

**THE CHINESE UNIVERSITY OF HONG KONG**  
**Department of Mathematics**  
**MATH 2050C** (Second term, 2021-22)  
**Mathematical Analysis I**  
**Course Outline**<sup>1</sup>

### **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 web page every week. Although you are asked to hand in a few selected problems only, you are supposed to do all. There are also some in-class assignments in the tutorials.

### **Instructor**

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

### **Teaching Assistants**

- LO Chiu Hong (Office: LSB 228, Email: chlo@math.cuhk.edu.hk)  
*Office Hours: please check on the course webpage*
- WANG Gaoming (Office: LSB 222A. Email: gmwang@math.cuhk.edu.hk)  
*Office Hours: please check on the course webpage*

### **Time and Venue**

- **Lectures:** Tue 8:30AM - 10:15AM at LHC G04; Thu 9:30AM - 10:15AM at LSK LT3
- **Tutorials:** Thu 8:30AM - 9:15AM at LSK LT3

### **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.

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<sup>1</sup>Last revised on January 25, 2022.

## Textbook and References

- (Required) R.G. Bartle and D.R. Sherbert, Introduction to Real Analysis, 4<sup>th</sup> edition, John-Wiley and Sons, NY, 2011
- W. Rudin, *Principles of Mathematical Analysis*, 3<sup>th</sup> 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, quizzes and tutorial classwork:** 15%

Weekly problem sets will be assigned and deadline for submission will be posted. You must attend the tutorial classes where you work out and hand in additional classwork exercises given by the tutors in class. There will also be some short in-class quizzes.

- **One midterm (Mar 3, in-class, 8:30AM-10:00AM):** 35%
- **Final Examination (TBA):** 50%

The final examination will be centralized by the University and it will be within the official examination period of April 27 – May 14, 2022. The exact date and time will be announced around late February to mid-March. 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/2122/math2050c>

## 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.

Although cases of cheating or plagiarism are rare at the University, everyone should make himself/herself familiar with the content of the following website:

<http://www.cuhk.edu.hk/policy/academichonesty/>

and thereby help avoid any practice that would not be acceptable.