

University of Pennsylvania
The Wharton School

Real Estate Finance: Investment and Analysis
Spring 2016
Mon/Wed 1030am-12pm (JMHH G50)
REAL/FNCE 721-405

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Office Hours: MW 3-4pm
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 for this course. The third edition is substantially different from the second edition. I recommend purchasing the third edition. However, I have made *Commercial Real Estate Analysis and Investments* by Geltner and Miller available in the library as a supplement.
- One **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
- **Non-Wharton students** will need to apply for a Wharton account in order to get access to Canvas. Check out: <http://accounts.wharton.upenn.edu/>
- You must have a **financial calculator** capable of computing annuities and present values. The calculator you were supposed to obtain for FNCE 100/601 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 for students who have a valid conflict with another class. **Attendance is required unless you have a valid conflict.** Email me if you cannot attend the guest lecture. 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 are:
 - *Riggs Kubiak, CEO, Honest Buildings, February 15th, 6-720pm, SHDH 350*
 - *Adam Gallistel, Managing Director and Deputy Regional Head for the Americas, GIC Real Estate, March 30th, 6-720pm, SHDH 350*
 - *Bruce Gamble, Managing Director, Navigant, April 4th, 6-720pm, SHDH 350*
- **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 4 to 6 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.

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 February 29th (the Monday before Spring Break) and the other on April 27th (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.**

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 and will make adjustments for participation (up to 10 percent). Sub-par participation includes arriving late to or missing classes. 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. 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.
- I take attendance for case discussions and guest lectures.
- 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 is one TA for the course: James Hogan (hoganja@wharton.upenn.edu). He will hold office hours for midterms. These will be announced later.

Course Schedule

Date	Topic	Preparation
January 13, 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?"
January 18, M	No class (MLK day)	
January 20, W	Topic 2: Property-level income; sources, risk, and value Choose your seats today! (Get to class early.)	*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"
January 25, M	Topic 3: Debt financing and simple mortgages Case 1 handed out in class (no electronic copies available)	*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."
January 27, W	Topic 3: Debt financing and simple mortgages	
February 1, 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."
February 3, W	Topic 4: Taxes and Real Estate	Tax worksheet in class
February 8, M	Topic 5: Appraisals and Evaluating Pro Formas	*SN 1: <i>Nine Abuses Common in Pro Forma Cash Flow Projections</i> *Linneman, chapter 8: "Development Pro Forma Analysis"
February 10, W	Topic 6: Introduction to leases and the economics of retail malls	*Linneman, chapter 3: "The Fundamentals of Commercial Leases."

February 15, M	Topic 7: Debt structures and managing real estate risk First part of Case 1 due before 1030am. No discussion. Guest lecture: Riggs Kubiak (6-720pm). Attendance required.	*BP 2: <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.] *Linneman, chapter 15: "Ground Leases as a Source of Finance." *Linneman, chapter 17: "Real Estate Private Equity Funds" There will be a regular lecture in the morning and a guest lecture in the evening. The lecture on 3/2 (Wed before Spring Break) will be cancelled.
February 17, W	Topic 7: Debt structures and managing real estate risk	
February 22, M	Second part of Case 1 due before 1030am.	Case 1 discussion
February 24, W	Topic 7: Debt structures and managing real estate risk	
February 29, M	Midterm Exam 1	
March 2, W	No class	No class due to guest lecture on 2/15
March 7, M	No class. Spring Break	
March 9, W	No class. Spring Break	
March 14, M	Topic 8: Real estate cycles	*BP 3: <i>Adjustment Mechanisms in Real Estate Markets</i> Linneman, chapter 20: "Real Estate Cycles" Linneman, chapter 9: "Development Feasibility Analysis"
March 16, W	Topic 8: Real estate cycles. Case 2 handed out	
March 21, M	Topic 9: Equity securitization and the REIT market	*BP 5: <i>Basic Valuation of a Real Estate Investment Trust</i> *Linneman, chapter 18: "REITs and Liquid Real Estate"
March 23, W	Topic 9: Equity securitization and the REIT market	
March 28, M	Case 2 due before 1030am. Case 3 handed out.	Case discussion in class
March 30, W	Guest Lecture: Adam Gallistel	No class during regular hours. Guest lecture 6-720pm. Attendance required.
April 4, M	Guest Lecture: Bruce Gamble	No class during regular hours. Guest lecture 6-720pm. Attendance required.
April 6, W	Topic 10: Securitization of Debt	*BP 4: <i>How to Build a Bond</i>

	Interests: Commercial Mortgage-Backed Securities	*Linneman, chapter 14: “Commercial Mortgage Backed Securities Basics” Linneman, “Supplemental II: A Look at a Real CMBS Issue”
April 11, M	Topic 10: Securitization of Debt Interests: Commercial Mortgage-Backed Securities	
April 13, W	Topic 10: Securitization of Debt Interests: Commercial Mortgage-Backed Securities	
April 18, M	Case 3 due before 1030am. Case 3 discussion	
April 20, W	Topic 11: Return and Risk in Housing Markets (with a parallel to commercial real estate)	
April 25, M	Topic 12: The rent/own decision in residential and corporate real estate.	Linneman, chapter 19: “Corporate Real Estate Decision Making”
April 27, W	Midterm 2	