Syllabus

CORPORATE FINANCE

Lecturer: Nikita K. Pirogov
Class teachers: Nikita K. Pirogov, Maria S. Kokoreva

Course description:

The course develops theoretical framework for understanding and analysing major financial problems of modern company in market environment. The course covers basic models of valuation of corporate capital, including pricing models for primary financial assets, real assets valuation and investment projects analysis, capital structure and various types of corporate capital employed, derivative assets and contingent claims on assets. It provides necessary knowledge in evaluating different management decisions and its influence on corporate performance and value. The course requires the knowledge in micro and macroeconomics, accounting and banking. The course is based on lectures, seminars, case studies and self-study. "Corporate finance" is a two-semesters course designed to prepare students for UOL examination.

Course objectives:

The main objective of the course is to provide the conceptual background for corporate financial analysis from the point of corporate value creation. The course develops theoretical framework for understanding and analyzing major financial problems of modern firm in the market environment. The course covers basic models of corporate capital valuation, including pricing models for primary financial assets, real assets valuation and investment projects analysis, capital structure, derivative assets and contingent claims on assets. The course is focused on developing skills in analyzing corporate behavior in capital markets and the relationship of agent and principal in raising funds, allocating capital, distributing returns. It provides necessary knowledge in evaluating different management decisions and their influence on corporate performance and value. The course requires the knowledge in micro and macroeconomics, accounting and banking.

The methods:

The following methods and forms of study are used in the course:
- lectures (2 hours a week)
- classes (2 hours a week, the main problems of home assignments are discussed)
- written home assignments
- teachers' consultations (2 hours per week)
- self study.
- current control includes: written home assignments (WHA), essays and their assessment, participation in classworks in exercises and case presentations.
- intermediate control is based on mid-term exam in fall semester plus midyear exam in January.
- final exam is set at the end of April.

Main reading:

Grinblatt/ Titman. Financial Markets and Corporate Strategy. McGraw Hill.- G&T
Brealey/ Myers. Principles of Corporate Finance.6th Edition. - B&M
Brealey/ Myers. Principles of Corporate Finance.6th Edition. Study guide.
Frantz, P. and R. Payne. Study Guide. Corporate Finance. First Edition. 1999.

Supplementary reading:

1. С.Росс и др. Основы корпоративных финансов. Пер с англ. М.. 2001
2. Модильяни Ф., Миллер М. Сколько стоит фирма? Пер с англ. М.: Дело. 1999
3. Марковиц Г., Шарп У. Инвестиционный портфель и фондовый рынок. Пер с англ. М.: Дело. 1999
4. Brealey R.A., Myers S.C. Principles of Corporate Finance. 6th edition. McGraw Hill. 2000
5. Ross S., R.Westerfield, J.Jaffe. Corporate Finance. Fifth Edition. IRWIN-McGraw-Hill.
6. Copeland T. and Weston J.: Financial Theory and Corporate Policy. 1998
7. Damodaran A. Applied Corporate Finance. Wiley&Sons. 1999
8. Trigeorgis L. Real options. Managerial Flexibility and Strategy in Resource Allocation.The MIT Press. Cambridge. 1999
9. Copeland T., Antikarov V. Real Options: a Practitioneer's Guide. Texere. New York. London. 2001
10. Reilly K.F., Brown K.C. Investment Analysis and Portfolio Management. 6th Edition. The Dryden Press.
11. Bankruptcy and Distressed Restructuring. Analytical Issues and Investment Opportunities. Edited by E. Altman. Business One IRWIN.
12. Мастерство. Финансы. М.: Олимп-Бизнес. 1998
13. Чиркова Е. Действуют ли менеджеры в интересах акционеров? Корпоративные финансы в условиях неопределенности. М.: Олимп-бизнес. 1999
14. Рудык Н.Б., Семенкова Е.В. Рынок корпоративного контроля: жесткие поглощения и выкупы долговым финансированием. М.: Финнасы и статистика. 2000
15. Рэй К. Рынок облигаций. Торговля и управление рисками. М.: Дело. 1999
16. Энг М., Лис Ф., Мауер Л. Мировые финансы. М.: «ДеКА». 1998
17. The New Corporate Finance. Where Theory Meets Practice. Ed. by D.H. Chew, Jr. McGraw-Hill. 1999
18. Megginson, W. L., Corporate Finance Theory. Addison&Wiley, 2001
19. Smith B. The Modern Theory of Corporate Finance. IRWIN-McGraw-Hill.1997
20. Benninga F., Sarig D. Corporate Finance: a Valuation Approach. IRWIN-McGraw-Hill. 1997
21. Journal of Corporate Finance
22. Journal of Finance
23. Journal of Financial Economics
24. Journal of Applied Corporate Finance
25. Journal of Banking and Finance
26. Emerging Markets Review

Means of student control:

1. Home assignments;
    a. Preparations for seminars
    b. Group work
2. Midterm exam;
3. Exams

Grades criteria:

From	To	Mark
0	3	Not passed
4	5	Satisfactory
6	7	Good
8	10	Excellent

Grade determination:

FALL SEMESTER

First term grades are calculated as weighted average with the following weights:

- Exam* in December – 45%
- Class Participation** - 10%
- Group assignment – 10%
- Individual assignment – 15%
- Midterm exam - 20%

Total – 100%

SPRING SEMESTER

Final Course grade is calculated as weighted average with the following weights:

- Final Exam* – 50%
- Class Participation** - 10%
- Group assignment - 10%
- Fall semester grade - 30%

Total – 100%

* - Exam (finals in December and April) marks can't be less than satisfactory for a student to get a positive overall grade for the FALL and SPRING semester

**- Class participation includes class activity and quizzes results

Course outline:

PART 1. Understanding Principles of Financial Valuation

1. Introduction to the Course. Why is Finance Corporate? The Foundations for Proper Financial Analysis of the Firm

The advantages of corporate firm over the sole traders and partnerships. The life-cycle of the corporation at the capital market: funds raising, investing and benchmarks, returning money to investors at the capital market. The functions of corporate financial manager. The role of capital market in explaining corporate performance: main assumptions. The consumption choice and the first Fisher separation theorem. No arbitrage rule and the principle of tracking (replicating) portfolio. Net present value rule of corporate analysis. The sources of NPV. The second Fisher separation theorem.

The differences between financial model of corporate analysis and accounting model: the concept of cost and profits, the concept of money measurement, the concept of return and corporate performance measurement. The value creation and building blocks in corporate finance. The mission of Chief Financial Officer of the Corporation (CFO). The role of corporate finance in building financial model of the firm. Corporate Finance and proper financial analysis of any firm in market economy.
(B&M Ch.1-3 and 11; G&T Ch.1, 9.2, 11.1; Guide Ch.1, pp.5-15)

2. The role of Efficient Market Hypothesis in Corporate Analysis: Theory and Evidence

The types of information for investor's decision-making. The value of information for the investor. The efficient market hypothesis (EMH). The different forms of market efficiency and their criteria: weak, semi-strong, strong efficiency. The role of EMH in corporate analysis. The practical implications of EMH.
(B&M Ch.13; Reader; FT Mastering Series. Finance. The Complete Finance Companion. FT Pitman Publishing. Russian version. Moscow: Olimp-Business. 1998. Ch.5-6; Guide Ch.5)

3. Fundamentals of Corporate Capital Valuation: Corporate Debt Capital

The yield curve. Spot rates and forward rates. Defining forward rate from the yield curve. The term structure of interest rates: theoretical explanation. The role of term structure of interest rates in constructing tracking (replicating) portfolio for Corporate Bonds. Intrinsic value of stand-alone bond. Discounted cash flow valuation of corporate bonds. Corporate bond's types. Bond's covenants: assets covenants, dividend covenants, financing covenants. The influence of covenants over bond's valuation. Bond's yields: promised yield to maturity, realized (horizon yield), promised yield to call. Theorems of bond's pricing. Bond's rating and yields to maturity.
(B&M Ch.4 (4.1), 23 (23.1-23.3); G&T Ch.2 (2.4, 2.8-2.9), Appendix to Ch.9 (9A); Guide Ch.1, pp.15-17)

4. Fundamentals of Equities Valuation: Preferred and Common Stock

Types of preferred stock by voting rights, dividend rates and dividend payments. Discounted dividend model (DDM) for preferred (preference) shares. Discounted dividend model for common stock (ordinary shares): the criteria for stable growing company, Gordon constant growth dividend rate model. Multistage DDM: 2 stages dividend growth, negative rate of dividend growth. Growth opportunities value. The limitations of DCF valuation.
(B&M Ch.4; G&T Appendix A, pp.825-837; Guide Ch.1)

5. Risk and Expected Return: Principles of Portfolio Analysis

Separation theorems. The principles and assumptions of mean-variance analysis. Asset's risk and variance of returns. Expected portfolio returns. Portfolio risk and assets's covariances. Mean – standard deviation diagram of risky assets. The feasible set of assets and the diversification. The efficient frontier of risky assets. Introducing risk-free asset. The Capital market line (CML): the slope, borrowing/lending opportunities. The tangency portfolio. Two-funds separation.
(B&M Ch.7 and 8.1; G&T Ch.4 and 5.1-5.7; Reader; FT Mastering Series. Finance. The Complete Finance Companion. FT Pitman Publishing. Russian Version. Moscow: Olimp-Business. 1998. Ch.8; Guide Ch.2)

6. Capital Asset Pricing Theory: CAPM and its Use in Corporate Finance

The role of CML in pricing models derivation. Assumptions for capital asset pricing model. The market portfolio. Security market line (SML): the slope, the comparison to CML. The stock's beta: true beta, factors affecting true beta. Improving the beta estimated from regression (top down beta). The problem of adjusted beta. Estimating the market risk premium. Critiques of the CAPM. The tests of the CAPM: cross-sectional tests, time-series tests.

Empirical evidence on the CAPM.
(B&M Ch.8 (8.1-8.3); G&T Ch.5; Reader; FT Mastering Series. Finance. The Complete Finance Companion. FT Pitman Publishing. Russian version. Moscow: Olimp-Business. 1998. Ch.1, p.25-61; Guide Ch.2)

7. Capital Asset Pricing Theory: Arbitrage Pricing Theory

The assumptions for factor pricing models. The single factor model (the market model). The multifactor models. Systematic risk and diversification in arbitrage pricing theory. The methods of factor's estimation: factor analysis, macroeconomic variables approach, sorted portfolio approach. Betas and factor- risk premiums. Estimating factors betas. The arbitrage price theory with no-firm specific risk. The risk-expected return relationship for stocks with firm specific risk. Empirical tests on APT: factor studies, macroeconomic variables studies, firm characteristics studies. Comparison of CAPM and APT.
(B&M Ch.8 (8.4); G&T Ch.6; Guide Ch.3)

8. Option Pricing Models and Corporate Contingent Claims

The features of option. Put-call parity. Binomial pricing models and the principle of tracking portfolio. Risk-neutral option valuation. Black-Scholes model and its assumptions. The methods of stock volatility estimation. Option values and dividends on underlying stock. Empirical biases in Black-Scholes formula.
(B&M Ch.20, 22; G&T Ch.7 (7.1-7.3), 8 (8.1-8.8); Guide Ch.4)

PART 2. Corporate Financial Strategy and Corporate Value

9. Corporate Investing Policies and Value Creation: The Analytical Toolkit for Riskless Projects

What is risk-free investment project? Competitive advantage and value creation. Incremental cash flows and incremental value. Net present value rule, its assumptions and value additivity rule. The sources for positive net present values. Internal rate of return (IRR) and financial approach to corporate return analysis. The limitations of IRR. Modified IRR. Discounted payback (DPB). Profitability index (PI). Economic value added (EVA) and economic profit generated by the project. EVA versus NPV.

Capital budgeting in inflationary environment: nominal approach, real terms approach.
(B&M ch.5-6, 9-10, 19; G&T ch.9-10, ch.11(11.2), 12(12.2, 12.4))

10. Corporate Investing Policies and Value Creation: Traditional Analytical Tool Kit for Risky Projects

What are risky projects? The risk- adjusted discount rate method in capital budgeting decisions. Certainty equivalents cash flows and their use in risky project's analysis. Valuation of risky projects: sensitivity analysis, simulation, decision trees.
(B&M ch.5-6, 9-10, 19; G&T ch.9-10, ch.11(11.2), 12(12.2, 12.4))

11. Valuing Corporate Strategic Opportunities and Flexibility: Corporate Real Options.

Strategic options of the corporation and the limitations of DCF analysis. Real option valuation: main assumptions, the difference in treatment of parameters between financial and real options. The use of risk neutral approach, binomial and Black-Scholes models in real option valution. Valuing option to abandon, to postpone, to expand. OPM as a tool of quantifying managerial flexibility. The benefits of real option valuation over DCF project analysis. The use of OPM in corporate valuation. Put-call parity and its application to the corporation: corporate securities as options. The use of OPM in the analysis of corporate cost of capital: warrants and convertibles.
(B&M ch.21; G&T ch. 11 (11.1-11.2); Guide, ch.4)

12. Capital Structure Choice and Corporate Value

The assumptions of Modigliani&Miller theorem on capital structure. The arbitrage argument and replicating portfolio of investor in M&M world. The M&M propositions I and II. The cost of capital: traditional and M&M approaches. The propositions I and II with corporate income taxes. The effect of personal taxes on capital structure. Miller equilibrium for the firm and for the investor. Financial distress' direct and indirect costs. Debt holder - equity holder conflicts: debt overhang problem, shareholder's incentives, the ways to minimize the conflicts. The trade-offs theory of capital structure. The pecking order of financing theory. The stakeholders theory of capital structure. The dynamic capital structure theory versus static. The information conveyed by financing choices decision. Signaling concept of capital structure.

(B&M ch.17-18; G&T ch.13,15,16; Guide,ch.6)

13. Capital Market Benchmarking: Corporate Cost of Capital.

Patterns of corporate financing. The many kinds of debt financing. The corporate cost of debt. The debt tax shield. Equity financing. The corporate cost of retained earnings. The issuance of new equity and corporate cost of equity. The weighted average cost of capital (WACC) and corporate hurdle rate. Corporate cost of capital and financial leverage. Asset beta. Levered equity beta. Hamada adjustment to equity beta, its assumptions and limitations.

The WACC and the principles of corporate return analysis. Economic profit analysis with corporate hurdle rate: the spread. The volume of financing and the marginal corporate cost of capital.

(B&M ch.14-15, 22, 23(23.4, 23.5), 24, 26; G&T ch12 (12.1; 12.3; Guide,ch.6)

14. Financial Modeling for Optimal Capital Structure

Adjusted present value (APV): base case value, side effects values, multiple discount rates. Advantages of APV for capital budgeting and valuation. The criteria for optimal capital structure. The rating (WACC) approach to optimal capital structure analysis: the assumptions, the method, the limitations. The adjusted present value approach (APV) to optimal capital structure analysis: the assumptions, the benefits, and implications. The target capital structure. The operating income approach to planning for optimal capital structure.

Factors affecting the target capital structure: macroeconomic, microeconomic and firm's specific factors. The decision-making on capital structure.

(B&M ch.16, G&T ch.14)

15. Dividend Policy and Corporate Value: Theory and Evidence

Types of dividend: cash dividend, scrip dividend, forms of share repurchase. The Modigliani& Miller dividend irrelevance theorem. The effect of market imperfections (taxes and transaction costs) on dividend policy. The effect of market frictions on distribution policy. The dividend controversy. The rightists concepts of dividends. Clientele theory: assumptions, empirical evidence. Signaling theory of dividends: the information content of dividends, dividends as mixed signal, empirical evidence. The leftists on dividend policy. Lintner stylized facts modelling. Empirical research on distribution policies.

(B&M ch.16; G&T ch.14; Guide,ch.8)

16. Corporate Risk Management and Value Creation

Risk and the M&M theorem. The motivation to hedge. Hedging and the firm's stakeholders. The methods of interest rate risk management. Foreign exchange risk management. Application of risk management to industrial firms.

(B&M ch.22 ; G&T ch.20-21; Guide,ch.8)

Part III. Corporate Value Creation and Corporate Control.

17. The Market for Corporate Control: Mergers& Takeovers

Types of mergers and takeovers. The principles of valuation of mergers and takeovers. Stand - alone value of the target and of the buyer. Efficiency theories of M&A activities: differential efficiency, inefficient management, synergy effects theory. The sources and types of synergy. Agency theories of M&A. Signaling theories of M&A. Hostile takeovers and free - rider problem. Management defenses. Valuing synergy on the basis of DCF.
(B&M ch.33; G&T ch.19; Guide,ch.)

18. Strategic and Financial Restructuring

The methods of corporate restructuring**.** Corporate divestitures and the problem of control. The sources for synergy in restructuring. Bankruptcy and corporate control. Restructuring distressed companies. LBOs: the effect on stock prices. Financial analysis of efficiency in case of restructuring.
(B&M ch.33; G&T ch.19; Guide,ch.)

19. Corporate Governance and Corporate Value.

Types of corporate governance. Managerial incentives and corporate investing decisions Managerial control and capital structure choices. Management control and performance measurement. The use of economic value added (EVA) in firm's performance measurement and managerial incentives planning. Empirical research on the effects of corporate governance over the market value of the corporation.
(B&M ch. 12, 34; G&T ch.17)

Teaching hours for topics and activities:

№ of the topic	**Total (hours)**	**Class (hours)**		**Self study**
		including		
		Lectures	**Practice**	
1	8	2	2	4
2	12	2	2	8
3	20	4	2	14
4	24	4	4	16
5	28	2	4	22
6	18	4	4	10
7	10	2	2	6
8	18	4	6	8
9	16	4	4	8
10	12	2	4	6
11	14	4	4	6
12	28	6	4	18
13	16	4	4	8
14	10	2	2	6
15	22	4	4	14
16	12	4	2	6
17	22	4	4	14
18	20	4	4	12
19	14	4	4	6
Total:	**324**	**66**	**66**	**192**