

SYLLABUS: PUBP 752-001 Infrastructure Finance

Fall 2005 (DRAFT)

Course Number: PUBP 752-001

Mondays: 4:30 PM to 7:00 PM

Starting August 29 and ending December 5, with Final Exam on December 12

Course Description

Financing major facilities and projects is a critical issue in public policy. The design and implementation of public works projects are vital activities, not only to economic development, but also to sustaining commerce and providing for everyday life. This course deals with the planning, budgeting and financing of major capital projects, otherwise known as infrastructure. Such areas as air, water and surface transportation, environmental projects, public utilities, and other major public works are examined. Because these investments require large amounts of capital, considerable emphasis is placed on the accessing of the private capital markets for the funding of projects, as well as various domestic and international loan and grant programs. While much of the subject matter in this course deals with the United States, the perspective is both domestic and international. Both publicly and privately owned and operated facilities and their financing are studied.

Infrastructure finance, while essentially comprised of much the same basic ingredients in terms of risk and rewards and needs for long-term capital, is very much a product of the various institutional setting and prevailing financial market structures. In this course, we will get to know one financial market fairly well, the U.S. municipal bond market, and how it is used to finance infrastructure. But, we will sample other ways of financing capital spending as seen in other countries, as well. Bond issue and equity investment processes and calculations are discussed. Case study projects and specific transactions are examined and analyzed.

Summary of Subjects Covered

- Fundamentals of Capital Project Financial Planning and Analysis
 - Concepts of economic and financial returns, cost of capital, discounting, risk and reward
- Capital Budgeting in Government and the Firm. Decisionmaking over time, choice among alternatives, differences and similarities in public and private sectors
- Various Operating and Financing Structures
 - Government – owned, Privately – owned, and mixed
 - Project Finance Structures, International Experiences and Perspectives
- Sources of Capital and market essentials
 - Concepts of financial risk and reward, security and creditworthiness
 - The financial markets and banks, Intergovernmental grants and loans
 - The roles of equity and debt in the public and private sectors
- The U.S. Municipal Bond Market
 - Structure and operations of the market, how deals are developed and structured
 - Credit ratings and enhancements
- International and emerging capital Markets
 - Structure and operation -- Growth, contraction and future prospects
- General Government (tax-supported) and other facilities
 - Schools and other tax-supported uses of funds
- Transportation Finance
 - Highways and Toll Facilities
 - Airports, Ports and Terminals
- Environmental and Energy Finance

SYLLABUS: PUBP 752-001 Infrastructure Finance Fall 2005 (DRAFT)

Interest Profile: Please write a brief (not more than one page) profile telling about your background, graduate-level course work, your career aspirations, and your expectations from this course. Please submit the interest profile to me no later than the September 12 class session. You can email it to me at “jep@gmu.edu”

Research Project: A research project will start early in the semester. The class will divide itself into 3- and 4-person teams. The task will be to analyze an infrastructure project and its financing or a method of infrastructure financing and projects for which it has been used. A suggestive list of topics will be circulated, but I encourage each team to tackle a topic that it likes. What I want is a critique of a project: the policy objectives, the basic economics of the activity, the benefits versus costs, risks entailed and how they are shared, and the appropriateness of the method of finance used. The team’s written report is *not to exceed 25 pages*, double-spaced, including a one-page executive summary at the beginning, charts or graphics, and the footnotes and references. I’d appreciate 12-point type size.

Using the above guidance, the team may select a topic of interest to it in an area of infrastructure finance at the international, federal, state or local level. The report should demonstrate your team’s ability to define the problem area, show its significance, assess the relevant factors including alternatives, and make a reasoned argument as to why the proposed or actual financing method was appropriate and if it was successful or not. Please be careful in your citations and references and make sure that this is your own work. The topic is subject to my approval. The grade will be given in common to all members of the team. It is up to you that the work is equitably shared.

Upon the formation of teams of three or four persons each, please meet among yourselves and select a topic. Let me know the team composition by September 26. Please discuss your topic and give me your proposed research project on or before October 17th. You may email it to me. A brief written explanation of the research question will be sufficient (a few sentences) and I will get back to you if I have any questions. Note that all research project papers are due on or before November 14th. Instructions will be provided concerning delivery. Starting on November 21, there will be brief (20-minute) presentations by each of the teams. It is up to your team as to how you wish to make the presentation and you will be graded separately on the presentation, again as a group. These presentations will make up about ½ of the class time for the last three sections of the class.

SYLLABUS: PUBP 752-001 Infrastructure Finance Fall 2005 (DRAFT)

366, Petersen, Road Project Case Study (CD)
Loudoun County Capital Improvement Plan (CD) 330-50,
“Fiscal Policies” (CD)

- September 19: Understanding Various Operating and Financing Structures
Government – owned, Privately – owned, and mixed.
Project Finance Structures. Domestic and International Experiences.
Readings: Mody Overview and Chapter 1
Savvides Risk Analysis in Investment Appraisal
Prechmand Capital Budgets in Theory and Practice
- September 26: **RESEARCH TEAMS FORMED**
Sources of capital, concepts of security and creditworthiness
The financial markets and banks, intergovernmental grants
The roles of equity and debt and the public and private sectors
Readings: Mody Chapters 4, 5 and 7
BMA Fundamentals Chapter 1
- October 3: The U.S. Municipal Bond Market
The structure and operation of the tax-exempt market: issuers and investors
How deals and developed and structured, Primary Market
Readings BMA Fundamentals Chapters 2 to 4
Loudoun County Fiscal Policy (CD)
- October 11** **NOTE: CLASS MEETS TUESDAY -- RESEARCH PAPER TOPIC DUE**
The U.S. Municipal Bond Market
Secondary Markets, Credit Analysis, Credit ratings and Enhancements.
Readings BMA Fundamentals Chapters 5 to 8
- October 17: **QUIZ FIRST HOUR (email exams as discussed)**
General Government (tax-supported) and facilities. Politics and economics of infrastructure projects.
Readings: Altshuler and Luberoff Chapter 1 to 3
Standard and Poors Public Finance Criteria (S&P) 56-72
- October 24: Environmental and Energy-related Finance
Water supply and sewer, Electric Power and Gas

SYLLABUS: PUBP 752-001 Infrastructure Finance Fall 2005 (DRAFT)

SPP Policy on Plagiarism

The profession of scholarship and the intellectual life of a university as well as the field of public policy inquiry depend fundamentally on a foundation of trust. Thus any act of plagiarism strikes at the heart of the meaning of the university and the purpose of the School of Public Policy. It constitutes a serious breach of professional ethics and it is unacceptable.

Plagiarism is the use of another's words or ideas presented as one's own. It includes, among other things, the use of specific words, ideas, or frameworks that are the product of another's work. Honesty and thoroughness in citing sources is essential to professional accountability and personal responsibility. Appropriate citation is necessary so that arguments, evidence, and claims can be critically examined.

Plagiarism is wrong because of the injustice it does to the person whose ideas are stolen. But it is also wrong because it constitutes lying to one's professional colleagues. From a prudential perspective, it is shortsighted and self-defeating, and it can ruin a professional career.

The faculty of the School of Public Policy takes plagiarism seriously and has adopted a zero tolerance policy. Any plagiarized assignment will receive an automatic grade of "F." This may lead to failure for the course, resulting in dismissal from the University. This dismissal will be noted on the student's transcript. For foreign students who are on a university-sponsored visa (eg. F-1, J-1 or J-2), dismissal also results in the revocation of their visa.

To help enforce the SPP policy on plagiarism, all written work submitted in partial fulfillment of course or degree requirements must be available in electronic form so that it can be compared with electronic databases, as well as submitted to commercial services to which the School subscribes. Faculty may at any time submit student's work without prior permission from the student. Individual instructors may require that written work be submitted in electronic as well as printed form. The SPP policy on plagiarism is supplementary to the George Mason University Honor Code; it is not intended to replace it or substitute for it. (<http://www.gmu.edu/facstaff/handbook/aD.html>)