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THE CHINESE UNIVERSITY OF HONG KONG
Department of Mathematics
MATH2060B (Second term, 2014-15)
Mathematical Analysis II

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This course is a continuation of MATH2050. Topics include: differentiability, Riemann integrals, infinite series of numbers, sequences and series of functions, and uniform convergence. The course places special emphasis on rigor and foundations. Students are expected to be able to understand various delicate points in analysis, and to present proofs rigorously, after completing this course.

Instructor

- Yung Po-Lam (Office: LSB Rm 234. Email: `plyung@math.cuhk.edu.hk`)

Tutors

- Chen Guanheng (Email: `ghchen@math.cuhk.edu.hk`)

- Lee Cheuk Yin (Email: `cylee@math.cuhk.edu.hk`)

Time and Venue

- Lectures: Tuesdays 09:30–10:15 LSB LT3, Thursdays 08:30–10:15 LSB LT4.

- Tutorials (*from* Week 2): Tuesdays 08:30–09:15 LSB LT3, Thursdays 10:30–11:15 LSB LT4.

Assessment Scheme

- **Homework**: 5%

- **Quizzes**: 5%

- **Midterm 1**: 15%

- **Midterm 2**: 15%

- **Final Exam**: 60%

  Homework will be assigned* every week. There will be about 10 problems per week. Generally they will be due the next Tuesday. No late homework will be accepted, unless there is a good reason with proof (e.g. sickness).

  There will be a weekly quiz every Thursday, to be held during the lecture. The lowest quiz score will be dropped.

  Midterm 1 will be on Thursday 12 February, from 08:30am–10:00am.

  Midterm 2 will be on Thursday 2 April, from 08:30am–10:00am.

  The final exam will be centralized by the University.

  *Due to the large class size, the TA will only be able to grade about half of the assigned homework problems. Your homework grade will be determined by your performance on the problems that the TA grade. On the other hand, solutions to all assigned problems will be posted on the course webpage, after the homework is due, and before the quiz on that homework. So you will have a chance to look at the solutions to all homework problems, before the quiz takes place.

Course Material and Course Announcements

- The course homepage of MATH2060B is at

  `http://www.math.cuhk.edu.hk/course/math2060b/`

  Please check the page regularly for announcements and homeworks.

Assignments

Assignments count in the course assessment. They are uploaded to the course homepage of MATH2060B. An assignment that is submitted late (or that is not submitted) will not be graded. You are reminded to adhere to the university policy on honesty in academic work. Please refer to

  `http://www.cuhk.edu.hk/policy/academichonesty/`

- To submit your work, go to 2/F LSB. You will find the assignment boxes for all MATH courses opposite LSB Rms 221–223. Slip your work into the assignment box for MATH2060B.

- Your marked work will be placed in the open area at the top of the assignment box for MATH2060B.

References

- R. Bartle and D. Sherbert, *Introduction to Real Analysis*, Wiley, 4th edition.

Students may also consult the following:

- R. Strichartz, *The Way of Analysis*, Jones and Bartlett.

- T. Tao, *Analysis*, Volumes I and II, Hindustan Book Agency.

Another standard reference (for more advanced students) is

- W. Rudin, *Principles of Mathematical Analysis*, McGraw-Hill.

Some supplementary notes will also be provided on the course webpage.

Teaching Schedule

The schedule is provisional. We will adapt it along the way.

- Weeks 1-3: Differentiation.

- Weeks 4-7: Riemann integration.

- Weeks 8-10: Uniform convergence.

- Weeks 11-14: Absolute convergence, series of functions.