

# The International College of Economics and Finance

## **Syllabus for Finance**

An elective course for master's students

Lecturer: Dmitry Kachalov  
e-mail: kachalovd@gmail.com

### **Course Description**

This short course surveys the major finance topics covered on undergraduate level. The course aims to provide insights into financial markets, an overview of various financial instruments, asset pricing, banking, and corporate decision making. It introduces the main models and surveys the basic literature on financial economics. This course gives an insight into financial markets, pricing of bonds and stocks, portfolio theory, forward and option contracts, mortgage backed securitization transactions, market efficiency theory, financial institutions business, and corporate finance problems.

### **Pre-requisites**

This course requires no prior familiarity with finance. It is intended to be a first course in finance for students with different backgrounds, which are interested in stock markets, valuation, banking, or corporate finance. By the end of the course, students will develop an understanding of the major concepts necessary for master degree financial courses.

### **Course content**

#### **FINANCIAL MARKETS**

The difference between capital market and money market. Government bonds, corporate bonds, Eurobonds. Money market instruments: T-Bill, CD, CP, Eurodollars, REPO, FED funds, LIBOR.

#### **BOND PRICES AND RISK ANALYSIS**

Interest rates. Discounted cash flows and bond prices. Macaulay duration, modified duration. Bond convexity.

#### **DERIVATIVES**

Derivative Markets and Instruments. Forward and Futures markets. Derivative instruments prices and arbitrage. Option contracts.

## **OPTION PRICING**

Determinants of European call options price. Binomial option pricing model. Understanding Black-Scholes formula. Put-call parity.

## **SECURITIZATION**

An Introduction to Asset-Backed Securities. Benefits of securitization. How securitization works. Mortgage loans. Mortgage Pass-Through securities. Collateralized mortgage mortgage obligations (CMO). Sequential-Pay Tranches.

## **STOCK PRICING AND PORTFOLIO THEORY**

Stock Valuation. Dividend and Earnings Growth. Gordon model. Relative value approach. Expected portfolio returns and variance. The mean-variance problem. Markovitz optimal portfolio. Two fund separation theory. Systematic risk and unsystematic risk. Capital Asset Pricing Model (CAPM).

## **MARKET EFFICIENCY AND TRADING STRATEGIES**

Active portfolio management. Technical analysis and fundamental analysis. Efficient-market hypothesis (EMH). Technical analysis and weak-form efficiency. Earnings announcements and semi-strong-form efficiency. Mutual funds and strong-form efficiency.

## **FINANCIAL INSTITUTIONS, LIQUIDITY INSURANCE MODEL, RISKS IN BANKING**

Functions of financial institutions. Risk sharing among households that face idiosyncratic shocks to their consumption needs over time (Diamond and Dybvig model). The main categories of risk related to the special services provided by banks are liquidity, interest rate, and credit risk. Solvency risk is the risk of being unable to cover losses, generated by all types of risks, with the available capital.

## **CORPORATE FINANCE**

Net present value (NPV) and internal rate of return (IRR). Capital Budgeting. Issues In Capital budgeting. Distributions to Shareholders: Dividends and Repurchases. Capital Structure Decisions.

## **Reading List**

Ehrhardt M. C., Brigham E. F., “Financial Management: Theory and Practice 13-th edition”, 2011.  
Copeland, T. E., “Financial Theory and Corporate Policy”, 3-rd ed, 1992.  
Saunders, A., “Financial Institution Management: A Modern Perspective” , McGraw-hill, 2000.

## **Course outline**

The course consists of 9 lectures.

## **Assessment**

The grade will be determined by the test result.