

Course Title: Corporate Finance

Course Requirements: Financial Mathematics

Person responsible for the course syllabus and documents:

Course topics (workshops and lectures):

1. Financial statements – balance sheet, income statement, cash flow statement
2. Financial ratios
- 3. Polish financial statements (4 hours)**
 - 3.1. Balance sheet
 - 3.2. Profit and loss account
 - 3.3. Cash flow statements
 - 3.4. Funds flow statement
 - 3.5. Additional information
- 4. Financial ratios (4 hours)**
 - 4.1. Liquidity ratios
 - 4.2. Profitability ratios
 - 4.3. Debt ratios
 - 4.4. Activity ratios
 - 4.5. Market ratios.
5. Leverages and risk ratios
- 6. Capital budgeting decisions (4 hours)**
 - 6.1. NPV
 - 6.2. IRR
 - 6.3. MIRR
 - 6.4. PR
- 7. Principles of stock and bond valuation (6 hours)**
 - 7.1. Gordon – Shapiro model.
 - 7.2. Two-stage stock valuation model.
 - 7.3. Three –stage stock valuation model.
 - 7.4. CAPM.
 - 7.5. APT
 - 7.6. Bond valuation model.
 - 7.7. IRR of a bond.
 - 7.8. IRR of short-term commercial papers.
 - 7.9. Do operational liabilities cost?
- 8. Cost of capital (2 hours)**
 - 8.1. WACC
 - 8.2. Hamada's formula and Brealey – Myers formula for unlevered betas.
- 9. Capital structure (2 hours)**
 - 9.1. MM theorems.
 - 9.2. Agency theory.
 - 9.3. Asymmetric information.
 - 9.4. Capital structure optimising model.
- 10. Cash and working capital management (4 hrs)**
 - 10.1. Classical EOQ model and model with modifications
 - 10.2. The cost of lost discounts.
 - 10.3. Inventory reserve.
 - 10.4. BAT

Lectures present theoretical aspects of the problems, the workshops provide exercises for the students to be able to use the knowledge presented during lectures.

Course literature:

Schaum's outlines:

- England Baruch Intermediate accounting I, chapters: 2, 3
- England Baruch Intermediate accounting II, chapters: 8,
- Siegel Joel, Shim Jae Managerial Accounting, chapters: 9
- Siegel Joel, Shim Jae Financial Management, chapters: 4, 5, 9, 10, 11, 14
- Francis Jack, Taylor Richard, Theory and problems of Investments, chapters: 11, 14, 16, 23, 24

Brealey, Myers, "Principles of corporate finance", McGraw-Hill, New York, any edition after 1996.

Ross, Westerfield, Jordan "Fundamentals of corporate finance", Mc-Graw Hill, New York, any edition after 1996, chapters: 17, 18, 19.

Any other relevant textbook or workbook.

Grading:

final grade = 50% * grade from the quiz (written at the end of the workshops) + 50% * grade from the exam (written at the end of the lectures) + additional corrections for class participation and attendance

Topics to be prepared for the exam (theory and exercises from lectures and workshops):

1. 3 fundamental capital structure theories*
2. Application and understanding, knowledge of advantages and disadvantages of payback period
3. Application and understanding, knowledge of advantages and disadvantages of NPV
4. Application and understanding, knowledge of advantages and disadvantages of IRR
5. Application and understanding, knowledge of advantages and disadvantages of MIRR
6. Application and understanding, knowledge of advantages and disadvantages of discounted payback period
7. Application and understanding, knowledge of advantages and disadvantages of profitability index
8. Average investment in accounts receivable
9. Break-even point calculation
10. Calculation of the net working capital
11. Calculation, interpretation of debt ratios
12. Calculation, interpretation of efficiency ratios
13. Calculation, interpretation of liquidity ratios
14. Calculation, interpretation of market value ratios
15. Calculation, interpretation of profitability ratios
16. Cash – flow construction based on a balance sheet and income statement
17. Classification of given items into various parts of the balance sheet statement
18. Classification of items into operating, investment and financial part of a cash-flow statement

19. Classification of various elements of the income statement into operating, financing, extraordinary activities
20. Completion of a balance sheet
21. Completion of a cash-flow statement – using the direct method
22. Completion of a cash-flow statement – using the indirect method
23. Completion of multiple-set income statement
24. Cost of bank loans
25. Cost of bonds using the YTM and AYTM formulae
26. Cost of equity calculation using the CAPM
27. Cost of equity calculation using the dividend discounting method
28. Cost of loan notes
29. Cost of short-term debt instruments
30. Credit policy decisions based on forecasted income statement
31. Date of Cash Receipt
32. Determining ending balance of merchandise inventory, beginning balance of merchandise inventory, cost of goods sold, net sales revenues, net purchases, gross profit
33. Economic Order Quantity
34. Financial Analysis Process (step by step, elements)
35. From the given items preparation of a cash flow statement
36. Horizontal, vertical analysis of financial statements
37. Incremental cash flows – definition, meaning, application in capital budgeting decisions
38. Inflation – definition, meaning, application in capital budgeting decisions
39. Inventory management – models, theories
40. Knowledge of balance sheet, income statement and cash flow statement elements
41. MM theory (depends on the decision of the lecturer before exam)
42. Nominal and real cash flows in capital budgeting
43. Nominal and real cost of capital
44. Opportunity costs – definition, meaning, application in capital budgeting decisions
45. Opportunity costs of not taking a discount
46. Optimal cash transaction size
47. Preparation of operating and non-operating sections of the income statement from the given information
48. Recognition of fixed assets, current assets, equity and liabilities elements
49. Sales campaign decision based on forecasted income statement
50. Sunk costs – definition, meaning, application in capital budgeting decisions
51. The Miller – Orr model
52. Weighted average cost of capital