MATH 1003 Calculus and Linear Algebra

Maosheng Xiong
Department of Mathematics, HKUST

About MATH 1003

Lecturer: Maosheng Xiong (Office: Rm 3477. E-mail: mamsxiong@ust.hk)
Teaching assistant: TBA
Office hours Mon/Fri 11:00-11:50, or on appointment
Textbook: College Mathematics for Business, Economics, Life Sciences, and Social Sciences (Twelfth Edition), by Raymond A. Barnett, Michael R. Ziegler and Karl E. Byleen
Course website: `http://www.math.ust.hk/~mamsxiong/` or
Canvas `http://celt.ust.hk/user/login`

Midterm exam

The Midterm exam is scheduled on

7 October (Saturday), 10:00–11:30.

Only legitimate excuses (such as illness with official medical record) will be accommodated for a make-up exam. Please arrange your travel plans accordingly.

Grading Policy

- Weekly practice problems (0%) - No need to hand in.
- Online homework (WeBWork) (10%)
- Midterm (30%), 1.5 hours - Date: 7 October
- Final Exam (60%), 3 hours - Date: TBA

Some Advice

While the course may not be difficult (to some students), it runs very fast pace. So it is very important to stay alert all time,

- Attend lectures and tutorial classes
- Read the textbook and do weekly practice exercise problems after each class, for at least 2 to 3 hours per week.
- Make use of resources (math help center, office hour, etc.)

Tentative Syllabus

- Chapter 3. Mathematics of Finance (3.1-3.4)
- Chapter 4. Systems of Linear Equations; Matrices (4.1-4.7)
- Chapter 10. Limits and the Derivative (10.4-10.5)
- Chapter 11. Additional Derivative Topics (11.1-11.7)
- Chapter 12. Graphing and Optimization (12.1-12.2, 12.4-12.6)
- Chapter 13. Integration (13.1-13.2, 13.4-13.5)
- Chapter 14. Additional Integration Topics (14.1-14.3)

Single variable calculus

- **Math1003**: A course in basic single variable calculus and linear algebra. In general, this course cannot fulfill the prerequisites for taking other more advanced math courses. However, students receiving a grade of A- or above will exceptionally be allowed to proceed to Math1014.
- **Math1012/1014**: A standard sequence of single variable calculus. Students without the HKDSE Math Extended Module M1 or M2, or a grade of below level 3, should take this sequence.

Single variable calculus

- **Math1013/1014**: A standard sequence of single variable calculus. Students with a grade of 3 or above in the HKDSE Math Extended Module M1 or M2 should take this sequence.
- **Math1023/1024**: The honors sequence of single variable calculus. This sequence places more emphasis on rigorous mathematical reasoning. Students who have obtained a level 5 or above in HKDSE Math Extended Module M2 should take this sequence.