

**Федеральное государственное автономное образовательное учреждение  
высшего образования  
"Национальный исследовательский университет  
"Высшая школа экономики"**

**Факультет экономических наук  
Департамент финансов**

**Рабочая программа дисциплины «Финансовая экономика» (Financial  
Economics)**

для образовательных программ «Экономика», «Экономика и статистика»  
направления 38.03.01 «Экономика»  
подготовки бакалавра

Разработчик программы  
Добрынская В.В., PhD., доцент, vdobrynskaya@hse.ru

Одобрена на заседании департамента финансов

«\_\_»\_\_\_\_\_ 201\_\_ г.

Руководитель департамента

И.В. Ивашковская \_\_\_\_\_

Утверждена Академическим советом образовательной программы «Экономика»

«\_\_»\_\_\_\_\_ 201\_\_ г., № протокола \_\_\_\_\_

Академический руководитель образовательной программы

К.А. Букин \_\_\_\_\_

Утверждена Академическим советом образовательной программы «Экономика и  
статистика»

«\_\_»\_\_\_\_\_ 201\_\_ г., № протокола \_\_\_\_\_

Академический руководитель образовательной программы

В.П. Сиротин \_\_\_\_\_

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# **FINANCIAL ECONOMICS**

## **Syllabus**

**Aug, 2016**

**Faculty: Economics**

**Year: 2016/17**

**Course name: Financial Economics**

**Level: Bachelor, 3rd year**

**Language of instruction: English**

**Period: Modules 1, 2**

### **Course instructors**

Lectures: Victoria Dobrynskaya

Classes: Elena Staritsyna, Victoria Rodina, Victoria Poleschuk

### **Course description**

This is an introductory course in Finance which covers the basic principles of financial markets and asset pricing. We will discuss different financial instruments and how to use them for investment or hedging purposes. We will proceed to the basics of asset valuation. The starting point will be the present value formula. We will then talk about fixed-income securities, their valuation and the term structure of interest rates. The course will then move to stocks, starting with portfolio theory and then deriving the relation between risk and return. We will study the main asset-pricing models: the CAPM and the APT. We will talk about empirical multifactor models and various risk factors. We will discuss the major asset-pricing anomalies and investment strategies which exploit them. Finally, we will turn to derivatives, their replication and valuation based on no-arbitrage principle, and the use of them for hedging purposes.

### **Course objectives**

The aim of the course is to familiarize students with various financial instruments, financial markets and basic principles of asset pricing and risk management. Students will be familiar with financial terminology in English and Russian. Students will know how to form and diversify portfolios of assets, how to find expected returns and risks of assets and portfolios of assets. Students will be able to find fair prices of financial assets and make investment decisions. Students will know the notion of risk premium and models characterizing equilibrium risk premiums. They will also be familiar with the most popular asset-pricing anomalies and the basics of behavioral pricing.

### **Forms of study and control**



The course consists of lectures and classes. Each lecture is followed by a class where students solve numeric problems. The course requires a sufficient amount of self-study. There are short quizzes in classes and two written home assignments. You must write a quiz in the class to which you are assigned. Attendance of other classes is only permitted in exceptional circumstances. There is a written mid-term test in the middle of the course and a written final test at the end of the course. There is no make-up for the tests. If a student misses the mid-term test due to an illness, the final grade is determined by quizzes, home assignments, class participation and the final test.

## **Grade determination**

Class participation (6%), quizzes (6%), home assignments (8%), attendance of lectures (5%), mid-term test (25%) and final test (50%).

## **Textbooks**

- Brealey, Richard A., Stewart C. Myers, and Franklin Allen "Principles of Corporate Finance", 10th ed. (BMA)
- Grinblatt, Mark, and Sheridan Titman "Financial Markets and Corporate Strategy", 2nd ed. (GT)
- Bodie, Zvi, Alex Kane, and Alan Marcus "Essentials of Investments", 4th ed. (BKM)

## **Course outline**

### **1. Financial markets and instruments**

Direct and indirect financing, their advantages and disadvantages, debt and equity instruments, money market instruments, capital market instruments, derivatives. Types of financial markets. Anglo-Saxon and German financial models.

### **2. Discounting**

Future value, present value, discount rate, discount factor, net present value rule, annuity, perpetuity, valuing annuities and perpetuities with and without growth, return definitions: realized return, required return, fair return, hurdle rate, expected return, opportunity cost of capital, weighted average cost of capital, compound and simple interest rates, nominal and real interest rates.

### **3. Bond market**

Bonds, coupons, discount bonds, consol bonds, convertible bonds, callable bonds, yield to maturity, coupon yield, valuation of bonds, term structure of interest rates.

### **4. Stock market**

Common and preferred stocks, dividends, cumulative and non-cumulative stocks, IPO, secondary market, par value, book value, market value, holding period return, capital gain, dividend yield, payout ratio, retention ratio, EPS, P/E ratio, return on equity, valuation of stocks: Dividend Discount Model, Gordon growth model, present value of growth opportunities.

## **5. Portfolio theory and diversification**

Measuring risk: variance and standard deviation of returns, covariance and correlation, portfolio expected return, portfolio variance, idiosyncratic (nonsystematic) and market (systematic) risk, diversification, market beta, Sharpe ratio, Treynor ratio.

## **6. Asset pricing models: the CAPM**

Markowitz portfolio theory, mean-variance analysis, efficient frontier, two-fund separation theorem, the market portfolio, the Capital Asset Pricing Model (CAPM), capital market line, security market line, criticism of the CAPM.

## **7. Asset pricing models: the APT**

Multifactor models, factor betas, replicating portfolios, factor replicating portfolios, the Arbitrage Pricing Theory (APT).

## **8. Empirical multifactor models**

Size and value premiums, the 3-factor Fama-French model, momentum strategies, the Carhart 4-factor model, liquidity risk factor, volatility risk factor, downside risk factor, two-beta CAPM, local and global multifactor models, the 5-factor Fama-French model.

## **9. Types of information in financial markets**

Notion of market efficiency, strong, semi-strong and weak form efficiency, implications of the Efficient Markets Hypothesis: technical and fundamental analysis, tests of market efficiency, no-arbitrage principle.

## **10. Asset-pricing anomalies and basics of behavioral finance**

Mood and asset pricing: weather effect, seasonality, holidays, geomagnetic storms, lunar phases, sport competitions and games, terrorist attacks. Prospect theory, probability weighting and loss aversion.

## **11. Derivatives and derivative pricing**

Forwards, futures, swaps, options, embedded options, exotic options, structured derivatives, asset-backed securities, forward pricing, currency forward pricing, Covered Interest Parity (CIP).



## 12. Options and option pricing

Types of options, option pricing, option premium, replication of options, the one-period binomial model, the multi-period binomial model, the risk-neutral pricing, the Black-Scholes formula, the put-call parity, hedging by options, portfolios of options.

## 13. Arbitrage

Pure arbitrage, near arbitrage, speculative arbitrage. Examples of arbitrage strategies using various financial instruments.

## Distribution of workload

#	Topic	TOTAL (hours)	Audience hours including:		Homework (hours)
			Lectures	Classes	
1	Financial markets and instruments	8	2	0	6
2	Discounting	12	4	2	6
3	Bond market	12	2	2	8
4	Stock market	14	4	2	8
5	Portfolio theory and diversification	12	2	2	8
6	Asset pricing models: the CAPM	15	4	3	8
7	Asset pricing models: the APT	14	3	3	8
8	Empirical multifactor models	14	4	2	8
9	Types of information in financial markets	13	3	2	8
10	Asset-pricing anomalies and basics of behavioral finance	12	4	0	8
11	Derivatives and derivative pricing	12	2	2	8
12	Options and option pricing	16	4	4	8
13	Arbitrage	8	2	0	6
<b>TOTAL:</b>		<b>162</b>	<b>40</b>	<b>24</b>	<b>98</b>