ECON 2174
Mathematics for Economists

Department of Economics, HKUST

Instructor

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Overview

This course introduces essential mathematical tools for advanced economic studies, covering topics like calculus, linear algebra, and optimization methods, specifically tailored for economic applications.

Prerequisites

This course assumes that you have some basic understanding of calculus.

Learning matierals

I will provide comprehensive lecture notes (slides) that are self-contained and sufficient for homework and exams. For additional explanations, examples, or exercises, the following books can be valuable resources.

Fundamental Methods of Mathematical Economics, A.C. Chiang and K. Wainwright (2005), McGraw-Hill

Mathematics for Economists, Carl P, Simon and Lawrence Blume (1994), Norton

Grading

Homework (20%), midterm exam (35%), final exam (45%).

Assignment of letter grades is based on the following rubrics:

A: Excellent. Students demonstrate a strong grasp of course materials, effectively utilize tools discussed, excel in problem sets, and perform exceptionally on exams.

B: Good. Students exhibit a solid understanding of course materials, proficient use of tools, and competent completion of problem sets.

C: Satisfacotory. Students demonstrate an adequate understanding of course materials, satisfactory use of tools, and completion of problem sets.

D: Marginal pass. Students show limited understanding of course materials, inconsistent use of tools, and incomplete performance in problem sets.

F: Fail. Students display a lack of understanding of course materials, inadequate use of tools, and unsuccessful completion of problem sets.

Homework

Problem sets on a bi-weekly basis. Collaboration is allowed, even encouraged.

Exams

Exam dates are to be determined and will be announced two weeks in advance.

Midterm is in-class.

Final is cumulative.

Tutorials

We will conduct tutorials, although they will not be scheduled regularly. Please make sure to stay attentive to course emails for any tutorial announcements.

Main topics

- Preliminaries
- Calculus and real analysis

- Linear algebra

- Optimization

Intended learning outcomes

Upon successfully completing this course, you will gain a solid understanding of the mathematical tools essential for undergraduate economic studies. According to the learning goals and objectives (ILOs):

> (Problem sets and exams) Students will become comfortable with mathematical models of economics and be able to construct and analyze them (ILO 1).

> (Problem sets and exams) Students will be able to produce coherent and easy-to-follow solutions or proofs for mathematical problems in economics (ILO 2).

Honor Code

There will be no tolerance for plagiarism and cheating. Any related offense will lead to disciplinary action including termination of studies at the University. Attention is drawn to University policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such policy and regulations.