

University of Pennsylvania  
The Wharton School

**Real Estate Finance: Investment and Analysis**

**Fall 2016**

**MonWed 1030am-12pm (721-403), 130-3pm (209-401), 3-430pm (209-402)**

**Venue: TBD**

**REAL/FNCE 209/721**

*May, 2016 (Preliminary and subject to change)*

Professor Maisy Wong  
1464 Steinberg Hall-Dietrich Hall  
email: [maisy@wharton.upenn.edu](mailto:maisy@wharton.upenn.edu)

Office Hours: TBD  
and by appointment

***Course Objectives:***

There are two primary goals of this class:

- 1) To expose you to the terms, issues, and topics in commercial real estate;
- 2) To give you the basic skills and intuition you need to begin to evaluate a variety of real estate investments.

Real estate is a multi-faceted field, encompassing both an operating industry and a broad category of investments. It has its own institutional features, jargon, and investment structures. As the survey course in the Real Estate Department, this class aims to provide a broad overview of the real estate field, rather than a narrow focus on any particular topic. We delve more deeply into a handful of aspects of the real estate field when I believe they are particularly relevant or when the example provides a more general insight. Higher-level classes in the Real Estate Department examine in more detail many of the topics from this class.

*The presumption in this class is that you have no prior real estate experience, and no pre-existing knowledge of the real estate industry is necessary to do well in this class.* However, if you have prior experience in the real estate industry, some topics might be familiar to you already.

***Course Materials:***

- The required **textbook** is *Real Estate Finance and Investments, Third Edition*, by Linneman. It is available in the Bookstore. In my opinion, the Linneman book is the best one out there. The third edition is substantially different from the second edition. I recommend purchasing the third edition. However, I have made two alternative texts, *Commercial Real Estate Analysis and Investments* by Geltner and Miller and *Real Estate Finance and Investments* by Brueggman and Fisher. In addition, these books are available new or used at Internet bookstores. You may find them useful as supplemental resources or for additional background and context.
- One **required coursepack** is available from Reprographics and Study.net.
- Additional **handouts** will be distributed in class and billed by the bursar. I will bring handouts to class only once. After that, extra copies will be available outside my office

door. You can pick them up there or, if I can convert them to electronic format, you will be able to download them from the Canvas.

- On Canvas you will find:
  - Updates to the class notes, when necessary
  - Sample Excel spreadsheets from the in-class examples
  - Answers to questions that are of general interest (e.g., about a case)
  - Practice problems, old exams, and solutions
  - Supplemental class material
  - Supplemental case materials
  - Announcements, updates, and clarifications
- You must have a **financial calculator** capable of computing annuities and present values. The calculator you were supposed to obtain for FNCE 100/611 will be more than adequate. You are also responsible for knowing how to use the annuity and present value functions. You will need the calculator for the exams.

### ***Class Preparation:***

- **Required readings** are listed on the syllabus with an asterisk (\*) and are in bold print. They are drawn from the textbook and the readings bulkpack. You should read them before the class in which they are listed. I encourage you to do the recommended (but optional) readings that are listed on the syllabus, especially if you are a real estate major. These readings either expand upon or reinforce the topics we cover in class, but are not required for the class and typically will not be referenced in any depth in lecture.
- **Guest speakers** are scheduled outside of normal class time, and are listed on the syllabus. These sessions are **required** material. Generally, I do not videotape these lectures so the guests feel comfortable speaking freely. You will need to get the notes from someone else if you are unable to attend. **Attendance is required unless you have a valid conflict.** One regular lecture is canceled for each guest lecture. These may not be in the same week as the guest lecture. The guest lectures for this semester:
  - **TBD**
- **Practice problems** and **old exams** will be made available on Canvas, along with detailed solutions. I strongly recommend that you do these. The problem sets are not graded and will not be handed in. But they provide reinforcement for the class material and good preparation for the exams.

### ***Cases:***

There will be three group project cases handed out in class. You will choose your own group of three to five members, and must work with the same team on all three cases. If you cannot find a group and you email me soon, I will either form a group for you or assign you to different teams over the course of the semester. You and your teammates should sign up under the “team sign-up” section on Canvas. Students in 721 may form groups only with students in their section. Students in 209 may form groups with members from either section, but note that case 2 requires in-class case presentations. You should plan on attending the case presentations but email me if you have a valid conflict.

You are responsible to make the team work. If you think a teammate is not working with good faith, or has neglected to finish her/his share of work, you must try hard to work it out within the group.

The cases require a variety of skills, from financial savvy to management. You should

try to have a mix of talents and backgrounds on your team. In addition, I strongly encourage you *not* to take the “divide and conquer” approach of having only one or two team members work on each case. You will be much more successful if the group uses a truly collaborative process.

Cases are handed out in class. I do not distribute electronic copies of cases.

*You may discuss the cases with other groups. However, each group is responsible for preparing the case materials and write-ups independently. **Late cases will not be accepted nor will extensions be given.***

### **Examinations:**

Two midterm exams will be held in regularly scheduled class time, one on October 19<sup>th</sup> (end of Quarter 1, the Wednesday *after* Fall Break) and the other on December 12<sup>th</sup> (the last day of class). Exam 2 is not cumulative in content, but assumes proficiency in basic skills taught in the first portion of the class. Exams will cover the material examined in class and during guest lectures, the class notes, the cases, the practice problems, and the required readings. The exams are closed-book, but you are allowed to bring one 8.5 x 11” piece of paper (double-sided) of notes into each exam. You will need to bring a financial calculator to the exams. You will not be allowed to use a computer. In addition, seats will be randomly assigned on exam days.

***Both exams must be passed in order to receive a passing grade for the course. Exams must be taken at the assigned time. If you cannot attend class on these dates, please drop the class now. Make-ups are not given unless you have a Wharton Dean’s Office-approved excuse. For a medical excuse, you must have been **admitted** to student health or the hospital, or have a doctor’s note explaining that you were incapacitated. A Confirmation of Encounter from Student Health Service alone will not suffice, unless there is a note/email from a nurse/doctor explaining that you were incapacitated.***

### **Grading:**

The course grade will be based on the following: Exams: 60 percent (30 percent each); Cases: 40 percent (13.3 percent each). I will consider superb or sub-par class participation when deciding grades. Sub-par participation includes arriving late to or missing classes. I will record attendance in class. This may contribute up to 10 percent of the final grade. The dates and times for all assignments are final, and must be strictly adhered to. Failure to complete any exam or hand in any case on time will result in zero points for that exercise.

### **Course Expectations:**

- I expect you to be prepared for class. That means: having completed the *required* readings in advance of the lecture and being ready to comment on or discuss the class material.
- I expect you to be willing to participate in class discussions, and to speak up if you’re bewildered.
- I expect you to be physically present for the talks by outside speakers unless you have a conflict with another class.
- I expect that you will not find every topic we cover to be of interest to you, but that you will be a good sport about it. Students who are considering a career in real estate development, for example, are interested in very different things than students who are considering a career on Wall Street. All the topics we will cover are of interest to someone in the class, but few are of interest to everyone. Please recognize that your classmates and you do not necessarily share the same tastes when I go into depth on a

topic that you feel is not especially relevant to you.

***Other policies:***

- You may not use computers, smart phones, etc., unless medically necessary. (I appreciate that some of you like to take notes on a computer, but past abuses have forced me to this policy.)
- I allow the use of tablets to take notes, but nothing else. Screens need to be flat on the table so as not to distract other students and my lecturing. Laptops are not allowed even if you sit in the last row, out of fairness to all students. I reserve the right to change this policy if this impacts the learning environment.
- **Whatever seat you choose on the *second* class meeting is yours for the entire semester.** Please sit there every class.
- During exams, I will randomly assign new seats.
- The class schedule is an ambitious goal and may not reflect the actual timing, or even sequence, of covering material.

***Getting help:***

- Contact me. Do not think that a question is too “basic” to ask me. I am happy to help students understand any material they are having difficulty with. All I ask is that you take a serious stab at it yourself before turning to me. I hold regular office hours, take appointments, and answer questions by email.
- There are TA’s for the course. They will hold office hours for cases and midterms. These will be announced later.
  - TBD

## Course Schedule

Date	Topic	Preparation
August 31, W	Topic 1: Course requirements, class overview, and overview of real estate markets	<i>Emerging Trends in Real Estate</i> , chapters 1-2. (Available in pdf format on Canvas.) Linneman, chapter 2: "What Is Real Estate?"
September 5, M	<b>Labor Day, no class</b>	
September 7, W	Topic 2: Property-level income; sources, risk, and value  <b>Choose your seats today! (Get to class early.)</b>  <b>Case 1 handed out in class (no electronic copies available)</b>	*Linneman, chapter 4: "Property Level Pro Forma Analysis", pp. 43-56. *Linneman, chapter 5: "Financial Modeling" *Linneman, chapter 7: "The Use and Selection of Cap Rates" Linneman, "Prerequisite I: The Basics of Discounted Cash Flow and Net Present Value Analyses" Linneman, "Prerequisite II: IRR: What It Is and What It Isn't"
September 12, M	Topic 3: Debt financing and simple mortgages	*Linneman, chapter 4: "Property Level Pro Forma Analysis", pp. 56-58. *Linneman, chapter 13: "The Use of Debt and Mortgages" Linneman, chapter 11: "Real Estate Bankruptcy Basics" Linneman, chapter 12: "Should You Borrow?" Linneman, "Prerequisite III: Amortization Fundamentals" Brealey and Myers, <i>Principles of Corporate Finance</i> , chapter 3: "How to Calculate Present Values."
September 14, W	Topic 3: Debt financing and simple mortgages	
September 19, M	Topic 4: Taxes and Real Estate	*Linneman, chapter 4: "Property Level Pro Forma Analysis", pp. 58-63. *Linneman, chapter 16: "Real Estate Exit Strategies."
September 21, W	Topic 4: Taxes and Real Estate	Tax worksheet in class
September 26, M	Guest lecture (To be confirmed)	No class due to evening guest lecture
September 28, W	Topic 5: Appraisals and Evaluating Pro Formas  <b>First part of Case 1 due before 1020am. No discussion.</b>	*Linneman, chapter 8: "Development Pro Forma Analysis" *BP 1: <i>Nine Abuses Common in Pro Forma Cash Flow Projections</i>
October 3, M	Topic 6: Introduction to leases and the economics of retail malls	*Linneman, chapter 3: "The Fundamentals of Commercial Leases."

October 5, W	<b>Second part of Case 1 due before 1020am.</b>	Case 1 discussion
October 6 - 7	No class	<i>Fall Break</i>
October 10, M	Topic 7: Debt structures and managing real estate risk	* <b>Linneman, Chapter 15:</b> “Ground Leases as a Source of Finance.” * <b>Linneman, chapter 17:</b> “Real Estate Private Equity Funds”
October 12, W	Topic 7: Debt structures and managing real estate risk	
October 17, M	Topic 7: Debt structures and managing real estate risk	
October 19, W	<b>Midterm Exam 1</b>	
October 21, F	Zell-Lurie Fall meetings	Not required. But highly recommended
October 24, M	Topic 8: Equity securitization and the REIT market  <b>Case 2 handed out</b>	* <b>BP 2:</b> <i>Basic Valuation of a Real Estate Investment Trust</i> * <b>Linneman, chapter 18:</b> “REITs and Liquid Real Estate”
October 26, W	Topic 8: Equity securitization and the REIT market	
October 31, M	Topic 9: Securitization of Debt Interests: Commercial Mortgage-Backed Securities	* <b>BP 3:</b> <i>How to Build a Bond</i> * <b>Linneman, chapter 14:</b> “Commercial Mortgage Backed Securities Basics” Linneman, “Supplemental II: A Look at a Real CMBS Issue”
November 2, W	No regular lecture (in lieu of guest lecture on 11/2)	
November 7, M	<b>Case 2 due before 1020am.</b> <b>Case 2 presentations</b>  Evening guest lecture (to be confirmed)	
November 9, W	<b>Case 2 presentations</b>	
November 14, M	Topic 9: Securitization of Debt Interests: Commercial Mortgage-Backed Securities  <b>Case 3 handed out</b>	
November 16, W	Topic 10: Real estate cycles.	* <b>BP 4:</b> <i>Adjustment Mechanisms in Real Estate Markets</i> <b>Linneman, chapter 20:</b> “Real Estate Cycles”

		Linneman, chapter 9: "Development Feasibility Analysis"
November 21, M	No class (in lieu of guest lecture)	
November 23, W	No class	<i>Thanksgiving schedule</i>
November 28, M	Topic 10: Real estate cycles.	
November 30, W	<b>Case 3 due</b>	
December 5, M	Topic 11: Return and Risk in Housing Markets (with a parallel to commercial real estate)	
December 7, W	Topic 12: The rent/own decision in residential and corporate real estate.	Linneman, chapter 19: "Corporate Real Estate Decision Making"
December 12, M	<b>Midterm Exam 2</b>	

## Regrade Policy

I strive for accuracy and equity in the grading for this class. However, despite our best efforts, grading is sometimes imperfect and the onus for bringing any errors to my attention falls upon you.

The following set of rules provides a mechanism for requesting regrades to correct grading errors. If you do not follow these rules, you will forfeit your right to a regrade. The rules are designed to maintain fairness by not rewarding gratuitous regrade requests while also not penalizing students for bringing errors to my attention.

1) If we made an error in adding up your points to obtain your total score, all you need to do is *type* up a short explanation describing the points we failed to add, attach it to your assignment, and place both in my mailbox in SHDH.

2) My intent is that you only lose points *once* for a mistake. Sometimes, an error in one part of an assignment creates incorrect answers in another part of the assignment. In that case, we look for internal consistency. If your answer would have been correct had you not made your earlier mistake, we will note the mistake but not deduct further points for it. Similarly, if in a case you repeat the same calculation in a number of circumstances, we will deduct points only once for a calculation error but we will try to note it every time.

If you believe that we inadvertently deducted points multiple times for the same error, please *type* up a *detailed* explanation and submit it along with the assignment to my mailbox in SHDH. Be sure to take the time to make sure you understand the errors you made before submitting the regrade request.

3) If you believe your grading was not consistent with the stated guidelines, please *type* up a *detailed* explanation and submit it along with the assignment to my mailbox in SHDH. Be sure to take the time to make sure you understand the errors you made before submitting the regrade request. If not, you run the risk that you actually did worse than you thought and we were too generous with the points given.

In addition, under no circumstances will I consider regrade requests that allege that the grading guidelines are unfair. The guidelines are applied equally to everyone, thus are equitable. Rather, the regrade request is intended to correct errors in adhering to the standard.

4) If you merely would like an explanation of the grading on an assignment, submit your assignment with a typed cover letter letting me know what you would like me to explain. We will set up a time to meet and I will explain it to you. **Under no circumstances will I go over the grading of your assignment in “real time,” with no forewarning.**

*General policies:*

- 1) If you request a regrade, the entire assignment will be reviewed. Errors tend to be random and offset each other. It would be unfair to the rest of the class to correct only the grading errors that went against you but not the ones in your favor.
- 2) Regrade requests will be accepted for **1 academic week** following the return of an assignment. If you cannot meet this deadline, send me an email requesting an extension. Requests for extensions must be submitted within 1 academic week following the return of an assignment.
- 3) You must drop off your regrade request in my mailbox in SHDH **and** send me an email to notify me about the submission. Do not submit regrade requests by email only.