

Matlab Workshop MFE 2007

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Description: The main objective of this course is to provide a review of the standard tools on Matlab environment useful for economic and financial analysis.

Syllabus:

LECTURE 1 - PENG

Introduction to Matlab.

- 1.1 Introduction Matlab environment.
- 1.2 Basic syntax.
- 1.3 Vectors, matrices and linear algebra.
- 1.4 Graphics.
- 1.5 Relational and logical operations.
- 1.6 Condition constructs: the **if** statement.
- 1.7 Loop constructs: **for** and **while** loops.
- 1.8 Executable files and subroutines: *.m files.

1.9 Examples: Newton Method and CRR-Binomial Model.

LECTURE 2 - STEFANO Statistical Analysis.

2.1 Descriptive statistics.

2.2 Probability distributions.

2.3 Loading and saving data.

2.4 Multiple linear regression.

2.5 Stochastic processes.

Bibliography:

- Back, K. (2005), A Course in Derivative Securities: Introduction to Theory and Computation, Springer, New York.
- Brandimarte, P. (2001), Numerical Methods in Finance: a Matlab Based Introduction, John Wiley & Sons, New York.
- Clewlow, L. and Stickland, C. (1998), Implementing Derivatives Models, John Wiley & Sons, New York.
- Creel, M. (2005), Econometrics,
(Available at <http://pareto.uab.es/mcreel/Econometrics/econometrics.pdf>).
- Glasserman, P. (2003), Monte Carlo Methods in Financial Engineering, Springer, New York.
- LeSage, J.P. (1999), Applied Econometrics using Matlab.
(Available at <http://www.spatial-econometrics.com/html/mbook.pdf>).