CURRICULUM

Academic subject:		**FORECASTING FINANCIAL MARKETS**
Subject code:	**B63830 O0880**	
Degree of Education and Qualification:		**Bachelor of Arts**
Status of the course:		**Optional**
Field of Higher Education:	**3.**	**Social Sciences, Economics and Law**
Academic Area:	**3.8.**	**Bachelor of Economics**
Specialty:	**3.8.30.**	**International Economic Relations**
Faculty:		**International Economics and Politics**
Department:		**International Economic Relations and Business**
Total student academic load (average classes per course):		**30 / 0**
Non-contact student academic load:		**70 hours**
Credits:		**4**
Lecturer of the course:		**Associate Professor Svetlana Aleksandrova, PhD**

PREREQUISITES

The course "Forecasting financial markets" brings knowledge to the students about modern concepts and tools for decision making. Students need to have knowledge in finance, statistics, macro and micro economics, international business.

ANNOTATION

The course was started 2005, it is a part of the bachelor program "International Economic Relations and Business.
The increasing complexity of global financial markets is fueling the demand for professional experts who possess an understanding of forecasting, econometric tools to solve forecasting problems, and necessary computer skills to create relevant forecasts. Forecasting combines the essential tools in economics, statistics, and mathematics to meet these growing needs.
The purpose of this course is to introduce the student to the new field of forecasting and analysis the financial markets. The course provides an insight into psychological of trading behavior. The ability to make money in markets depends on individual behaviour. We introduce the most important *descriptive* models for decision making under risk, focusing on the Prospect Theory of Kahneman and Tversky (1979), the Cumulative Prospect Theory of Tversky and Kahneman (1992), and on the concepts of loss aversion, probability weighting, and mental accounting. In the course the tools and applications of behavioral finance are presented. Topics include: expected utility, prospect theory and mental accounting; conventional finance and challenges to market efficiency; heuristics and biases, overconfidence and emotion; financial decision-making stemming from the psychology; behavioral explanations of anomalies and behavioral investing; aggregate stock market puzzles; retirement, pensions and client management; and behavioral corporate finance.
Particular attention is given to the topics such as the Efficient Market Hypothesis, financial markets micro-structure and types of arbitrage, general principles of modelling the price dynamics of financial assets, market risk and other types of financial risks. The course explores the application of chaos theory, which is used to analyze and predict the dynamics of prices of financial instruments markets.

Language of teaching: English

CONTENT OF THE CURRICULUM

LECTURES

№	Topics	Hours
	Part 1:	
1.	A common characteristics of forecasting-quantitative and qualitative forecasting methods.	2
2	Behaviour finance. Beliefs, Biases and Heuristics. Representativeness Bias. Over-confidence. Framing. Availability Bias. Leadership and group behaviour.	4
3.	Preferences and Anomalies in the Financial markets. Hypothesis for limits of arbitrage, individual irrationality. Theory of Kahneman and Tversky- "PROSPECT THEORY". Overconfidence and Optimism, Equity Premium Puzzle, and Mental Accounting Non-Expected Utility Preferences. Expected Utility (the Von Neumann Morganstern framework of preferences).	4
4.	Basics of Fundamental & Technical Analysis. Chart reading, moving average. Technical Indicators and Oscillators interpretation. Market Indictors, Forecasting Individual Stock Performance. Efficient Market Theory - Random Wall - The Efficient Market Hypothesis. Concepts of Weak and Semistrong from efficiency.	4
5	Rational expectation theory. Prerequisites for Rational Choice, Quasi-Rational Choice Asymmetric information and asset liquidity: the failure of financial markets. Hidden Information, Signalling. Market Efficiency Application of Event studies Earning Announcements, Mergers and Announcements, Stock splits, Regulation, testing SemiStrong.	4
6.	Chaos and neural networks Chaos theory, fractals and non-linear dynamics, using neural networks to predict return. Empirical evidences.	2
7	Quantify interest rate risk. Interest rate an volatility of bonds. Accrued Interest .Yield curve, duration curve and analysis. Bond pricing and Yield. Bond / Yield Relationship. Econometric forecasting of the yield curve.	2
Part 2:		
8.	Present-value models, dividend growth and return predictability The term structure of stocks. Are Stock Returns Predictable? Most of the pricing will be done in the context of the binomial option pricing model. This is a simple but powerful approach to valuing a wide variety of derivative.	2
9.	Monetary Models of the Exchange Rate Empirics, Bubbles and Portfolio Balance Models. Forecasting and Policy.	2
10.	Game theory. Strategic Games. Prisoners Dilemmas and Free-Rider Problems Building Mental Models. The Strategy of Uncertainty normal form games, mixed strategies, and Nash equilibrium Payoffs, actions, outcomes, rational players. Mixed Strategies and Mixed Equilibrium. Mixed strategies, expected value preferences, mixed domination.	2

11	International financial crisis, theoretical concepts of financial crises. Types of crises. Factors for the occurrence of crises. Reflexivity by George Soros	2

METHOD/ TEACHING STRATEGY

Course requirement: The course grade will be based on participation in class and a term paper. The paper may not be co-authored and should be roughly 15-30 pages
The following methods and forms of study are used in the course:
- lectures (2 hours per week);
- self-study with literature (paper)

Individual assignment

Paper and presentation

Grades

- paper 80%
- class work 20%

RESULTS OF TRAINING

The training provides following knowledge:

The topics covered in this course will enable the students to develop the theoretical knowledge for prediction on the financial market. After the course students should be familiar with recent empirical findings based on financial models, techniques and understand practical issues in the forecasting of key financial market variables. The students will understand financial and economic behavior and to know different aspect of the technical analysis.

The training provides following skills:

When you have completed successfully this course, you should be able to do following:

- to summarize and analysis information for prediction the dynamic of capital and market;
- to understand micro-structure and types of arbitrage, general principles of modeling the price;
- to analyze dynamics of financial assets, market risk and other types of financial risks;
- to use the basic terminology for financial analysis;
- to understand the game strategies and use them for decision-making situation;

COURSE DISTRIBUTION

1. University Amsterdam – Netherlands ;
2. Athens University of Economics and Business – Greece
3. London School of Economics - UK

TOTAL STUDENT ACADEMIC LOAD

Type of classes/academic load	Overall student academic load	Student academic load, average classes per week	Student non-contact academic load	Total
1. Lectures	30	2	45	**75**
2. Seminars				
3. Laboratory training				
4. Practical training				
5. Term paper			20	**20**
6. Final thesis				
7. Individual assignment				
8. Interim exam/test				
9. On-going assessment				
10. Exam	written		5	**5**
Total	**30**	**4**	**70**	**100**

RECOMMENDED READING

A. Basic

Боди, Зви, Алекс Кейн, Алън Дж. Маркъс. Инвестиции. С., Натурела АД 2000.
Frank J. Fabozzi and Franco Modigliani, *Capital Markets: Institutions and Instruments*, 4th edition, Prentice Hall, Inc., 2007
Shleifer Andrei, 2000, *Inefficient markets: an introduction to behavioural finance*, Oxford University Press, Oxford, 1-52.
Shleifer Andrei and Lawrence Summers, 1990, The noise trader approach to finance, *Journal of Economic Perspectives*, 4 (2): 19-33.