UNDERGRADUATE PROGRAM IN ECONOMICS – 1st semester 2021
COURSE: Principles of Corporate Finance for Utilities
PROFESSOR: Edson Daniel Lopes Gonçalves
CONTACT HOURS: 60h
PREREQUISITES (RECOMMENDED): basic knowledge in Financial Mathematics, Investment Analysis and Microeconomics

OFFICE HOURS: Friday, 05:00 pm
OFFICE: Barão de Itambi, 60, room 201, 2nd floor – CERI/FGV

COMPLEMENTAÇÃO DE CARGA HORÁRIA: 1 aula de 1h40min

SYLLABUS

1. Description

This course focuses on corporate finance as it pertains to regulated utilities – energy, water, transportation, telecommunication and other infrastructure firms. Corporate finance comprises the decisions and operations made by firms; perhaps the most important of these are the investment decisions firms make and the financing of such investments. Capital-intensive, regulated utilities are different from unregulated firms in that they cannot make such decisions with abandon. Rather, many of their decisions must be vetted and approved by utility regulators, considering that they do not operate in competitive markets. Thus, the main goal of this course is to provide an understanding of the economic, financial, and accounting concepts that are most relevant to regulated utilities. The classes will cover four big themes:

Part I – Key concepts of corporate finance, especially those related to regulated utilities;
Part II – Issues of risk, which regulated firms and regulators alike must address, including business, financial and regulatory risks;
Part III – Some fundamental issues that affect regulated utility investment decisions – in particular we will discuss options and derivatives and capital budgeting decisions; and

Part IV – Issues related to the financial operations of regulated utilities, including accounting standards that regulated utilities must use and the accounting rules needed to separate regulated from unregulated activities when a firm performs both.

2. Course Goals

The main goal of the course is to introduce students to the applications of Corporate Finance for regulated firms (Energy, Water, Telecomm etc), providing a wide range of tools that combine knowledge from Finance, Accounting, Law, Public Policy and Economics.

3. Main Learning Goals

At the end of the course it is expected that student understands the use of Modern Finance Theory in setting public tariffs, rates of return for infrastructure investments and other related topics concerning to utilities firms.

4. Relationship with the contemporary debate

Brazil faces a chronic deficit in the provision of infrastructure services and utilities and part of the problem stems from difficulties in financing projects due the high risks involved.

5. Teaching Procedures

The classes will consist of brief theoretical presentations and real case studies.

6. Outline

	Class #	**Topics to be covered**	**Textbook chapters**
1	Feb 10	*Why Utility Corporate Finance?*	GL, 1
2	Feb 12	*Regulatory Concepts*	GL, 2
3	Feb 19	*Review of Mathematical and Financial Concepts*	GL, 3
4	Feb 24	*Financing Regulated Utilities*	GL, 4

5	Feb 26	*Key Concepts of Regulatory Accounting Measures of Financial Performance and Risk*	GL, 5
6	Mar 03	*Measures of Financial Performance and Risk*	GL, 6
7	Mar 05	*Measures of Costs and their Application*	GL, 7
8	Mar 10	*A primer on Setting Regulated Utility prices*	GL, 8
9	Mar 12	*Comparable Risk*	GL, 9
10	Mar 17	*Defining and Measuring Risk*	GL, 10
11	Mar 19	*The Capital Asset Pricing Model*	*GL, 11*
12	Mar 24	*Discounted Cash Flow Models to Estimate Return on Equity*	*GL, 12*
13	Mar 26	*Capital Structure and WACC*	GL, 13
14	Mar 31	*Estimating the cost of capital in emerging markets*	GL, 14
15	Apr 07	A1 Evaluation week	
16	Apr 09	A1 Evaluation week	
17	Apr 14	*Utility Capital Budgeting*	GL, 17
18	Apr 16	*Asset and Business valuation*	GL, 18
19	Apr 28	*Valuing Energy Contracts*	GL, 19
20	Apr 30	*Selected Application of Valuation Techniques – Power Plants and Natural Gas Reserves*	GL, 20
21	May 05	*Accounting for utilities I*	GL, 21 & WB

22	May 07	*Accounting for utilities II*	GL, 22 & WB
23	May 12	*Depreciation*	GL, 23 & WB
24	May 14	*Tariff-making – General*	GL, 24
25	May 19	*Tariff- making*	Case Studies: Electricity Distribution, Water & Sanitation
26	May 21	*Tariff- making*	Case Studies: Natural Gas Transportation, Natural Gas Distribution
27	May 26	*Tariff- making*	Case Studies: Toll Roads, Railways, Urban Mobility
28	May 28	*Options, Derivatives & Risk Management*	GL, 15
29	Jun 02	*Electricity, Natural Gas & Water Trading and Risk Management*	BGS
30	Jun 09	*Improvements on Incentive Regulation & Implications*	Case Studies: Totex approach and RIIO Model for Networks (Ofgem & Ofwat)
31	Jun 11	*New business Models/ The Utilities of the future/ COVID-19 and Regulated Firms*	V, 10 & 11
32	Jun 16	*A2 Evaluation week*	
33	Jun 18	*A2 Evaluation week*	
34	Jun 23	*A2 Evaluation week*	
35	Jul 07	*AS Evaluation week*	
36	Jul 09	*End of semester*	

7. Evaluation

A group presentation, based on a topic discussed during the course & individual problem sets /tests (to be defined).

8. Textbooks (Required)

- Giacchino & Lesser, "**Principles of Utility Corporate Finance**", 1 edition, Public Utilities Reports (GL)
- Villadsen, B., Vilbert, M.J., Harris, D. & Kolbe, A.L., **"Risk and Return for Regulated Industries"**, 1 edition, Brattle Group (V)
- World Bank, **"Accounting for Infrastructure Regulation**", The World Bank (WB)
- Burger, M., Graeber, B. & Schindlmayr, G., "**Managing Energy Risk**", Wiley (BGS)
- Beecher, J.A. & Kihm, S.G., "Risk Principles for Public Utility Regulators", MSU Press, 1 edition
- Morin, "**New Regulatory Finance**", 1 edition, Public Utilities Reports
- Myers, Kolbe & Tye, "**Regulatory Risk: Economic Principles and Applications to Natural Gas Pipelines and Other Industries (Topics in Regulatory Economics and Policy)**", 1 edition, Springer
- Alt, "**Energy Utility Rate Setting – A practical guide to the retail rate setting process for regulated electric and natural gas utilities**", 1 edition, LuLu publishing

9. Textbooks (Additional)

- Berk, DeMarzo & Harford, "**Fundamentals of Corporate Finance**", 3 edition, Pearson
- Brealey, Myers & Allen, "**Principles of Corporate Finance**", 9 edition, Mcgraw-Hill/Irwin
- Laffont & Tirole, "**A Theory of Incentives in Procurement and Regulation**", 1 edition, MIT Press
- Kahn, "**The Economics of Regulation – Principles and institutions**", 1 edition, MIT Press
- Varian, "**Intermediate Microeconomics: A modern approach**", 8 edition, Norton

10. Professor´s short bio

Current Positions:

- ✓ **Senior Researcher** (Risk and Decision Analysis regarding infrastructure projects, Corporate Finance applied to Utilities firms and Valuation) - ***FGV Center for Regulation in Infrastructure - CERI***
- ✓ **Professor** (undergrad, MA, MBA, Corporate courses in Finance and Microeconomics) - ***EPGE/FGV*** (Economics), ***EBAPE/FGV*** (Business Administration) and ***EMAP/FGV*** (Applied Math).

Past Positions:

- ✓ **Associate Principal** – ***Accenture Management Consulting*** (Risk Management, Finance and Strategy)
- ✓ **Professor** (undergrad – Law & Economics, Corporate Governance and Financial Math) – ***FGV Direito Rio*** (Law School)
- ✓ **Research Manager – *RiskControl/BBM Bank*** (Risk Management and Quantitative Finance)
- ✓ **Consultant – Delloite (**Corporate Finance/ Assurance)

Education:

- ✓ **Economics (Phd & MA)** – Getulio Vargas Foundation – FGV (EPGE)
- ✓ **Mechanical Engineering (undergrad)**– University of Campinas – UNICAMP

10. Lattes CV link (portuguese)

http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4736613Z9