

THE CHINESE UNIVERSITY OF HONG KONG
Department of Mathematics
MATH 2050B (First term, 2023-24)
Mathematical Analysis I
Course Outline¹

Course Description

MATH2050, 2060 and 3060 are basic courses for analysis, which together form a solid foundation for analysis. In this first one we start with the properties of the real number system, then proceed to limits of sequences and functions, and end up with the concept of continuity and uniform continuity. We will follow the text closely and go over chapters 2–5 assuming that the content of chapter 1 has been taught previously.

Assignments will be posted on the course webpage. Although you are asked to hand in a few selected problems only, you are supposed to do them all. There are also some in-class quizzes in the tutorials.

Instructor

- LI Man-chun Martin (Office: LSB 236. Email: martinli@math.cuhk.edu.hk)

Teaching Assistants

- LO Chiu Hong (Office: LSB 223, Email: chlo@math.cuhk.edu.hk)
Office Hours: please check on the course webpage
- ZHANG Zhiwen (Office: LSB 232. Email: zwzhang@math.cuhk.edu.hk)
Office Hours: please check on the course webpage

Time and Venue

- **Lectures:** Wed 4:30PM - 6:15PM and Thu 3:30PM - 4:15PM, both at LHC G04
- **Tutorials:** Thu 2:30PM - 3:15PM at LHC G04

Lectures, Tutorials and Homeworks

Tutorials form an integral part of the course and students are expected to attend all the lectures and tutorials. One cannot learn the subject without working out lots of exercises. Therefore, students are expected to complete the homework assignment in detail by themselves (peer discussions are encouraged though but students are expected to do their own write-ups). Note that plagiarism is taken very seriously by the University and any related offence will lead to disciplinary action including termination of studies at the University.

¹Last revised on September 6, 2023.

Textbook and References

- (Required) R.G. Bartle and D.R. Sherbert, Introduction to Real Analysis, 4th edition, John-Wiley and Sons, NY, 2011
- W. Rudin, *Principles of Mathematical Analysis*, 3th edition, McGraw-Hill, International editions, 1976. (A step beyond MATH2050/60, this compactly written book has bred generations of mathematicians. Highly rewarding if read carefully.)

Assessment Scheme

- **Assignments and quizzes:** 10%

Problem sets will be assigned and deadline for submission will be posted. There will also be some short in-class quizzes during the tutorial classes

- **Two in-class midterms (Oct 11 and Nov 15, 4:30-6:00PM):** 40%
- **Final Examination (TBA):** 50%

The final examination will be centralized by the University and it will be within the official examination period of December 6 – 22, 2023. The exact date and time will be announced around late October to mid-November. Please do not make any travel plan until you know the examination dates. No make-ups or special arrangements can be made by the instructor or the Department.

Course Webpage

Please check regularly the following course webpage for course materials and announcements:

<http://www.math.cuhk.edu.hk/course/2324/math2050b>

Honesty in Academic Work

The Chinese University of Hong Kong places very high importance on honesty in academic work submitted by students, and adopts a policy of zero tolerance on cheating and plagiarism. Any related offence will lead to disciplinary action including termination of studies at the University.

The Honour Code and Code of Conduct for Students has been formulated and approved by the University. It is available at the online Student Handbook via the following website:

http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx/Public/Handbook/document.aspx?id=1987&tv=F&lang=en