in a score of 0. 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 48 hours of the missed test and be provided with a doctor's note immediately upon return to UBC.
- The final exam date for this course is currently unavailable, but will be released during the term. *Do not make travel plans until the final exam schedule has been announced.*