**MA3110 Mathematical Analysis II**
**Semester 2, 2020/2021**

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**About this module:** This is a continuation of MA2108 Mathematical Analysis I. The objective of this module is to introduce the student to the contents and methods of elementary mathematical analysis. The course develops rigorously the following concepts arising from calculus: the derivative, the Riemann integral, sequences and series of functions. The emphasis is on logical rigour. The student will be exposed to and be expected to acquire the skills to read and write mathematical proofs.

**Textbook:** Robert G. Bartle and Donald R. Sherbert, *Introduction to Real Analysis*, fourth edition, John Wiley & Sons, ISBN 978-0-471-43331-6.

**Othere references:**

1. Walter Rudin, *Principles of Mathematical Analysis,* third edition, McGraw-Hill.
2. Steven Lay, *Analysis with an Introduction to Proof,* fifth edition, Pearson Prentice Hall.
3. William Wade, *An Introduction to Analysis*, fourth edition, Prentice Hall.

**LumiNUS course web site:** Course materials, lecture plan and announcements will be posted at this web site. You are also encouraged to post your questions and comments at the Forum.

**Teaching Modes**
All lectures will be conducted using Zoom and recorded. You can join the Zoom meeting via the LumiNUS Conference page.
To view the recordings, click on "Previous", and then click on the session you want to view.
All tutorial classes will be face-to-face.
Both the midterm test and the final exam will be conducted online and using Zoom.

**Lecture notes for MA2108:** As MA3110 is a continuation of MA2108, we frequently need to use some definitions and theorems from MA2108 in our discussion. So a set of lecture notes for MA2108 is provided at LumiNUS for your reference.

**Assessment**

1. A test will be held on 3 March 2021, 8:15am-9:30am. It will be an online test conducted using Zoom. This test carries 30% of your final grade.
2. Homework carries 15% of your final grade.
3. Tutorial participation carries 5%. You are required to present your solution of at least 1 tutorial question in class.
4. The final examination determines the remaining 50%. It will be an online exam conducted using Zoom.

**Homework policy**

- There are 4 homework. The maximum mark of each homework is 10 marks.

| Homework | Deadline |
|---|---|
| 1 | 8pm on 1 Feb 2021 (Mon) |
| 2 | 8pm on 15 Feb 2021 (Mon) |
| 3 | 8pm on 15 Mar 2021 (Mon) |
| 4 | 8pm on 29 Mar 2021 (Mon) |

- Homework carries 15% of your final grades.

**Tutorials:** Tutorial classes start in the week 25 Jan 2021 - 31 Jan 2021. Tutorial question sheets can be downloaded from LumiNUS. Hints on some tutorial questions will also be given.

The questions for tutorials constitute only a minimal set of problems for learning the subject. You can also work on the exercises given in the textbook. If you need help in solving the exercises, please post your questions at the Forum.

**Consultation hours:** By appointment. Please email me to arrange a meeting time.