

Course program

Course title: Quantitative Analysis	Neptun code: GTÜSE421A
	Course type: core
Name and position of course coordinator: Prof. Dr. Besenyei Lajos, emeritus professor	
Name(s) and position(s) of teaching assistant(s):	
Suggested semester: 3, Autumn	Prerequisite course(s):
Weekly lecture+seminar hours: 2+0	Evaluation method: exam
Credits: 5	Study format: full time and part time
<p>Course objectives:</p> <p>Understanding quantitative models (theory and methods).</p> <p>Development of the practical application of the models.</p>	
<p>Course content and structure:</p> <ol style="list-style-type: none"> 1. Philosophical (general) foundations of quantitative analysis and modeling. The basic idea of stochastic modeling. 2. Types of models. Multiple Correlations and Regression Models. (Generalizations of the Least Squares Method, Statistical Inference in Multiple Regression, Analysis of residuals, Multicollinearity, Testing outliers and Influential Data, Forecasting with Regression Models.) 3. Statistical Estimation. (Basic concept, methods of Point and Interval Estimation, Interval Estimation of IID Sample.) 4. Time Series Analysis. (Decompositions of Time Series, Smoothing Procedures, ARMA, ARIMA models.) 5. Diagnostics of Models. 6. Quantitative models in the Service of Society. 7. Case studies. 	
<p>Evaluation method:</p> <p>Seminar lecture (PhD. students).</p> <p>Colloquium</p>	

Required reading:

Mark L. Berenson – David M. Levine
Basic Business Statistics
Prentice Hall Inc. New Jersey, 1992.