

**CARNEGIE MELLON UNIVERSITY
HEINZ COLLEGE**

**Public-Private Partnerships
August 2021**

Course Syllabus and Outline (Draft)

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Office Times by appointment.

Lectures TBC

Course Description

The course, in the first instance, seeks to develop in the participants the ability to apply economic and financial concepts, developing valuation models for the analysis of public and private infrastructure projects of a strategic nature for the development of the economy and the different paths of digital transformation into a higher level of prosperity.

Later, problems in the development of public policies to address new infrastructure projects are studied, under recent experiences in different countries around the world. Then, structuring and risk mitigation techniques are introduced in the financing of infrastructure projects, with techniques for selecting projects that are feasible to be implemented from the public sector, to be carried out exclusively by the private sector, or under a public-private alliance are also discussed.

Finally, tender development and evaluation models and techniques will be analysed for project selection. The latest insights into multilateral organizations and credit agencies, private commercial banking, public banking, the capital market, and their role in development are included.

Course Objectives

Upon completion of this course, the student:

- Will understand the different types of infrastructure and the different organizational models to develop it.
- Will know what the potential risks are when developing infrastructure and the mitigation mechanisms for each of them.
- Will dominate the wide range of possible sources of financing for infrastructure development.
- Will understand the main characteristics that distinguish infrastructure projects in developing countries, compared to their traditional approach in developed countries.
- Will understand the implications of the preparation and implementation of the first PPP Contracts, bidding documents, administration and payment trusts, financial assistance, and the role of public banking.

Required Readings

The main reference books for this course are:

1. "Infrastructure as an Asset Class" – Barbara Weber, Miriam Staub-Bisang, Hans Wilhelm Alfen, Ed. WILEY, Long-term Infrastructure Investors Association, 2016

Additional readings:

2. "Granting and Renegotiating Infrastructure Concessions, Doing it Right." – Guasch, José Luis. World Bank Group. 2004.
3. Australian Government's Department of Infrastructure, Transport, Cities and Regional Development. 2019. National Guidelines for Infrastructure Project Delivery. The Department of Infrastructure, Transport, Cities and Regional Development. [Online] 2019. <https://www.infrastructure.gov.au/infrastructure/ngpd/index.aspx>.
4. United Kingdom's HM Treasury and Government Finance Function. 2019. The Green Book: Appraisal and Evaluation in Central Government. GOV.UK. [Online] March 19, 2019. <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government#history>.
5. United Kingdom - Value for money assessment for using private finance https://webarchive.nationalarchives.gov.uk/20130102211853/http://www.hm-treasury.gov.uk/infrastructure_ppp_vfm.htm
6. World Bank Group (WBG). 2019. Public-Private-Partnership Legal Resource Center. [Online] 2019. <https://ppp.worldbank.org/public-private-partnership/>.
7. Global Infrastructure Hub (GIHub). Infrastructure Monitor 2020 [Online] 2020. https://cdn.gihub.org/umbraco/media/3241/gih_monitorreport_final.pdf

Copies of these books are in the reading area for reference, and in the library for borrowing.

Furthermore, students will be required to read case studies which will be used for classroom discussion. Such cases will either be distributed in the class or available on Canvas.

Course Schedule

The following is an approximate plan for the topics covered in this course and a timeline for course activities. Changes may occur because of unforeseen events.

1. Week 1 (18 October):

Course Outline: Introduction to types of structure. Organizational models for infrastructure development.

Reading: Weber, B.; Chapters 1 to 3.

Group activity: Infrastructure demand exercise, investment fund process.

2. Week 2 (24 October):

Course Outline: Characteristics of infrastructure. Introduction to risk management in PPPs. Methodologies for a risk workshop.

Reading: Weber, B.; Chapters 4 and 5.

Group Activity: Global Infrastructure Hub risk matrix application to a PPP project. BICE Methodology Guidelines.

3. Week 3 (31 October):

Course Outline: Project finance and PPP. Structured financing of traditional projects under PPP. Instruments for infrastructure financing.

Reading: Weber, B.; Chapters 6 and 7

Group Activity: Real case study – Project finance for PPPs in emerging economies.

4. Week 4: (8 November)

Course Outline: Value for Money. The Public Sector Comparator

Reading: Value for money assessment for using private finance; Pages 1 to 54, and Quantitative assessment user guide.

Group Activity: Conducting a quantitative VfM analysis.

5. Week 5: (15 November):

Policies for infrastructure development and financing via PPP. Recent real-case examples.

Reading: Infrastructure Monitor 2020, Global Infrastructure Hub.

Group Activity: Project structure and tender mechanism debate.

6. Week 6: (22 November):

Group presentations for assessment

Summary of Course Assessment

Assignments

There will be three assignments (of equal importance), one mid-way during the course and two at the end.

Assignment 1

Identify a major infrastructure project from a selected country. Assess its characteristics, Prepare a risk mitigation matrix.

The report is due on 30th October 2021.

30% of the overall grade.

Assignment 2

Prepare a Value-for-Money analysis for the project from Assignment 1.

The document is due on 15th November 2021

30% of the overall grade

Assignment 3

Prepare a policy memo for the President of the country with a recommendation on a structure for a PPP tender program around the project from previous assignments, and attach your finding supporting your recommendation. Present the project to the class.

Presentations will be held on the last day of class: 5th October 2021

30% of the overall grade

Attendance and class participation

10% of the overall grade

Submissions

- Assignments must be submitted through Canvas unless otherwise specified.
- The deadline for all submissions is 11:59 pm Adelaide time on the submission date, unless otherwise specified. You will automatically lose 30% of the credit if you are late by up to one day. No credit will be given for a later submission.

Course Performance Evaluation

Participant performance will be evaluated based on assignments, attendance and participation

Grades

97%~100%: A+ 93%~96.99%: A 90%~92.99%: A-
87%~89.99%: B+ 83%~86.99%: B 80%~82.99%: B-
77%~79.99%: C+ 73%~76.99%: C 70%~72.99%: C
Less than 70%: R

Re-Grade Requests

- Must be submitted within one week of the date the marked assignment, etc. was returned.
- Must be in writing and include copy of original.
- Must explain which question has been under-marked and why.
- I re-grade entire assignment and as a result your grade can go up or down.
- Participation grades are not subject to re-grading.

Policies:

Late Submissions

The deadline for all submissions is 11:59 pm Adelaide time on the submission date, unless otherwise specified. You will automatically lose 30% of the credit if you are late by up to one day. No credit will be given for a later submission

Other Policies

- I will determine your class participation marks. Just attending the class is not enough. You should also contribute to our discussion in the classroom.
- Punctual attendance at the lectures, and active participation, is important for successful completion of the course. I expect full class presence unless you have a good reason.

Ethical Standards

Students at Carnegie Mellon are engaged in preparation for professional activity of the highest standards. Each profession constraints its members with both ethical responsibilities and disciplinary limits. To assure the validity of the learning experience Carnegie Mellon establishes clear standards for student work. You are required to be familiar with related university policies on this subject. An extract of these policies is reproduced here:

In any presentation, creative, artistic, or research, it is the ethical responsibility of each student to identify the conceptual sources of the work submitted. Failure to do so is dishonest and is the basis for a charge of cheating or plagiarism, which is subject to disciplinary action.

Cheating includes but is not necessarily limited to:

- Plagiarism, explained below.
- Submission of work that is not the student's own for papers, assignments or exams.
- Submission or use of falsified data.
- Theft of or unauthorized access to an exam.
- Use of an alternate, stand-in or proxy during an examination.
- Use of unauthorized material including textbooks, notes or computer programs in the preparation of an assignment or during an examination.
- Supplying or communicating in any way unauthorized information to another student for the preparation of an assignment or during an examination.

Collaboration in the preparation of an assignment. Unless specifically permitted or required by the instructor, collaboration will usually be viewed by the university as cheating. Each student, therefore, is responsible for understanding the policies of the department offering any course as they refer to the amount of help and collaboration permitted in preparation of assignments.

- Submission of the same work for credit in two courses without obtaining the permission of the instructors beforehand.

Plagiarism includes, but is not limited to, failure to indicate the source with quotation marks or footnotes where appropriate if any of the following are reproduced in the work submitted by a student:

- A phrase, written or musical.
- A graphic element.
- A proof.
- Specific language.
- An idea derived from the work, published or unpublished, of another person.

As a matter of policy, I will not tolerate cheating or plagiarism. If you are caught, you will automatically lose ALL marks for that exam/assignment. I will decide whether further disciplinary action should also be taken.

Regarding any project/report/assignment submissions, put in quotation mark "" any text that is not written by you (e.g. copied from somewhere, written by a colleague, etc), and clearly indicate the source. Failure to do so equals plagiarizing. Moreover, in general such quotation should be done very sparsely and only to illustrate the point you are making. Furthermore, paraphrasing is not allowed – you need to understand the topic and write it in your own words.