

BOĞAZİÇİ UNIVERSITY

Department of Civil Engineering

CE 48G Financing Construction Projects

SYLLABUS

NOTE: This syllabus is subject to change. Any changes will be communicated in advance.

COURSE: Financing Construction Projects [3 credits]
Hour: MMW 898
Room: M3100 M2200 M2200
Office Hour: Monday 15:00-16:00

INSTRUCTOR: Semra Çomu, PhD
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Course Description (Catalog):

CE48G Financing Construction Projects

(3+0+0)3

A range of financial management issues, and methods of analysis. Characteristics of project and corporate finance. Life cycle costs and revenues. Fundamental concepts and tools of finance; time value of money. Stocks and Bonds. Capital Budgeting. Financial modelling, evaluating economic performance. Project development, project delivery methods. Contracts, agreements, guarantees between project participants.

Course Objectives (Learning Outcomes):

This course is designed to acquaint students with issues relating to the basic principles and applications of financing construction projects. The main objective of this course is to provide students with both theoretical and practical methods for financial analyses and decision-making in relation to financial management. By the end of the course, students will learn

- ✓ How to utilize economics-based analytical tools required for planning and managing construction projects
- ✓ Applying the time value of money and cash flow principles
- ✓ Acquisition and management of financed funds for construction projects
- ✓ Interpreting financial statements and metrics in construction projects.
- ✓ Developing financial models and evaluating the economic performance of projects.
- ✓ Assessing alternative project financing strategies and analyze business opportunities
- ✓ Identifying the needs, constraints and processes of financing in construction projects.
- ✓ Project development; project delivery methods, agreements, contracts.

Textbook:

- N/A. Lecture notes will be provided.

References:

- Principles of Corporate Finance, Brealey, A. Richard and Myers C. Stewart, Latest Edition.
- Financial Management, Raymond Brooks, Latest Edition.

- Principles of Project Finance, E.R. Yescombe, (London: Academic Press, an imprint of Elsevier, 2002). Digital copy freely available on Bogazici Online Library.
- Henry A. Davis, ed., Project Finance: Practical Case Studies, Second Edition (two volume set: Volume I – Water and Power, and Volume II – Resources and Infrastructure) (London, Euromoney Books, 2003).
- Construction Accounting and Financial Management, Steven J. Peterson, Prentice Hall, Latest Edition

Curricular Context

This elective course provides the senior year students with the elementary techniques about finance modelling of construction projects with the systematic approach as applied to engineering.

Honor Policy:

Academic Integrity is expected of all students at all times. Boğaziçi University the Code of Student Rights and Responsibilities applies to all work in this class, including homework and examinations. Suspected violations of the code will be immediately referred to the ethics committee for adjudication. (See the Code of Student Rights and Responsibilities <http://www.boun.edu.tr/Default.aspx?SectionID=703>)

Class Policies:

- Participation: 10% of the course grade.
- Midterm exam: 30% of the course grade.
- Term Project: 30% of the course grade
- Final exam: Comprehensive exam at the end of the semester, 30% of the course grade.

Assignments:

Problems will be assigned and discussed in class. *These assignments will not be collected or graded.* The problems in exams will generally be similar to the assigned problems.

WSJ and Economist Articles:

Articles from WSJ and Economist that are related to the topics in the course will be assigned and discussed in class (generally in the first 10 to 15 minutes of class). *There will be questions on the exams based on these articles.*

Contribution of the Course to Program Outcomes:

- (a) An ability to apply knowledge of mathematics, science and engineering
- (e) An ability to identify, formulate and solve engineering problems
- (h) The broad education necessary to understand the impact of engineering solutions in a global and societal context
- (j) A knowledge of contemporary issues
- (k) An ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

Good Luck and Enjoy the Course!

Week	Topic	Reading Assignment	Content
1	Overview of the class Introduction to Project Finance	Lecture Notes	Going over the syllabus; understanding the content and the policies. Finance: The Big Picture. Investments, Corporate Finance & Financial Institutions. The structure of project finance and corporate finance. Organizational structure.
2	Corporate Finance	Lecture Notes	Interpreting Financial Statements; the balance sheet and the income statement. Taxes and Corporate Finance. Cash Flow Statements. The analyses of financial statements.
3			
4	Fundamental Concepts and Basic Tools	Lecture Notes	The present value, the future value and the annual equivalence criteria, interest rate. Discounted cash flow analysis, Perpetuity, Annuity, Growing Perpetuity and Annuity.
5			
6	Case Study Development	Lecture Notes	Basics of case study development. General Resources. Examining a sample case study report.
7	Stocks and Bonds	Lecture Notes	Valuing Stocks and Bonds and Understanding Risk and Return
8	Capital Budgeting	Lecture Notes	Capital Budgeting Decision Models; payback period, discounted payback period, net present value, internal rate of return, average rate of return and the modified internal rate of return criteria, profitability index. Cash Flow Estimation, the Cost of Capital
9	Midterm Review and Group Presentations	Lecture Notes <i>Midterm</i>	Presenting case study topics.
10	Financial Analysis and Planning	Lecture Notes	Evaluating Economic Performance of Construction Projects. Forecasting and Short-Term Financial Planning, Working Capital Management, Financial Ratios and Firm Performance; Operating ratios, Profitability ratios, Market ratios.
11	Project Development	Lecture Notes	Project development. Joint venture issues. The project company; company structure, management and operations. Public procurement; prequalification, request for proposal, bid negotiation to contract signing, competitive bidding for other project contracts. Project delivery methods; DBB, DB, BDOM, CM at Risk, PPP. Types of agreements, guarantees, and contracts. Functions of contracts.
12	Group Project Presentations		
13	Group Project Presentations		