



NYU

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

URPL–GP–2639-001: Real Estate Finance

URPL–GP–2639-002: Real Estate Finance Lab

Fall 2021

Instructor Information

Leon Hovsepian

- VP – Acquisition & Development
- Vertical Community Development, Omnibuild Construction
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Brendan McLaughlin

- Deputy Commissioner for Policy & Strategy
- NYC Department of Housing Preservation & Development (HPD)
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Office Hours

By appointment: Please email both instructors at least 48 hours ahead of time to schedule and the instructors will do their best to accommodate.

Course Information

- Class Meeting Times: Tuesdays, 9/7 -12/14, 6:45 pm – 8:25 pm
- Lab Meeting Times: Tuesdays, 9/7 -12/14, 8:35 pm – 9:35 pm
- Location: 60 5th Avenue, Room 261

Course Objectives

The course will help students to:

1. Learn and apply the foundational concepts of finance to the real estate sector
2. Become familiar with the key elements of the real estate investment and development process
3. Learn the building blocks of underwriting real estate investments and development projects
4. Recognize the varied financial and non-financial objectives of developers, lenders, government, and other players in real estate transactions
5. Evaluate real estate opportunities using both quantitative and qualitative measures

The course will primarily focus on residential real estate, and will provide specific insight into affordable housing in New York City.

Course Description

The development and redevelopment of urban real estate, especially housing, is examined from a public policy perspective. Students will learn the acquisition and development process and master the basics of project-level real estate economics. Emphasis is on the financial structure of real estate ventures, including tax implications, and how a variety of public policies can influence private development activity.

The course will provide substantial foundation and background for broader study in real estate finance. Through lectures, case studies, financial modeling, and guest lectures, students will receive a practical understanding of housing policy, housing finance, affordable housing finance, and development fundamentals. The principles taught can be applied to residential and commercial development throughout the United States.

Students will be introduced to key financial terms and will learn to calculate the three basic financial rewards generated by successful real estate projects:

1. Operating cash flow
2. Tax benefits of ownership
3. Capital appreciation (from refinance or sale)

Students will learn to prepare project operating budgets, size debt and equity sources, create cash flow projections, and calculate returns based on discounted cash flows (Net Present Values, Internal Rates of Return, etc.).

Every real estate project, and especially affordable housing projects, has hidden partners: the federal government and, in New York City, the state and city government. Although the course is focused on finance and financing techniques, it will consider the role of the public sector in

regulating and creating incentives for the development and financing of market and affordable multifamily rental housing in particular.

Lab Description

This course covers a large quantity of material in a relatively short period of time. The lab section is required, and will serve as a supplement to the course. It will be used in a variety of ways to best facilitate course content delivery and application each week.

The lab section may be used for, among other things:

1. Review of readings/assignments/case studies
2. Lecture-specific problem sets
3. Time to cover finance/Excel concepts and techniques, as requested by students or deemed necessary by the instructors
4. Discussion or review of materials from any prior session, as requested by students

Prerequisite Courses

Core-GP 1021: Financial Management for Public, Nonprofit, & Health Organizations

Core-GP 1018: Microeconomics for Public Management, Planning & Policy Analysis

Other Prerequisites

Microsoft Excel: This class will rely heavily on Excel. Basic Excel skills are required for nearly all assignments.

Laptop: Most in-class Excel examples will be posted in the NYU Brightspace site, and students should bring their laptop computers so they can follow along in class.

Course Expectations

Students must be willing to work with numbers and spreadsheets. Basic algebra skills will be sufficient for any quantitative work required in the course. Students will be required to design and use simple spreadsheets once the underlying concepts and calculation methodologies are understood. By the conclusion of the course, students will be expected to have acquired the knowledge base and skill set necessary to analyze and prepare a development pro-forma, a discounted cash flow property valuation, an analysis of investor returns, and a sources and uses of funds statement.

Course Format/Organization

The first section of the course will be lectures and exercises intended to impart the basic skills required for effective real estate investment analysis. The second section of the course is a series of case studies intended to hone and sharpen the students' practical skills and abilities.

There will be regular assignments to reinforce the concepts introduced in class, a midterm case study project, and a final project that integrates the skills gained throughout the course.

Active participation and discussion by students is expected throughout the course and is a component of the overall course grade.

Assignments & Grading

Grades will be determined in accordance with the following components/weights:

- Participation in class discussion: 15%
- Homework assignments: 35%
- Case study assignments: 10%
- Midterm case study: 15%
- Final case study: 25%

All assignments must be submitted in NYU Brightspace on designated due dates before the beginning of each class period. No extensions will be granted, barring University-wide shut downs. Because assignments will often be reviewed on the due date, late submissions of assignments cannot be accepted. Thus, all assignments must be submitted on time in order to receive an assignment grade.

Where possible, all financial modeling-related homework assignments should be submitted in Excel using calculations and formulas.

The Final project is a group project spanning multiple weeks – participation of all group members is required. The group assignments will include a module wherein group members will assess participation of other group members. Individual grades will reflect these peer assessments.

Required Text and Readings

There is no required text for the course. However, there will be readings assigned and materials to download. Specifically:

1. Digital course pack, including HBS case studies and required readings (Link will be posted to NYU Brightspace)
2. Additional readings and problem sets to be distributed via NYU Brightspace and in-class throughout the semester

Attendance

Attendance and participation are required for both the lecture and lab, and these are factored into grading. If there are any extraordinary circumstances, please let the instructors know in advance.

Course Policies

Responsibility

Students are responsible for all assignments, even if they are absent. Late assignments, failure to complete the readings assigned for class discussion, and lack of preparedness for in-class discussions and presentations will jeopardize students' successful completion of this course and will be a consideration in grading.

Participation

Class participation is an essential part of class and includes: keeping up with readings, contributing meaningfully to class discussions, active participation in group work, and coming to class regularly and on time.

Computer & Phone Etiquette

The use of the internet during class is restricted to class-related purposes only. In addition, cell phones should be turned off during class time.

NYU Brightspace

All course materials will be posted to NYU Brightspace. Use of NYU Brightspace will be an important resource for this course. Students should check it for assignments, announcements, updates, forums, and grades before coming to class each week.

Student Course Ratings

Students will be asked to provide feedback for each of their courses through a course rating survey. Instructors rely on these surveys for feedback on the course and teaching methods, so they can understand what aspects of the class are most successful in teaching students, and what aspects might be improved or changed in the future. Without this information, it can be difficult for an instructor to reflect upon and improve teaching methods and course design.

Academic Integrity

All Wagner students have already read and signed the [Wagner Academic Oath](#). Cheating, forgery, plagiarism and collusion in dishonest acts undermine the Wagner School's educational mission and students' own personal and intellectual growth. Students are expected to bear individual responsibility for their work and to uphold the ideal of academic integrity. Any student who compromises or devalues the academic process will be reported to the administration and be subject to disciplinary action.

Students will comply with NYU's Academic Integrity Policy, which can be found here: [NYU Academic Integrity Policy](http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html) <http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html>)

NYU Wagner's Academic Code can be found here: [Wagner Academic Code](https://wagner.nyu.edu/portal/students/policies/code#sec-A)
(<https://wagner.nyu.edu/portal/students/policies/code#sec-A>)

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 mosescsa@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, 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.

NYU's Wellness Exchange

[NYU's Wellness Exchange](#) has extensive student health and mental health resources. A private hotline (212-443-9999) is available 24/7 that connects students with a professional who can help them address day-to-day challenges as well as other health-related concerns.

Course Outline and Assignment Schedule

The course outline and assignment schedule remain subject to change during the semester. Any changes will be announced in-class or posted to NYU Brightspace via an updated syllabus.

Pre-Class Assignment

- Pre-Class Student Survey (Survey Monkey), **due Friday 9/3/21**

Session #1 (9/7/21) – Course Introduction

- Instructor/student introductions
- Syllabus overview
- Real estate overview
- Real estate risks

Assignments Due

- Pre-Class Student Survey (due on 9/4/21)

Assignments for Next Week

- Time Value of Money (TVM) Intro and Proforma Setup
- Falk - TVM Intro (Reading + 6 Question Problem Set)
- READING – Falk - Federal Taxation and Real Estate
- READING – Excel Best Practices

Session #2 (9/14/21) – Operating Real Estate

- Proforma setup
- Operating revenues and expenses
- Net operating income and debt service introduction
- Tax treatment of real estate profits and losses

Assignments Due

- Time Value of Money (TVM) Intro and Proforma Setup
- Falk - TVM Intro (Reading + 6 Question Problem Set)

Assignments for Next Week

- TVM Continued
- READING – Falk - Debt
- READING – HBS Financial Analysis of Real Estate (p.1-12)

Session #3 (9/21/21) – Financing Real Estate

- Mortgage constraints and leverage
- Mortgage calculations and sizing
- Mezzanine debt
- Equity introduction
- Review capital stack

Assignments Due

- TVM Continued

Assignments for Next Week

- Proforma Building
- Mortgage Sizing
- READING – HBS Financial Analysis of Real Estate (p.12-25)

Session #4 (9/28/21) – Valuing Real Estate

- Equity roles, risks and rewards
- Price vs. value

- Appraisal methods
- Cap rates
- Discounted cash flow/TVM
- Reversion
- Return metrics – NPV, cash on cash, IRR

Assignments Due

- Proforma Building
- Mortgage Sizing

Assignments for Next Week

- Sales Comps
- Falk - Developer Feasibility

Session #5 (10/5/21) – Evaluating Opportunities in Real Estate

- Real estate cycles
- What is risk
- Risk & returns
- Alternative investment returns
- Risk-weighted returns
- Sensitivity analysis/simulations
- Due diligence
- Underwriting
- Absorption
- Modeling examples

Assignments Due

- Sales Comps
- Falk - Developer Feasibility

Assignments for Next Week

- Real Estate Finance Analysis Workbook (Gilbert)
- READING – CS Midterm Angus Cartwright

Session #6 (10/19/21) – Investing in Real Estate

- Institutional investor considerations
- Potential guest speaker

Assignments Due

- Real Estate Finance Analysis Workbook (Gilbert)

Assignments due in 2 Weeks

- CS Midterm – Angus Cartwright

Session #7 (10/26/21) – Developing Real Estate

- Real estate cycles
- Stages of development
- Components of the development budget
- Hard and soft costs
- Sources and uses
- Mixed use, condo structures
- Financing development projects
- Returns and residual analyses

Assignments Due

- N/A

Assignments for Next Week

- CS Midterm – Angus Cartwright
- READING – Falk - Housing Policy in the U.S.

Session #8 (11/2/21) – Affordable Housing: Challenges & Government Interventions

- Government interventions in housing
- What is affordable housing?
- Affordability
- Financing structures
- Government incentives

Assignments Due

- CS Midterm – Angus Cartwright

Assignments for Next Week

- CS – Via Verde
- READING – Falk – LIHTC

Session #9 (11/9/21) – Lending & Investing in Affordable Housing

- Partners in affordable housing
- Bond financing
- Low Income Housing Tax Credit Investing
- Lender perspectives
- Tax incentives

Assignments Due

- CS – Via Verde

Assignments for Next Week

- N/A

Session #10 (11/16/21) – Putting it All Together + Introduction of Final

- Putting it all together – Excel model review
- Final group project introduction
- Potential guest speaker

Assignments Due

- N/A

Assignments for Next Week (DUE SUNDAY 11/14/21 BY 12PM)

- Final Project Deliverable 1
- CS Final (*Due in four weeks*)
- READING – Final materials and data sheet (*Will be used over rest of semester*)

Session #11 (11/23/21) – Introduction to NYC Public Housing

Assignments Due

- Final Project Deliverable 1

Assignments for Next Week (DUE SUNDAY 11/22/21 BY 12PM)

- Final Project Deliverable 2
- CS Final (*Due in three weeks*)

Session #12 (11/30/21) – Affordable Housing Development Modeling

Assignments Due

- Final Project Deliverable 2

Assignments for Next Week (DUE SUNDAY 11/28/21 BY 12PM)

- Final Project Deliverable 3
- CS Final (*Due in two weeks*)

Session #13 (12/7/21) – Final Project Guidance Session

Assignments Due

- Final Project Deliverable 3

Assignments for Next Week

- CS Final: Models and Narrative due Sunday by 12PM
- CS Final: Presentation slides due Tuesday by 6PM

Session #14 (12/14/21) – Final Project Presentations

Assignments Due

- CS Final