The Federal State Autonomous Institution of Higher Education
"National Research University - Higher School of Economics"

Faculty of Economics
Financial Management Department

Finance

for Master’s Program 38.04.02 "Management"
“Global Business” specialization

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Confirmed by Financial Management Department
Head of Social Science Department, Prof. A. Makarov

Approved by the Academic Council of the Educational Program

Academic head of the educational program
E. Zinchak

Nizhny Novgorod, 2017

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1 Course Summary

Level: Master, 1st year  
Language of instruction: English  
Period: Module 1  
Workload: 32 hours  
Course Teacher and Contact Details:  
Anna E. Novak, aenovak@hse.ru; ananova7@gmail.com

“Finance” is a two-month intensive course in financial management. The course builds basic conceptual and analytical framework focused on the financial analysis. It is specially designed for the 1st year Master Program “Management” students who need to study or to revise the basic concepts in order to take advanced courses on Finance and Management.

The objective of this course is to introduce the students to the world of finance. This course will introduce students to frameworks and tools to measure value; both for corporate and personal assets. It will also help students in decision-making, again at both the corporate and personal levels.

This course is intended to provide a framework for analyzing the major types of financial decisions made by economic agents. It is devoted to the fundamental principles of valuation and financial management. Students will learn and apply the concepts of time value of money and risk to understand the major determinants of value creation. This course consists of both theory and real world examples to demonstrate how to value any asset.

2 Area of Application and Regulatory References

This Course Program establishes minimum requirements for skills and knowledge of the student and determines the content and the forms of educational activities and reporting.

The Course Program is designed for lectures, teaching assistants and Master Program Students [Master’s Program 38.04.02 “Management” specialization “Global Business” ] within the Course [Finance]

The Course Program has been developed in accordance with:
NRU-HSE Curriculum [Nizhny Novgorod];
Education Program [Master’s Program 38.04.02 “Management” specialization “Global Business”];
University Academic Plan of the Education Program (approved in year 2017)

3 Course Goals

Goals to achieve:

• To teach and review the fundamental methods and skills of finance vital for understanding valuation of any asset, personal or corporate
• To prepare students to make sound personal and professional decisions
• To provide students with a basic level of knowledge to enable them better understand the role of finance in debates over corporate and public policy
To prepare students to take more advanced courses in finance

4 Students' Competencies to be Developed by the Course

On completing the course, students:

should demonstrate the knowledge of the basic theoretical concepts of financial management and money management principles, the basics of asset management, as well as the composition and structure of the sources of their funding, have knowledge of the company as a participant of the financial market, have knowledge of the external financial environment of the company, the structure of the financial market, the functions of financial institutions.

be able to search for the information needed to carry out specific economic analysis; to make management decisions; be able to justify the choice and analyze the necessary economic and financial information and data, able to evaluate the company policy in financial management.

have skills to analyze the main factors affecting the value of the company, the different approaches to the justification of the strategic financial decisions; critical reflection on empirical processes in the economy and the financial sector, theoretical and applied methods of analysis; have the skills to analyze the effectiveness of investment projects studied methods (including applying the theory of real options); participation in the development of design solutions in the field of professional activities, preparation of proposals and measures for the implementation of the developed projects and programs; analysis of the main factors of corporate value, different approaches to the justification of the strategic and operational financial solutions and asset management.

5 How the Course Fits in with the Curriculum

[NRU-HSE Curriculum:]
The Course is an adaptation course for a Master Program “Global Business”.

There are no special prerequisites for this course because it starts with fundamentals and it will be highlighted when there is a need for you to do some further work in specific subjects. Anyway, basic understanding of economics, accounting, statistics and algebra acquired in the course of a bachelor’s program will be an advantage and clearly help.

The main provisions of the Course should be used for further studies of the following Courses:

- This course is required for studies of any finance and management course that follow. It will enhance students’ understanding and ability to analyze company’s financial policy, and could potentially become applicable in the course of writing a Master’s thesis.

6 Course Schedule

Detailed course schedule is provided in the table below.

<table>
<thead>
<tr>
<th>#</th>
<th>Topic</th>
<th>Course hours</th>
<th>Contact hours</th>
<th>Self-study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lectures</td>
<td>Seminars</td>
</tr>
<tr>
<td>1</td>
<td>Fundamental concepts of finance</td>
<td>14</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Fixed Income Securities</td>
<td>14</td>
<td>4</td>
<td>10</td>
</tr>
</tbody>
</table>
7 Types of control and grading criteria

<table>
<thead>
<tr>
<th>Type of control</th>
<th>Form of control</th>
<th>1 year</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current (week)</td>
<td>Home assignment</td>
<td>2,4,6,7,8</td>
<td>Problem sets are assigned for every major topic, and consist of taking exercises involving working with real financial data, solving problems, or other assignments corresponding to topics covered. Problem sets will be due every two weeks. The case will be due at the end of the 7th week, and the final problem set will be at the end of the course. The case will require you to apply the techniques learned in the course to value an investment project.</td>
</tr>
<tr>
<td>Final</td>
<td>Exam</td>
<td>*</td>
<td>The final exam will be cumulative and cover all topics discussed in the course</td>
</tr>
</tbody>
</table>

Grading Criteria

<table>
<thead>
<tr>
<th>Grade points</th>
<th>In Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Excellent</td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Good</td>
</tr>
<tr>
<td>7</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>6</td>
<td>Failed/Not passed</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Failed/Unfair Behavior (cheating)</td>
</tr>
</tbody>
</table>

Cumulative grade \( G_{cumulative} \) is calculated as the weighted average with the following weights:

\[ G_{cumulative} = 0.5 \times G_{h/w} + 0.3 \times G_{case} + 0.2 \times G_{class} \]
where

\(G_{hw}\) – weighted average grade for 4 home assignments,
\(G_{case}\) – grade for 1 take-home group case,
\(G_{class}\) – grade for class participation (includes class activity and in-class quizzes results)

The final grade \(G_{final}\) is calculated as the weighted average with the following weights:

\[G_{final} = 0.5 \times G_{cumulative} + 0.5 \times G_{exam}\]

8 The Course Outline

PART 1. FUNDAMENTAL CONCEPTS OF FINANCE.


Financial and real assets. The financial model of the firm. Profit and cash flow. Free cash flow and shareholder value.

The reading list

Required:

Recommended:

PART 2. FIXED INCOME SECURITIES.

The time value of money. The perfect capital market assumption, the absence of arbitrage and the capital market equilibrium. Factors that determine the level of interest rates. Spot and forward interest rates. Term structure of interest rates. Shape of the curve of interest rates, the main empirical facts. Fundamentals of the theory of interest rates: the expectations hypothesis, market segmentation hypothesis, the hypothesis of liquidity preference.

Risk-free asset pricing. Discounted cash flows and the present value of assets. Special cases of determining the present value of cash flows: annuity, perpetuity, increasing rents and a growing annuity. Using the concept of time value of money in the valuation of debt capital instruments. Pricing coupon and zero-coupon bonds in the absence of risk. Current yield and yield to maturity. Bonds traded with a premium and a discount. Value of the bond over time.
The reading list
Required:

Recommended:

PART 3. STOCKS AND OPTIONS.


Information efficiency of capital markets: the concept, empirical studies and criticism.

Using the concept of risk and return trade-off in the evaluation of the fundamental value of equity instruments. Gordon model. Features estimate the expected growth rate of dividends. Two-stage model estimates of the fundamental value of the shares. Price-to-earnings ratio (P/E) in the assessment of the fundamental value of the shares.


The reading list
Required:
Brigham, Eugene F. and Michael C. Ehrhardt. Financial Management: Theory and Practice. Cengage Learning, 2011, Ch. 6-8,24

Recommended:
PART 4. PROJECTS AND THEIR VALUATION.

Investment policy. Applying the basic financial concepts to investment choice. The assumption of the independence of financial and investment decisions in the investment analysis. Free cash flow, the company's value and investment decisions of the firm.

Evaluating the effectiveness of investment projects. Accounting and economic indicators in the evaluation of investment decisions: main concepts, advantages, disadvantages. The net present value of the investment: NPV. Methods of project analysis: internal rate of return (IRR), profitability index (PI), payback period (PBP) and the discounted payback period of the project (DPBP). Disadvantages and limitations of the listed above methods.

Elements of real options theory. Types of real options. An option to increase or decrease in the project, the option to eliminate the project, the option to delay the project. Simulation of real options using a decision tree.

The reading list

Required:

Recommended:
Damodaran, A. Applied Corporate Finance. Wiley. 2000, Ch. 4-6.

PART 5. CAPITAL STRUCTURE.


The method of weighted average cost of capital WACC. Modigliani-Miller theorem in the form of weighted average cost of capital of the company. Capital structure optimization: WACC minimizing and maximizing the company’s value.

The reading list

Required:

**Recommended:**

**PART 6. CASH DISTRIBUTIONS.**

*The reading list*
**Required:**

*Recommended:*  
Damodaran, A. Applied Corporate Finance. Wiley. 2000, Ch. 10-11.

**PART 7. STRATEGIC AND FINANCIAL RESTRUCTURING.**

*The reading list*
**Required:**
Recommended:

9 Educational Technologies

The following methods and forms of study are used in the course:

- Seminars (4 hours a week on average) are held in the form of cases and discussion of theoretical and practical articles, individual assignments and problem sets.
- Self-study (Home quizzes, problem sets, reading)
- Group case study

Students are expected to use MS Excel or any other software to analyze data, because homework assignments and partially in-class work will include tasks where this software is needed.

10 Methods and Materials for Current Testing and Attestation

10.1 Current Testing Assignments

Problem set examples [exam-type questions]:

1. [week 1] You are interested in a new vehicle. The price of the car is $20000. After visiting your manager, doing your research on the best leases available, you have three options.
   a) Purchase the car for cash and receive a $1000 cash rebate from Dealer 1.
   b) Lease the car from Dealer 2. You should pay the dealer $2000 now and $500 a month for each of the next 24 months. After 24 months you may buy the car for $5,000.

Supposing the market interest rate is 8% choose the best option.

   You have been asked to calculate the debt ratio for a firm that has the following components to its financing mix –
   - The firm has 1 million shares outstanding, trading at $ 50 per share.
   - The firm has $ 25 million in straight debt, carrying a market interest rate of 8%.
   - The firm has 20,000 10-year convertible bonds outstanding, with a face value of $1000, a market value of $1100, and a coupon rate of 5% paid twice a year.

Estimate the debt ratio for this firm.

2. [week 4] The company is considering a 2-year investment project, which is currently required investment of $ 5 million. In each future year can equally face one of two events: the demand for the company's products can be high, or - otherwise - low. In the first year, the company expects $ 2.3 million return on investment if the demand would be low, and $ 3 million otherwise. The cost of capital of the company is estimated at 10%.

Evaluate the project using the NPV criterion and the method of decision tree.
What if the company would have the right to refuse to implement the project (option to liquidation) at the end of the first year? Assume equipment in this moment could be sold for $2.4 million. Construct a decision tree taking into account this possibility. What is the value of the option to eliminate the project?

3. [week 5] XYZ Corporation, a textile manufacturer, is evaluating its capital structure. The balance sheet of the company is as follows (in billions):

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Assets</td>
<td>2000</td>
</tr>
<tr>
<td>Current Assets</td>
<td>500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Debt</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1250</td>
<td>1250</td>
</tr>
</tbody>
</table>

In addition, you are provided the following information:
(a) The debt is in the form of long term bonds, with a coupon rate of 7%. The bonds are currently rated A and are selling at a yield of 10% (the market value of the bonds is 80% of the face value).
(b) The firm currently has 20 million shares outstanding, and the current market price is $200 per share. The firm pays a dividend of $10 per share and has a price/earnings ratio of 10.
(c) The stock currently has a beta of 1.25. The six-month Treasury bill rate is 6%.
(d) The tax rate for this firm is 30%.

Calculate the debt/equity ratio for this firm in book value terms, in market value terms. Find the firm's after-tax cost of debt and the firm's current cost of capital.

10.2 Questions for Assessment of Quality of the Course Acquisition

1. Financial management: goals, objects and main concepts.
2. Theories of shareholder value and stakeholder influence.
3. Corporate governance and agency costs.
4. The financial model of the firm.
5. The financial environment of the company. Financial instruments, markets and institutions.
7. The concept of the time value of cash flows.
8. The term structure of interest rates.
9. Investment Analysis of fixed income.
10. The concept of risk and return. No-arbitrage and capital market equilibrium under uncertainty.
12. Capital asset pricing model and the Sharpe Lintner CAPM.
14. Multifactor asset pricing models.
15. Arbitration theory of asset pricing APT. Three-factor model Fama and French FF3F.
16. Informational efficiency of capital markets EMH.
17. Methods for evaluating the effectiveness of real investment.
18. Net present value NPV.
19. Internal rate of return IRR.
21. Sources of financing investment activity.
22. Financial and operational leverage.
23. The capital structure of the company and the Modigliani-Miller theorem.
24. The compromise model of the capital structure of the corporation.
25. The cost of capital of the corporation. The weighted average cost of capital WACC.
26. Accounting for financial risk and the Hamada equation.
27. The relationship of financial and investment decisions of the company: the use of WACC.
28. The relationship of financial and investment decisions of the company: the use of APV.
29. Theories of dividend policy.
30. M&A definition, types and motives.
31. Reasons for divestitures.
32. LBOs definition and the possible effect on the stock price.

11 Teaching Methods and Information Provision

11.1 Students' Guidelines

Lectures and seminars. The course is very intensive so you are expected to follow the course syllabus and read the Required Reading Chapters before the class to be prepared for discussion and questions.

Home assignment. Every week you’ll get the home assignment with readings, textbook questions, problem sets, and/or mini-cases assigned. Detailed solutions to some of the assigned homework will be posted on the class website/send to the group e-mail or discussed in class if needed. Students are required to complete at least a partial solution to every assigned homework problem during the week in which the homework is due, and have the homework fully completed no later than the following week.

Group case. Students will be randomly assigned to a three- or four-member group. Each group will be required to research a problem of concern for a particular company, and present that problem as a case study suitable for group discussion. The case study should provide a written summary of the problem with sufficient detail and all the calculations (10 pages, 12ppt max) to enable another group in class to properly discuss the problem and decide on an appropriate solution to it.

Final exam. Most of the exam questions will be modeled after problems assigned for homework or demonstrated during lecture

Communication Channels. E-mail is the best way to contact me. If you have questions or face difficulties concerning the course, you can attend teachers’ consultations (time and dates can be found on my personal web-page).

11.2 Main reading


11.3 Supplementary Reading

Damodaran A. Applied Corporate Finance. Wiley, 2010
Journals
1. American Economic Review
2. Emerging Markets Review
3. Journal of Applied Corporate Finance
4. Journal of Corporate Finance
5. Journal of Economic Literature
6. Journal of Finance
8. Electronic Journal of Corporate Finance (in Russian)

11.4 Directories, dictionaries, encyclopedias

http://www.securities.com – Emerging markets information service
http://www.yahoo.finance.com – financial data online
http://people.stern.nyu.edu/adamodar/ - A. Damodaran official web-site
http://www.bloomberg.com – Bloomberg up-to-date market information
http://www.investor.reuters.com/ - Analysts’ research reports

12 Technical Provision

All technology required for the course, including projectors, will be provided in class.