B.E. International Program

Faculty of Economics, Thammasat University

Course Syllabus

EE522 Selected Topics in Quantitative Economics 1: Mathematical Analysis for Economists

Semester 2/2019 (January – May, 2020)

Number of credits: 3 credits (3-0-6)

Lecture Venue: Faculty of Economics

Instructor: Asst. Prof. Dr. Sittisak Leelahanon

Email: sittisak@econ.tu.ac.th

Office: Room , Faculty of Economics

Office Hours: by appointment

Prerequisites: With the consent of the lecturer.

Course Description:

Mathematical analysis in modern economic theory including set theory, real number system, metric space and topology, sequence of real numbers, real valued function, continuity, differentiability, and sequence of functions. Application of mathematical analysis to modern economic theory.

Useful Materials:

[Rudin] Walter Rudin, *Principles of Mathematical Analysis*, 3rd ed., McGraw-Hill, Inc.

[Ok] Efe A. Ok, *Real Analysis with Economic Applications*, Princeton University Press.

Evaluation:
Your grade will be based on exams (80%), problem sets (20%).
Midterm exam (40%)

Final exam (40%)

Things to cover:

Week	Topic	Read
1-3	Set Theory, Real Number System, Countability	Rudin (ch.1), Ok (ch. A.1-A.2, B)
4-6	Metric Spaces and Topology	Rudin (ch.2), Ok (ch. C)
7-9	Sequence of Real Numbers	Rudin (ch.3), Ok (ch. A.3)
10-11	Real Valued Function and Continuity	Rudin (ch.4), Ok (ch. A.4, D)
12-13	Differentiability and Integration	Rudin (ch.5, 6), Ok (ch. A.4)
14-15	Sequence of Functions	Rudin (ch.7), Ok (ch. C, D)

Remarks:
1) The instructor retains his right to give a final grade basing on his criteria.
2) There are many mathematical economics textbooks available, feel free to substitute another book if it suits you more.
3) There will not be any supplementary exams.

- **Mid-Term Examination ()**
- **Final Examination ()**