

University of Pennsylvania
The Wharton School

Real Estate Finance: Investment and Analysis
REAL/FNCE 209: Sections 401 and 403
Spring 2013

Updated December 20, 2012 (Preliminary)

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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 from the Penn Bookstore. I recommend purchasing the third edition since it is substantially different from the second edition. Two additional texts, *Commercial Real Estate Analysis and Investments* by Geltner and Miller and *Real Estate Finance and Investments* by Brueggman and Fisher, are available on reserve at Lippincott. You may find them useful as supplemental resources or for additional background and context.

The class **coursepacks** are available from Reprographics and Study.net. One is required and one is optional.

Course Materials (cont.):

Please check **Canvas** regularly for updates relating to the class and additional materials:

- Copies of the PowerPoint slides used in class;
- Sample Excel spreadsheets from the in-class examples;
- Practice problems, old exams, and solutions;
- Supplemental class material and reading;
- Case materials (when available)
- Announcements, updates, and clarifications; and,
- Answers to questions that are of general interest (for example, about a case).

Non-Wharton students will need to apply for a Wharton account in order to get access to Canvas (see <http://accounts.wharton.upenn.edu/>).

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 Canvas.

You must have a **financial calculator** capable of computing annuities, present values, and IRR. You are responsible for knowing how to use these functions. You will need the calculator for the exams. The calculator you were supposed to obtain for FNCE 100 will be more than adequate.

Guest Speakers:

Guest speakers are scheduled outside of normal class time, as listed on the schedule below. One regular lecture is canceled for each guest lecture. These may not be in the same week as the guest lecture. **Attendance is required unless you have a valid conflict.** Email me if you cannot attend a guest lecture. These sessions may be videotaped for students who have a valid conflict with another class.

Grading:

The course grade will be based on **two midterm exams** (30 percent each) and **three cases** (13.3 percent each). Details on each are provided below. 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.

While I will not explicitly record your **attendance** in the class, I reserve the right to use superb or sub-par class participation to help decide grades. Sub-par participation includes arriving late to or missing classes. This may contribute up to a third of a letter grade in your final grade.

Examinations:

The two midterm exams will be held in regularly scheduled class time, one on **Tuesday, February 26** and the other on **Tuesday, April 23**. The second exam is not cumulative in content, but assumes proficiency in basic skills taught in the first portion of the class. Exams will cover material discussed 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 or tablet.

Practice problems and **old exams** will be made available on Canvas, along with detailed solutions. I strongly recommend that you do these as they provide reinforcement for the class material and good preparation for the exams.

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.

Cases:

There will be three group project cases handed out in class. You will choose your own group of **three to five members** of your own section, and must work with the same team on all three cases. **Register your team** by signing up on Canvas **before January 22**. If you are not registered to a team by then, I will assign you to one.

The cases require a variety of skills, from financial savvy to management, so try to have a mix of talents and backgrounds on your team. 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. Collaboration between groups, however, is not allowed.

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. If you still feel aggrieved after the case is done, send me an email with your name, the case, the offending group member, the nature of the problem, and steps you took to mitigate the problem. If two or more serious complaints are registered against you by your group members, 20% will be deducted from your overall case grade.

Cases are to be submitted on Canvas by 10:00am on "case discussion" day, at which time submissions will be automatically locked. **Late cases will not be accepted nor will extensions be given.** If you choose to miss class on a "case discussion" day, 10% will be deducted from your grade for that case.

Course Expectations:

- I expect you to be prepared for class. That means: having completed the *required* readings (listed on the syllabus with an asterisk (*)) in advance of the lecture and being ready to comment on or discuss the class material.
- I expect you to participate in class discussions, and to speak up if you're bewildered.
- 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, tablets, PDAs, Treos, Blackberries, etc., unless medically necessary. (I appreciate that some of you like to take notes on a laptop computer, but past abuses have forced me to this policy.)
- Whatever seat you choose on the second class meeting (January 15) is yours for the entire semester. Please sit there every class, except during exams, when 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.
- Be aware that it is the policy of the Real Estate Department that students who take the class pass/fail cannot count the course toward the real estate concentration. While non-majors can take the course pass/fail, grades will not be "uncovered" if a student later decides to become a real estate concentrator.

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 three TAs for the course:
 - Mohit Kansal (email: mkansal@wharton.upenn.edu),
 - Valdis Lenss (email: vlenss@wharton.upenn.edu), and
 - Jay Yang (email: jjayiy@wharton.upenn.edu).They will hold office hours for cases and midterms. These will be announced later.

Course Schedule

Required readings are marked with an asterisk (*). The other readings are optional.

Date	Topic	Readings/Assignments
January 10, Th	Topic #1: Course requirements, class overview, and overview of real estate markets	Linneman, chapter 2: "What Is Real Estate?" <i>Emerging Trends in Real Estate 2013</i>
January 15, Tu	Topic #2: Introduction to leases and the economics of retail malls	*Linneman, chapter 3: "The Fundamentals of Commercial Leases." <i>Mall Myths</i> <i>The Changing Design of Shopping Places</i> <i>The Evolution of Retailing in the United States</i>
January 17, Th	Topic #3: Real estate valuation and returns	Linneman, "Prerequisite I: The Basics of Discounted Cash Flow and Net Present Value Analyses" *Linneman, chapter 7: "The Use and Selection of Cap Rates" <i>How Reliable Are Commercial Appraisals? Another Look</i>
January 22, Tu	Topic #4: Property-level income: sources, risk, and value Register your case team by today!	Linneman, "Prerequisite II: IRR: What It Is and What It Isn't" *Linneman, chapter 4: "Property Level Pro Forma Analysis", pp. 43-55.
January 24, Th	Topic #4: Property-level income: sources, risk, and value, continued	* <i>Nine Abuses Common in Pro Forma Cash Flow Projections</i> *Linneman, chapter 5: "Financial Modeling" *Linneman, chapter 8: "Development Pro Forma Analysis"
January 29, Tu	Topic #5: Debt financing and simple mortgages Case #1 handed out in class	Linneman, "Prerequisite III: Amortization Fundamentals" *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?" Brealey and Myers, <i>Principles of Corporate Finance</i> , chapter 3: "How to Calculate Present Values."
January 31, Th	Topic #5: Debt financing and simple mortgages, continued	
February 5, Tu	Topic #6: Taxes and real estate	*Linneman, chapter 4: "Property Level Pro Forma Analysis", pp. 55-56, 59-63. *Linneman, chapter 16: "Real Estate Exit Strategies."
February 6, We	Guest Lecture, 6:00 – 7:20 p.m. David Helfand, Co-President, Equity Group Investments	
February 7, Th	Topic #6: Taxes and real estate, continued	
February 12, Tu	Topic #7: Debt structures and managing real estate risk	* <i>Guide to Real Estate Capital Markets: Participating Debt and Equity. [This article is a bit dry. Do your best to wade through, and don't worry about the "Parameters"</i>

Date	Topic	Readings/Assignments
	First part of Case #1 due before 10a.m. No discussion.	<i>sections.]</i> *Linneman, chapter 15: "Ground Leases as a Source of Finance."
February 14, Th	Topic #7: Debt structures and managing real estate risk, continued	*Linneman, chapter 17: "Real Estate Private Equity Funds" <i>Real Estate Private Equity Funds</i>
February 19, Tu	Case #1 discussion	Second part of Case #1 due before 10a.m.
February 21, Th	Topic #8: Equity securitization and the REIT market Case #2 handed out in class	* <i>REITs for Rookies</i> * <i>Basic Valuation of a Real Estate Investment Trust</i> * Linneman, chapter 10: "Real Estate Company Analysis." * Linneman, chapter 18: "REITs and Liquid Real Estate" <i>Liquid Real Estate</i> <i>REITs as an Alternative Investment in Volatile Financial Markets</i> <i>REIT Share Prices and the Declining Relative Importance of Commercial Real Estate</i>
February 26, Tu	Midterm Exam 1	
February 28, Th	No Class. Canceled because of guest lecture.	
March 5 & 7	No Class. Spring Break	
March 12, Tu	Topic #8: Equity securitization and the REIT market, continued	* <i>UPREITs: A Vehicle for Tax Deferral and Asset Growth</i> * <i>REITs and Taxes</i> <i>Real Estate: Past, Present, and Future</i> <i>Inside the Revolution</i> <i>Forces Changing the Real Estate Industry Forever</i> <i>Forces Changing the Real Estate Industry Forever: Five Years Later</i> <i>The Five Overlooked Features of the Real Estate Capital Markets</i> <i>The Pressures on Public REITs to Grow Larger</i>
March 14, Th	Topic #9: Securitization of Debt Interests: Commercial Mortgage-Backed Securities	*Linneman, chapter 14: "Commercial Mortgage Backed Securities Basics" * <i>How to Build a Bond</i> Linneman, "Supplemental II: A Look at a Real CMBS Issue"
March 19, Tu	No Class. Canceled because of guest lecture. Guest Lecture , 6:00 – 7:20 p.m. Neil Shah, President and CEO, Hersha Hospitality Trust	
March 21, Th	Case #2 discussion	Case #2 due before 10a.m.
March 26, Tu	Topic #9: Securitization of Debt Interests: Commercial Mortgage-Backed Securities, continued Case #3 handed out in class	* <i>Defaults in Securitized Real Estate Loans</i> <i>The Mortgage REITs: Dynamos or Duds?</i>

Date	Topic	Readings/Assignments
March 28, Th	Topic #9: Securitization of Debt Interests: Commercial Mortgage-Backed Securities, continued	
April 2, Tu	Topic #10: Real estate cycles	*Linneman, chapter 20: "Real Estate Cycles" Linneman, chapter 9: "Development Feasibility Analysis" <i>Superstar Cities</i> <i>Will We Need More Office Space?</i> <i>Living Downtown</i> <i>Developer: Villain or Hero?</i> <i>(When) Will We Do It Again?</i>
April 4, Th	No Class. Canceled because of guest lecture. Guest Lecture , 6:00 – 7:20 p.m. Bryce Blair, Director, AvalonBay Communities	
April 9, Tu	Case #3 discussion	Case #3 due before 10a.m.
April 11, Th	Topic #10: Real estate cycles, continued	* <i>Adjustment Mechanisms in Real Estate Markets</i>
April 16, Tu	Topic #11: Return and Risk in Housing Markets (with a parallel to commercial real estate)	<i>Assessing High House Prices: Bubbles, Fundamentals, and Misperceptions</i>
April 18, Th	Topic #12: The rent/own decision in residential and corporate real estate	Linneman, chapter 19: "Corporate Real Estate Decision Making"
April 23, Tu	Midterm Exam 2	