



**NYU**

**ROBERT F. WAGNER GRADUATE  
SCHOOL OF PUBLIC SERVICE**

## **PADM-GP4191**

**Essential Subsidy? Understanding  
the Role Federal Tax Credits Play  
in The Affordable Housing and  
Renewable Energy Sectors**

**Spring, 2023**

### **Instructor Information**

- Jerry Abrahams
- [Jha3@nyu.edu](mailto:Jha3@nyu.edu) or [jha1912@gmail.com](mailto:jha1912@gmail.com)
- Office Address: Puck Building, Room 3049
- Office Hours: Tuesdays 9am – 4pm. Drop-ins welcome but appointment recommended.

### **Course Information**

- Class Meeting Times: Tuesday 6:45pm – 8:35pm
- Class Location: 19 West 4th, Room C-13 Loc: Washington Square

### **Course Prerequisites**

- None however students should generally be familiar with the concept of present value and have a rudimentary understanding of other basic financial and accounting concepts.

### **Course Description**

#### **Overview**

#### **Section 1.**

For better or worse, both affordable housing and renewable energy projects in the US are largely built and owned by private developers and corporations. These private developers in turn are reliant on private capital provided by investors, corporations, and banks. Almost all these investors rely heavily on federal tax credits. 90% of affordable housing in the US receives a subsidy through the low-income housing tax credit (“LIHTC”). Virtually all large-scale wind and solar projects receive tax credit subsidies as well. This course is designed for students who are interested in either of these two important areas of public policy as well as students interested in careers in municipal finance who want to expand their knowledge in related fields.

The course will begin with an overview of what developers need to build their projects and what investors are seeking and how common tax credit programs bridge the gaps. By studying this topic, students will also gain a general understanding of multi-family housing, renewable energy, project development and project financing and federal tax expenditures. Lastly, we will examine the overall efficiency, socio-economic and racial equity implications of such subsidies schemes that benefit banks, corporations, and private developers.

## Course and Learning Objectives

This course is designed for students interested in pursuing careers in social impact investing, affordable housing, or renewable energy. Upon completion of the course, students will understand and be able to discuss:

- How housing and renewable energy projects are developed and built in the US
- The role of various market participants including developers, investors, banks, government, and other market participants
- Key aspects of the Low-Income Housing Tax Credit, the Solar Investor Tax Credit, the Wind Production Tax Credit
- The public policy considerations related to tax credits versus other forms of subsidies
- Basic project finance structures, partnership, and accounting concepts

The course will stress the applied over the theoretical and will be taught by market practitioners but the important public policy issues will also be examined. All lecture materials are unique to this course. Guest lecturers will also provide specific market and technical expertise as well as broader perspectives. There will be some outside reading from newspapers and trade journals. Course lectures will be interactive, and students will be expected to participate in class discussions since one of the learning competencies of this course is to train students to be able to articulate the abstract concepts of the course material. Grading will be based on class participation, a problem set and final project. For the final project students will have to prepare and present a critique of a key aspect of the course material.

## Required Readings

1. Affordable Housing Development: Financial Feasibility, Tax Increment Financing and Tax Credits (Luque, Jaime; Ikromov, Nuriddin; **Noseworthy**, William B.) ISBN: 9783030040642
2. The Grid: A Journey Through the Heart of our Electrified World (**Schewe**, Philip F) ISBN: 1280844752
3. Principles of Microeconomics (**Mankiw**, Gregory N.) ISBN: 9781285165905 [https://bobcat.library.nyu.edu/permalink/f/1c17uag/nyu\\_aleph004096712](https://bobcat.library.nyu.edu/permalink/f/1c17uag/nyu_aleph004096712)

## Suggested Reading

The Broken Heart of America: St. Louis and the Violent History of the United States (Johnson, Walter) ISBN: 9780465064267

## Assessment Assignments and Evaluation

There will be no group assignments. All work will be completed and submitted individually although students are encouraged to collaborate to discuss class material.

### Individual Assessment

Grading will be based on a total possible score of 100pts

- Contribution to class discussion 20pts (See *rubric* below).
- Problem set: 30pts
  - Problem set will require students to answer four or five simple questions on the material to demonstrate understanding.
- Final Presentation: 50pts (*rubric* will be provided with the assignment).
  - Students will provide written critique of a key aspect of the course. students will also make a short presentation highlighting the key findings of their written work.

### Participation Rubric

| <b>Active Participation<br/>(10-20 points)</b>   | <b>Moderate Participation<br/>(5-10 points)</b>   | <b>Low Participation<br/>(0-5 points)</b>  |
|--|---|--|
| Initiates discussion with questions or comments. Offers response to questions.<br><br>Participation reflects comprehension and expansion of material or identifies areas of material not adequately explained or prone to confusion. | Responds to questions but does not initiate discussion.<br><br>Participation either does not exhibit comprehension or fails to expand material in a meaningful way. | Rarely speaks in class.  |
| Furtheres the discussion and builds on the ideas of others; comments and questions reflect having thought about the material.  | Furtheres the discussion and builds on the ideas of others; general or limited references to course materials   | Comments do not further the discussion and do not exhibit careful reflection on the material |

# Overview of the Semester

## Section 1

- Week 1
  - Date: March 21, 2023
  - Topic: Introduction to the course
  - Topic: Overview of the Government Subsidies Models
  - Reading: Mankiw Chapter 10. Externalities and Chapter 11. Public Goods and Common Resources.
- Week 2
  - Date: March 28, 2023
  - Topic: Introduction to US Multi-Family Housing Market
  - Reading: Noseworthy Chapter 1 and 3 and 4 (Optional).
- Week 3
  - Date: April 4, 2023
  - Topic: Real Estate Project Finance
  - Guest lecturer: Seila Mosquera-Bruno, Commissioner of Housing, CT (TBD)
  - Reading: Noseworthy Chapter 6, 7 and Chapter 8.
- Week 4
  - Date: April 11, 2023
  - Topic: The Low-Income Housing Tax Credit
  - Distribution of Problem Set
  - Reading: Noseworthy Chapters 9 and 10.
- Week 5
  - Date: April 18, 2022
  - Topic: Introduction to Energy Project Finance
  - Reading Schewe: Chapter 1 and 2.
  - Problem Set Due
- Week 6
  - Date: April 25, 2022
  - Topic: The Energy Investment Tax Credit
  - Guest lecturer: (Mirriam Wrobel or Josh Herlands)
  - Reading Schewe: Chapters 4, 7 and 8.
- Week 7
  - Date: May 2, 2022
  - Topic: Public and Social Policy Implications of Tax Credits
  - Review of class material, distribution of final project

## Letter Grades

Letter grades are mapped to your class numeric score as follows:

| Letter Grade | Points   |
|--------------|----------|
| A            | 94 -100  |
| A-           | 90 – 93  |
| B+           | 87 – 89  |
| B            | 83 – 86  |
| B-           | 80 – 82  |
| C+           | 77 – 79  |
| C            | 73 – 76  |
| C-           | 70 – 72  |
| F            | Below 69 |

### Student grades will be assigned according to the following criteria:

- (A) Excellent: Exceptional work for a graduate student. Work at this level is unusually thorough, well-reasoned, creative, methodologically sophisticated, and well-written. Work is of exceptional, professional quality.
- (A-) Very good: Very strong work for a graduate student. Work at this level shows signs of creativity, is thorough and well-reasoned, indicates strong understanding of appropriate methodological or analytical approaches, and meets professional standards.
- (B+) Good: Sound work for a graduate student; well-reasoned and thorough, methodologically sound. This is the graduate student grade that indicates the student has fully accomplished the basic objectives of the course.
- (B) Adequate: Competent work for a graduate student even though some weaknesses are evident. Demonstrates competency in the key course objectives but shows some indication that understanding of some important issues is less than complete. Methodological or analytical approaches used are adequate but student has not been thorough or has shown other weaknesses or limitations.
- (B-) Borderline: Weak work for a graduate student; meets the minimal expectations for a graduate student in the course. Understanding of salient issues is somewhat incomplete. Methodological or analytical work performed in the course is minimally adequate. Overall performance, if consistent in graduate courses, would not suffice to sustain graduate status in “good standing.”
- (C/-/+) Deficient: Inadequate work for a graduate student; does not meet the minimal expectations for a graduate student in the course. Work is inadequately developed or flawed by numerous errors and

misunderstanding of important issues. Methodological or analytical work performed is weak and fails to demonstrate knowledge or technical competence expected of graduate students.

- (F) Fail: Work fails to meet even minimal expectations for course credit for a graduate student. Performance has been consistently weak in methodology and understanding, with serious limits in many areas. Weaknesses or limits are pervasive.

## **Detailed Course Overview**

### **WEEK 1: INTRODUCTION: GOVERNMENT SUBSIDIES MODELS**

Why do we subsidize some industries over others? What public policy tools are available to policy makers and what are the pros and cons. Why do we end up with so many tax credits in the US tax code? What are tax expenditures and what is their fiscal impact?

In this lecture we will discuss and familiarize ourselves with various government subsidies models with a focus on tax credits.

### **WEEK 2: INTRODUCTION TO US MULTI-FAMILY HOUSING MARKET**

This lecture will provide a snapshot of the current supply and demand dynamics and economic demographics of the US multi-family market with a special emphasis on affordability and financing resources provided by Government Sponsored Enterprises and HUD. Deliberate racial discrimination in post-war housing policy at the federal and local level will be discussed and connected to current affordable housing policy challenges.

### **WEEK 3: REAL ESTATE PROJECT FINANCE**

In this lecture we will review the basic credit, legal and accounting concepts behind the development, financing, and construction of an affordable housing project. The lecture will be presented from the developer's perspective to place the Low-Income Housing Tax Credit in its practical as opposed to policy context.

*Guest Lecturer:* Students will also benefit from the perspective of Seila Mosquera-Bruno, Commission of Housing for State of Connecticut who will address students and lead an informal Q&A session (currently scheduled but cancellation or substitutions may occur).

### **WEEK 4: THE LOW-INCOME HOUSING TAX CREDIT**

This lecture will provide a comprehensive description of the LIHTC and its critical role in financing affordable multi-family housing in the US. All aspects of the program will be examined including the role of corporate and bank investors, syndicators as well as developers.

A short problem set will be distributed so students will have the opportunity to demonstrate comprehension of the first 4 weeks of course material.

## **WEEK 5: INTRODUCTION TO ENERGY PROJECT FINANCE**

Following the approach with LIHTC, the first lecture will provide a broad overview of the US power grid, trends in electricity and energy production and the calamitous effect of unrestricted burning of fossil fuels on atmospheric carbon levels. The changing nature of public utilities, deregulation and the rise of Independent Power Producers (IPP) will be discussed.

## **WEEK 6: THE ENERGY INVESTMENT TAX CREDIT**

This lecture will provide a detail examination of the solar ITC and wind production tax credit.

Guest Lecturer: Lecture will be led by Josh Herlands, founder of Stillwater Capital (since acquired) a renewable energy company.

## **WEEK 7: POLICY IMPLICATIONS OF TAX CREDITS AND REVIEW**

Students will engage in an interactive discussion relying on the course material of the equity and policy implications of tax credits largely to financial institutions to build privately owned assets for the purpose of meeting a public good otherwise not provided by market forces. Students will have the opportunity to address any questions regarding previous course content. The final project assignment will be distributed, and students will have opportunity to discuss any logistical or technical questions regarding the final project.

## **NYU Brightspace**

All announcements, resources, and assignments will be delivered through the NYU Brightspace. I may modify assignments, due dates, and other aspects of the course as we go through the term with advance notice provided as soon as possible through the course website.

## **Academic Integrity**

Academic integrity is a vital component of Wagner and NYU. All students enrolled in this class are required to read and abide by [Wagner's Academic Code](#). All course work is to be submitted individually although students are encouraged to collaborate in discussing course material.

## **Henry and Lucy Moses Center for Students with Disabilities at NYU**

Academic accommodations are available for students with disabilities. Please visit the [Moses Center for Students with Disabilities \(CSD\) website](#) and click on the Reasonable Accommodations and How to Register tab or call or email CSD at (212-998-4980 or [mosescsd@nyu.edu](mailto:mosescsd@nyu.edu)) for information. Students who are requesting academic accommodations

are strongly advised to reach out to the Moses Center as early as possible in the semester for assistance.

## **NYU's Calendar Policy on Religious Holidays**

[NYU's Calendar Policy on Religious Holidays](#) states that members of any religious group may, without penalty, miss class when required in compliance with their religious obligations. Whenever feasible, exams and assignment due dates should not be scheduled on religious holidays. Any student absent from class because of his/her religious beliefs shall not be penalized for anything missed. Please be aware that some students may be uncomfortable discussing an upcoming absence with their professor. It can help if you signal awareness of this on the first day of class and invite affected students to contact you. Students can ask a fellow classmate to record your lecture or there are other more involved arrangements that can be coordinated with your faculty support person. For instructors teaching intensive courses, please make your attendance policy explicit so that a student who needs to miss a significant portion of your class may drop the course in advance.

[NYU's Calendar Policy on Religious Holidays](#) states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. Please notify me in advance of religious holidays that might coincide with exams to schedule mutually acceptable alternatives.

## **Class Policies**

Students will be expected to participate in class discussions. Class lectures will be interactive with frequent questioning including random "calling-on" to ensure the material is being understood and absorbed. Being able to express complex technical concepts coherently is one of the core competencies taught in this course.

Lecture materials will be provided so extensive note taking can be avoided.