



M.Sc. Economics

Code:		Type:	M.Sc. 2 nd year, winter/spring 2011
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Title:	Empirical Finance (Elective course)
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Lecturer:	Marc Paoella
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ECTS:	3	Contact hours (per term):	20
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Semester:	Winter/spring 2011	Frequency of the lecture:	10 units
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Dates:	March 28, 2011 until May 6, 2011
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Prerequisites:	Knowledge of Real Analysis, Probability Theory, Basic Statistical Inference, Linear and Matrix Algebra
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Learning objectives (What are the intended learning outcomes? Which skills will be acquired?):

The successful student will have an advanced understanding of the mathematics and computational methods associated with the distribution theory for modelling asset returns, portfolio construction, risk measures, modern statistical inference, and distributional testing.

Content (Which professional competence and which contents will be imparted?):

Outline:
Moment Generating and Characteristic Functions
Inversion Theorems, Fast Fourier Transform
Sums of Random Variables
Saddlepoint Approximations
Mixture Distributions
Point and Interval Estimation, use of double bootstrap
Optimization, Likelihood theory
Further Methods of Point Estimation; Numerics

Teaching approach (Description of the learning and teaching methods):

Lecture and individual and group work on problems.

Workload (Definition of workload (ECTS), divided in pre-modules (e.g. pre-readings), core-modules (contact hours), post-modules (e.g. case studies)):

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Language of instruction (Information on the language of teaching):

English

Obligatory literature (E.g. scripts, books, articles, cases, papers):

- Book: Intermediate Probability, Wiley, 2007, by Marc Paolella
- Notes from instructor (will be provided).

Additional literature (E.g. books, articles, cases, papers):

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Mode of examination (Mode of the examinations and tests (e.g. oral or written examination, lecture, homework, papers, class participation):

Final exam.

Grading (A maximum of 20% outside the class room):

Final exam 100%.

Special features (E.g. excursion, guest speaker):

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Contact information:

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Office hours:

By appointment

Course website:

<https://cecnet.tuwien.ac.at/>