

**FINA 773**  
**International Project Finance**  
**Fall II 2018**

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Office Hours: 4:00 pm – 6:00 pm, Monday (to be held in the classroom)

Specific Learning Objectives

The course will give students an understanding of the following topics:

- (1) The fundamentals of non-recourse, project financing (structures, credit aspects, modeling)
- (2) Financial markets for project finance, including syndicated bank loans, capital markets, export credit agencies, multilateral institutions, and the private equity market
- (3) Infrastructure sectors and their business risks, as well as an appreciation of historical and institutional factors that affect infrastructure development in different regions of the world
- (4) Transaction structures and the documentation used to structure individual project financings
- (5) Political risk, especially as it affects infrastructure investment and financing
- (6) Currency risk as it affects infrastructure projects
- (7) Local currency financing (availability, limitations as a source of long-term, fixed-rate financing), and
- (8) International organizations relevant to infrastructure investment and finance.

Students will learn to:

- (1) Analyze business opportunities for their potential to be structured as a project financing
- (2) Analyze the risks entailed by various forms of project and project financial structures
- (3) Model a project financing
- (4) Assess alternative project financing strategies
- (5) Understand how transactions are priced and be able to price a transaction (within the classroom constraint of assumed market conditions)

Required Course Materials (Items 1 and 2 require purchase by students – there will be a “Coursepack” available)

- (1) Kennedy, Robert E., *InterGen and the Quezon Power Project: Building Infrastructure in Emerging Markets*, Harvard Business School Case, Product # 799057
- (2) Esty, Benjamin C. and Matthew Mateo Millet, *Petrolera Zuata, Petrozuata* C. A., Harvard Business School Case, Product # 299012

- (3) Additional cases will be supplied by the instructor, available on Blackboard
- (4) Selected articles and papers to be supplied by the instructor, available on Blackboard
- (5) Online video materials, available on Blackboard

#### Optional Material

- (1) Yescombe, E. R., Principles of Project Finance, Academic Press, 2<sup>nd</sup> ed., 2014  
(Until last year, this text was assigned. I have now decided to make it optional. The text is excellent and is clearly the best project finance text on the market, but I made it optional at the suggestion of former students. The assignments below provide references to the sections of the text that pertain to the subject matter to be covered that week.)

#### Course Schedule

Monday (6 classes)	6:00 pm – 9:10 pm
Saturday (2 classes on the same day)	9:00 am – 12:10 pm 1:00 pm – 4:10 pm

(A 10-minute break will be taken approximately half way through class)

Final exam: Monday, December 12: 4:00 pm (2.5 hours)

#### Lecture Notes

Material presented by the instructor will include PowerPoint presentations. Copies of the slides will be available on Blackboard.

#### Course Grading

Course grading will be determined based on the following elements:

Mid-term exam (one hour)	14%
Class participation	16%
Longer case analyses (2 cases)	16% (Petrozuata and Quezon)
Team cases (2 cases)	16% (MegaPower & ElectroPublic)
Cogenergy calculations & Problems	8%
Final exam	30%

The mid-term exam will be relatively brief and is intended to insure comprehension of basic concepts. (If a make-up exam is necessary, it will be administered as soon as reasonably possible after the originally scheduled time for the exam.)

Two major written case analyses will be required. Each analysis will be limited to three pages of text, plus exhibits (if any). There is no limit applicable to exhibits.

For two cases, the class will be divided into teams which will make presentations.

Regular class participation is expected. Students will be called upon to answer questions and to present their analyses of cases and problem situations; in addition, they are expected to demonstrate initiative in class participation.

Grades will be based on the following scale:

A	100 – 90
B	89 – 80
C	79 – 70
D	69 – 60
F	Below 60

### **University of South Carolina Honor Code**

It is the responsibility of every student at the University of South Carolina Columbia to adhere steadfastly to truthfulness and to avoid dishonesty, fraud, or deceit of any type in connection with any academic program. Any student who violates this Honor Code or who knowingly assists another to violate this Honor Code shall be subject to discipline.

This Honor Code is intended to prohibit all forms of academic dishonesty and should be interpreted broadly to carry out that purpose. The following examples illustrate conduct that violates this Honor Code, but this list is not intended to be an exhaustive compilation of conduct prohibited by the Honor Code:

1. Giving or receiving unauthorized assistance, or attempting to give or receive such assistance, in connection with the performance of any academic work.
2. Unauthorized use of materials or information of any type or the unauthorized use of any electronic or mechanical device in connection with the completion of any academic work.
3. Access to the contents of any test or examination or the purchase, sale, or theft of any test or examination prior to its administration.
4. Use of another person's work or ideas without proper acknowledgment of source.
5. Intentional misrepresentation by word or action of any situation of fact, or intentional omission of material fact, so as to mislead any person in connection with any academic work (including, without limitation, the scheduling, completion, performance, or submission of any such work).
6. Offering or giving any favor or thing of value for the purpose of influencing improperly a grade or other evaluation of a student in an academic program.
7. Conduct intended to interfere with an instructor's ability to evaluate accurately a student's competency or performance in an academic program.

Whenever a student is uncertain as to whether conduct would violate this Honor Code, it is the responsibility of the student to seek clarification from the appropriate faculty member or instructor of record prior to engaging in such conduct.

Suspected violations of the honor code will be reported to the Office of Academic Integrity. Violations of the honor code will result in disciplinary measures.

Course Outline:

The course will cover the following topics in the order listed below. A certain amount of time will be devoted at the beginning of each class to questions, if any, regarding video materials that were assigned to be viewed prior to class.

Assignments are listed under the class at which the assignment is due. Assignments should be submitted electronically prior to the start of the class at which they are due.

Class 1: Monday, October 29

- Topics: Introduction and Overview of Project Finance  
EPC Contracts, Input and Output Contracts
- Case: Cogenergy (US) (a conceptual exercise, without quantitative data)
- Reading: Yescombe, *Principles of Project Finance*, Chapters 2, 3 (skip §3.7), 6, 7, 8, and 13
- Assignment: Read the Cogenergy case (available on Blackboard) and come to class prepared to discuss it

Class 2: Monday, November 5

*Prior to Class 2, the following online materials should be viewed:*

*The Project Finance Market*  
*Typical Project Finance Transactions*  
*Political Risk Insurance*

- Topics: Review of Cogenergy calculations (assigned for today, see below)  
EPC Contracts, Input and Output Contracts, continued  
Modeling Project Finance Transactions  
Risk Allocation  
Political Risk  
Risk Mitigation
- Case: Cogenergy case (with quantitative information)
- Reading: Yescombe, *Principles of Project Finance*, Chapters 4, 9 (skip §9.10.2), 11, and 12 (skip §12.1 and §12.2)  
The following item in Course Documents on Blackboard:  
Sheppard, Modeling Construction Loans
- Assignment: Prepare Cogenergy construction loan calculation and a model for first 10 years using lease financing

Class 3: Monday, November 12

*Prior to Class 3, the following online materials should be viewed:*  
*Multilateral Development Banks and Other Official Agencies*  
*Project Finance Documentation*  
*Local Currency Financing*

Topics: Review of Problem Set  
Foreign exchange risk

Reading: Yescombe, *Principles of Project Finance*, Chapter 5 (skip §5.6), 14 (skim, beginning with §14.16.2), and 16  
The following items in Course Documents on Blackboard:  
(1) MIGA PRI Contract (familiarize yourself with it – don't read all parts of it in detail)  
(2) Sheppard, "We Shall Overcome" in *Project Finance International Multilaterals Report*  
(3) Sheppard, "Effectiveness of Multilaterals" (originally published in *Project Finance International*, March 9, 2011 – a follow-up article to "We Shall Overcome")  
(4) Sheppard, "The Role of Multilateral Banks and ECAs" originally published in *The Principles of Project Finance*, 2012)  
(5) Sheppard, "Capital Markets Financing for Developing-Country Infrastructure Projects" (UN Paper)

Assignment: Prepare answers to the Problem Set posted in the Course Content section of Blackboard

**Note: The problem set is important because it gives you experience with calculations that you will be expected to use on the MegaPower Case, next week**

Class 4, Monday, November 19

*Prior to Class 4, the following online materials should be viewed:*  
*PESD Study*  
*Business Strategies in the Power Sector*

Topic: Presentation of MegaPower financing proposals by each team  
Discussion of the MegaPower case  
Application of the Contractual Model to International Projects  
Foreign exchange risk, continued

Case: MegaPower (posted in Blackboard's Course Contents section)

Reading: Erik Woodhouse, "The Experience with Independent Power Projects (IPPs) in Developing Countries: Interim Report", PESD Working Paper #39, 2005

Sheppard, "Theoretical Considerations Concerning Approaches to Mitigate Foreign Exchange Risk for Developing-Country Infrastructure Projects"

Assignment: Case analysis of MegaPower to be written as the joint product of your team, 3 pages maximum, plus exhibits (no limit on exhibits)

Class 5, Monday, November 26

*Prior to Class 5, the following online materials should be viewed:*

*Capital Markets*  
*Country Selection Analysis*

Topics: Mid-term Exam (about one hour)  
AES Tietê Bond Issue  
Dominican Republic Toll Road Bond Issue

Reading: The following items posted in the Course Documents section of Blackboard:  
(1) Moody's Pre-sale Report for Tietê  
(2) Fitch's Pre-sale Report for Tietê  
(3) Sheppard, "AES Tietê: Protecting International Infrastructure Transactions from the Risk of Devaluation"  
(4) Tiete transaction diagram (PowerPoint)  
(5) Tiete Comparables Memo

Class 6: Monday, December 3

*Prior to Class 6, the following online material should be viewed:*

*Loan Syndications*  
*Comparison of Regulatory Regimes*  
*Other Latin American Transactions*

Topics: ElectroPublic

Reading: Argentine Gas Trust Analysis (Moody's)  
Talca-Chillan Toll Road Case Note (Chile)

Assignment: With your team, fill out the bidding form and prepare to present your proposed financing for ElectroPublic with recommended pricing, terms, and bidding strategy.

Note: The online information about this course states that the Saturday class will be from 8:30 am to 4:00 pm. We will *not* meet from 8:30 am to 4:00 pm. Instead, we will have two three-hour classes, one in the morning and one in the afternoon. The need for two classes on one day is a quirk of this year's schedule which only has six Monday classes, rather than the usual seven. If we can agree on a time that everyone can meet during the week, I would be happy to schedule an extra class during the week and have only one class on Saturday.

Class 7, Saturday, December 8, 9:00 am to 12:00 noon

*Prior to Class 7, the following online materials should be viewed:*

*Basel II & III*  
*Equator Principles*  
*Carbon Credits*  
*Transport Projects*

- Topics: Discussion of Petrozuata case  
Follow-up information on subsequent Petrozuata developments
- Case: Petrozuata (Harvard case, available for electronic download at <http://hbsp.harvard.edu/> )
- Reading: Yescombe, *Principles of Project Finance*, Chapter 17  
Sheppard, "Carbon Credits: An External Financing Source for Latin American Project Financing"  
Sheppard, "Transport Projects"
- Assignment: Please prepare an analysis of the Petrozuata case, responding to the issues raised at the end of the case, including whether you think the proposed bonds will receive an investment-grade rating, with your recommendations about a financing strategy that can finance the project regardless of what rating is actually achieved for the proposed bond issue; you should discuss the strengths and weaknesses of the project and its structure, specifically as they affect the rating of the proposed bond issue; you do not need to address the cost of capital issues presented in the case (limited to three pages of text), plus exhibits (no limit on exhibits)

Note: Exhibit 8 contains an error. It lists Argentina's sovereign debt rating as BBB-, whereas the actual rating was BB-, as is shown correctly on Exhibit 9.

Class 8, Saturday, December 8, 1:00 pm to 4:00 pm

*Prior to Class 8, the following online materials should be viewed:*

*Infrastructure Funds  
Thailand/Asia Power  
Whole Business Securitization*

Topics: Discussion of Quezon case  
Risk analysis of Lake Kivu (Rwanda) project  
Project Finance in Africa  
Infrastructure Funds  
Whole Business securitization  
Course review

Case: Quezon (Philippines) (a case dealing with equity valuation issues  
in relation to country risk)  
The case is available at:

<http://cb.hbsp.harvard.edu/cb/search/quezon?Ntk=HEMainSearch&N=0>

Reading: Yescombe, *Principles of Project Finance*, Chapter 12, §12.1 and  
§12.2  
Pei Yee Woo, "Independent Power Producers in Thailand", PESD  
Working Paper #51, August 2005  
Orr, "The Rise of Infra Funds"  
Moody's, "UK Water Sector: Highly-Leveraged Financing  
Structures – An Update", June 14, 2010  
Sheppard, "Financing of Private Infrastructure in Sub-Saharan  
Africa", PPIAF, June 2006  
Sheppard, "Overcoming African Power Problems"

Assignment: Quezon case analysis, up to 3 pages of text, plus exhibits