Financial Engineering II

Spring 2010

Department of International Business

National Taiwan University

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Class hours: Tuesday 9:10 am – 12:10 pm
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OBJECTIVE: After taking this course, the students would have a solid knowledge of the mathematical foundations for financial engineering.

Note: This course is a prerequisite for "Real Analysis and Probability", which in turn is a prerequisite for "Stochastic Models of Asset Pricing".

References

1. Billingsley, Patrick, 1995, *Probability and Measure*, 3rd ed., John Wiley &Sons.
2. Royden, H. L., 1988, Real Analysis, 3rd ed., Prentice-Hall.
3. Karlin, Samuel and Howard M. Taylor, 1975, *A First Course in Stochastic Processes*, 2nd ed., Academic Press.

TOPICS (Tentative): Metric Spaces, Topological Spaces, Normed Vector Spaces, Product Spaces, Fubini's Theorem, Inner Product Spaces, Hilbert Spaces, Applications in Financial Engineering.

GRADING: Homework and Presentations: 30%. Mid-Term Exam: 35%. Final Exam: 35%.