

University of Pennsylvania  
The Wharton School

**Real Estate Finance: Investment and Analysis**  
**Spring 2009, JMHH F45**  
**REAL/FNCE 209**

*Updated January, 2009*

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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, Second Edition*, by Linneman. It is available in the Bookstore. In my opinion, the Linneman book is the best one out there. 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, as well as two supplemental books, *Investing in REITs* (Block) and *A Primer on Securitization* (Kendall and Fishman), available on reserve at Lippincott. 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.
- Two **coursepacks** are available from Reprographics:
  - (a) Required readings
  - (b) Recommended (but optional) readings
- 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 Web Café.

- On **Web Café** you will find:
  - Updates to the Reprographics class notes bulkpack, 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
  - Case materials (when available)
  - Announcements, updates, and clarifications
  - Electronic versions of Reprographics materials (when available)
- **Non-Wharton students** will need to apply for a Wharton account in order to get access to the Web Café. Check out: <http://apps.wharton.upenn.edu/accounts/class/>
- You must have a **financial calculator** capable of computing annuities and present values. The calculator you were supposed to obtain for FNCE 601 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 and will be videotaped in case you have a conflict with another class. These guest lectures are:
  - February 16<sup>th</sup>, Mon, 6-720pm, SH-DH 0350: “*Can Previous Real Estate Cycles Help Us Understand Current Market Conditions*”, with Professor Peter Linneman, The Wharton School, University of Pennsylvania
  - 2nd speaker: TBD
  - April 7th, Tue, 12-120pm, JMHH, G06: “*Real Estate Private Equity Funds and the Current Economic Crisis*”, with Michael Douglass and William Ryan (Gerber-Taylor Management Company) and Prof. Peter Linneman (The Wharton School).
  - April 14<sup>th</sup>, Tue, SH-DH 0350: Case 3 discussion with Chad Robins, President and Chief Operating Officer, Connaught Real Estate Finance, LLC.
- **Practice problems** and **old exams** will be made available on Web Café, 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. Groups will be randomly assigned for each cases in an effort to simulate the dynamics of the workplace, in addition to giving you an opportunity to collaborate with a variety of classmates. For the third case you will get to form your own group.

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 and the nature of the problem. If two or more serious complaints are registered against you, up to 20% will be deducted from your grade.

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.

*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 March 3<sup>rd</sup> (Tue) and the other on April 23<sup>rd</sup> (Th). 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.***

### ***Grading:***

The course grade will be based on the following: Exams: 50 percent (25 percent each); Cases: 50 percent (16.7 percent each). While I will not explicitly record your attendance in the class, I will consider superb or sub-par class participation when deciding grades. Sub-par participation includes arriving late to or missing classes. This can account for up to one-third of a letter 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, PDAs, Treos, Blackberries, etc., unless medically necessary. (I apologize if you truly like to take notes on a laptop computer, but past abuses have forced me to this policy.)
- Students must attend the course section in which they are officially enrolled. If you have an unavoidable conflict, check with me (by email) well in advance of the class.
- **Whatever seat you choose on the *third* class meeting (January 27th) is yours for the entire semester.** Please sit there every class.
- During exams, I will randomly assign new seats.
- Please display name tents.
- 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.

***TAs:***

There will be three TAs assigned to this course. Each TA is assigned to a case and will hold office hours close to the due date of the case. Feel free to attend office hours that will be posted online the week the case is handed out.

## Course Schedule

Date	Topic	Preparation
January 15, Th	Topic #1: Course requirements, class overview, and overview of real estate markets	<i>Emerging Trends in Real Estate 2009</i> , chapters 1-2. (Available in pdf format on Web Café.) Linneman, chapter 2: “What Is Real Estate?”
January 20, Tu	Topic #2: Property-level income; sources, risk, and value	* <b>Linneman, chapter 4:</b> “Property Level Pro Forma Analysis”, pp. 37-46. * <b>Linneman, chapter 5:</b> “Financial Modeling” * <b>Linneman, chapter 7:</b> “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”
January 22, Th	Topic #3: Debt financing and simple mortgages	* <b>Linneman, chapter 4:</b> “Property Level Pro Forma Analysis”, pp. 50-52. * <b>Linneman, chapter 13:</b> “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.”
January 27, Tu	Topic #3: Debt financing and simple mortgages <b>Case 1 handed out</b>	
January 29, Th	Topic #4: Appraisals and Evaluating Pro Formas	* <b>BP #1:</b> <i>Nine Abuses Common in Pro Forma Cash Flow Projections</i> * <b>Linneman, chapter 8:</b> “Development Pro Forma Analysis” OPT #1: <i>How Reliable Are Commercial Appraisals? Another Look</i>
February 3, Tu	Topic #5: Taxes and Real Estate	* <b>Linneman, chapter 4:</b> “Property Level Pro Forma Analysis”, pp. 47-50, 52-57. * <b>Linneman, chapter 16:</b> “Real Estate Exit Strategies.”
February 5, Th	Topic #6: Introduction to leases and the economics of retail malls	* <b>Linneman, chapter 3:</b> “The Fundamentals of Commercial Leases.” OPT #3: <i>Mall Myths</i> OPT #4: <i>The Changing Design of Shopping Places</i> OPT #5: <i>The Evolution of Retailing in the United States</i>
February 10, Tu	Topic #7: Debt structures and managing real estate risk, continued.	* <b>BP #2:</b> <i>Guide to Real Estate Capital Markets: Participating Debt and Equity.</i> [This article is a bit dry. Do your best to wade through, and don’t worry about the “Parameters” sections.] * <b>Linneman, Chapter 15:</b> “Ground Leases as a Source of Finance.”

		<b>First part of Case #1 due before 9 a.m. No discussion.</b>
February 12, Th	Topic #7: Debt structures and managing real estate risk, continued.	<b>*Linneman, chapter 17:</b> “Real Estate Private Equity Funds” OPT #2: <i>Real Estate Private Equity Funds</i>
February 16, Mon	Guest Speaker, 6-720pm SH-DH 350	“ <i>Can Previous Real Estate Cycles Help Us Understand Current Market Conditions</i> ”, with Professor Peter Linneman, The Wharton School, University of Pennsylvania.
February 17, Tu	Topic #7: Debt structures and managing real estate risk, continued.	
February 19, Th	Case #1 discussion	<b>Second part of Case #1 due before 9 a.m.</b>
February 24, Tu	Topic #8: Real estate cycles, continued.	<b>*BP #3:</b> <i>Adjustment Mechanisms in Real Estate Markets</i> <b>Linneman, chapter 20:</b> “Real Estate Cycles” Linneman, chapter 9: “Development Feasibility Analysis” OPT #6: <i>Superstar Cities</i> OPT #7: <i>Will We Need More Office Space?</i> OPT #8: <i>Living Downtown</i> OPT #9: <i>Developer: Villain or Hero?</i> OPT #10: <i>(When) Will We Do It Again?</i>
February 26, Th	<b>No Class</b> , Office hours	
March 3, Tu	<b>Midterm Exam 1</b>	
March 5, Th	Topic #8: Real estate cycles.	
March 10, Tu	<b>No Class</b> , <i>Spring break</i>	
March 12, Th	<b>No Class</b> , <i>Spring break</i>	
March 17, Tu	Topic #9: Securitization of Debt Interests: Commercial Mortgage-Backed Securities <b>Case #2 handed out</b>	<b>*BP #4:</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”
March 19, Th	Topic #9: Securitization of Debt Interests: Commercial Mortgage-Backed Securities, continued	<b>*BP #5:</b> <i>Defaults in Securitized Real Estate Loans</i> OPT #11: <i>The Mortgage REITs: Dynamos or Duds?</i>
March 24, Tu	Topic #9: Securitization of Debt Interests: Commercial Mortgage-Backed Securities, continued	
March 26, Th	<b>No Class</b>	
March 31, Tu	<b>Case #2 discussion</b> <b>Case #3 handed out</b>	<b>Case #2 due before 9 a.m., March 31</b>

April 2, Th	Topic #10: Equity securitization and the REIT market	<p><b>*BP #6:</b> <i>REITs for Rookies</i></p> <p><b>*BP #7:</b> <i>Basic Valuation of a Real Estate Investment Trust</i></p> <p><b>*Linneman, chapter 18:</b> "REITs and Liquid Real Estate"</p> <p>OPT #12: <i>REIT Share Prices and the Declining Relative Importance of Commercial Real Estate</i></p> <p>OPT #13: <i>Liquid Real Estate</i></p> <p>OPT #14: <i>REITs as an Alternative Investment in Volatile Financial Markets</i></p>
April 7, Tu	<b>No Class</b> Guest Speaker, 12pm-120pm SH-DH 350	" <i>Real Estate Private Equity Funds and the Current Economic Crisis</i> ", with Michael Douglass and William Ryan (Gerber-Taylor Management Company) and Prof. Peter Linneman (The Wharton School).
April 9, Th	Topic #10: Equity securitization and the REIT market, continued.	<p><b>*Linneman, chapter 10:</b> "Real Estate Company Analysis."</p> <p><b>*BP #8:</b> <i>UPREITs: A Vehicle for Tax Deferral and Asset Growth</i></p> <p><b>*BP #9:</b> <i>Real Estate: Past, Present, and Future</i></p> <p><b>*BP #10:</b> <i>Inside the Revolution</i></p> <p><b>*BP #11:</b> <i>Forces Changing the Real Estate Industry Forever</i></p> <p><b>*BP #12:</b> <i>The Forces Changing Real Estate Forever: Five Years Later</i></p> <p><b>*BP #13:</b> <i>The Five Overlooked Features of the Real Estate Capital Markets</i></p> <p><b>*BP#14:</b> <i>The Pressure on Public REITs to Grow Larger</i></p> <p>OPT #15: <i>REITs and Taxes</i></p>
April 14, Tu	<b>No Class</b> <b>Case #3 discussion in the evening with Chad Robins.</b> <b>SH-DH 350</b>	<b>Case #3 due before 9 a.m., April 14</b>
April 16, Th	Topic #11: Return and Risk in Housing Markets (with a parallel to commercial real estate)	OPT #16: <i>Assessing High House Prices: Bubbles, Fundamentals, and Misperceptions</i>
April 21, Tu	Topic #12: The rent/own decision in residential and corporate real estate.	Linneman, chapter 19: "Corporate Real Estate Decision Making"
April 23, Th	<b>Midterm Exam 2</b>	
April 28, Tu	<b>No Class</b>	