

University of Pennsylvania
The Wharton School

Real Estate Finance: Investment and Analysis
REAL/FNCE 721-407
Spring 2016, JMHH G55

Updated December 9, 2015

Professor Jessie Handbury
1463 Steinberg Hall-Dietrich Hall
Email: handbury@wharton.upenn.edu

Office Hours: Tuesdays, 1:30 – 3:00 p.m.
(sign up on Canvas) and by appointment
Phone: 215-573-7903

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 they are particularly relevant or when the example provides a more general insight. Higher-level classes in the Real Estate Department examine many of the topics from this class in more detail.

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. If you have prior experience in the real estate industry, some topics might be familiar to you already.

Course Materials:

The **textbook** for the course is *Real Estate Finance and Investments, Third Edition*, by Linneman. It is available at the Penn Bookstore. Two alternative texts, *Commercial Real Estate Analysis and Investments* by Geltner and Miller and *Real Estate Finance and Investments* by Brueggeman and Fisher, as well as two supplemental books, *Investing in REITs* (Block) and *A Primer of Securitization* (Kendall and Fishman), are available on reserve at Lippincott. You may find them useful as supplemental resources or for additional background and context.

Additional **readings** are available at Study.net. Some are required, others are 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
- Discussion threads with case- or exam-related Q+A

Occasional **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 611 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 sessions are **required** material. I do not videotape these lectures in instances where doing so would prevent the guest from speaking freely. If this is the case, you will need to get the notes from someone else if you are unable to attend.

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 due dates and times for all assignments are final. Failure to submit an exam or assignment on time will result in zero points for that exercise.

While I will not explicitly grade your attendance in the class, I will consider superb or sub-par class **participation** in class and case discussions when deciding grades. Sub-par participation includes arriving late to or missing classes. This will contribute up to a third of a letter grade in your final grade.

Each individual assignment is curved by section and the variance is standardized so no one assignment contributes more variance to your final grade than another. The curved scores are totaled for each student and the total is curved again within section. In practice, this means that your grade is determined by how many standard deviations your assignment scores are above or below your section's mean and whether you have correlated over- or underperformance across assignments.

Examinations:

The two midterm exams will be held in regularly scheduled class time, one on **Tuesday, March 1** and the other on **Tuesday, April 26**. 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" sheet of notes (double-sided) 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.

*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 the exam dates, please do not take this class.** Make-ups will only be given if you have a Wharton Dean's Office-approved excuse and email me to inform me before the exam starts. For a medical excuse, you must have been admitted for treatment by student health services or a hospital or have a doctor's note explaining that you were incapacitated.*

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.

Cases:

There will be three group project cases handed out in class. You will choose your own group of **two to five members** of your own section. **Register your team** by signing up on Canvas before submitting your first case.

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. You may discuss the cases with other groups; however, each group must separately prepare their own case materials and write-ups.

You are responsible to make the team work, so please select your team members carefully. If you wish to switch case teams during the semester, register with your new team **after** submitting the previous case with your old team and **before** submitting the next case with your new team.

Cases are handed out in class. I do not distribute electronic copies of cases. Cases are to be submitted on Canvas by 10:00am on their due date, at which time submissions will be automatically locked. **Late cases will not be accepted nor will extensions be given.**

Classroom 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.
- The **seat** you choose on the fourth class meeting (January 26) is yours for the entire semester. Please sit there every class, except during exams, when I will randomly assign new seats.
- I appreciate it if you display your **name tents**.
- You may not use a laptop or smart phone unless medically necessary.
- **Tablets** can be used for note-taking only. Screens need to be flat on the table so as to not distract other students and my lecturing. I reserve the right to change this policy if it impacts the learning environment.

Disclaimers:

- The class **schedule** is an ambitious goal and may not reflect the actual timing, or even sequence, of the material covered.
- 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.
- Get help from **your TAs**:
 - Dan Gordon (dangor@wharton.upenn.edu)
 - Tom Lawless (lawless@wharton.upenn.edu)
- The TAs and I will post on **Q&A discussion boards** on Canvas ahead of case due dates and exams. Please check that we haven't already answered your question there before emailing.
- **TA office hours** will be scheduled and posted on Canvas before each case of the first two cases are handed out. I will hold additional office hours ahead of each midterm and the third case due date.

Course Schedule

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

Date	Topic	Readings/Assignments
January 14, 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 2016</i> (Chapters 1-2)
January 19, Tu	Topic #2: Real estate valuation and returns	*Linneman, chapter 7: "The Use and Selection of Cap Rates" Linneman, "Prerequisite I: The Basics of Discounted Cash Flow and Net Present Value Analyses" Brealey and Myers, <i>Principles of Corporate Finance</i> , chapter 3: "How to Calculate Present Values."
January 21, Th	Topic #3: Leases and the economics of retail malls	*Linneman, chapter 3: "The Fundamentals of Commercial Leases."
January 26, Tu	Topic #4: Property-level income	*Linneman, chapter 4: "Property Level Pro Forma Analysis", pp. 43-55. Linneman, "Prerequisite II: IRR: What It Is and What It Isn't"
January 28, Th	Topic #5: 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, "Prerequisite III: Amortization Fundamentals"
February 2, Tu	Topic #6: Taxes and real estate Case #1 handed out in class	*Linneman, chapter 4: "Property Level Pro Forma Analysis", pp. 55-56, 59-63. *Linneman, chapter 16: "Real Estate Exit Strategies."
February 4, Th	Topic #7: Pro forma evaluation	*Linneman, chapter 8: "Development Pro Forma Analysis" * <i>Nine Abuses Common in Pro Forma Cash Flow Projections</i>
February 9, Tu	Topic #8: Property-level risk and return	*Linneman, chapter 5: "Financial Modeling" *Linneman, chapter 12: "Should You Borrow?"
February 11, Th	Topic #9: Debt structures and managing real estate risk	*Linneman, chapter 15: "Ground Leases as a Source of Finance." * <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" sections.]</i>
February 15, Mo	Guest Lecture , 6:00p.m., Riggs Kubiak, CEO, Honest Buildings (location TBA)	

Date	Topic	Readings/Assignments
February 16, Tu	Topic #9: Debt structures and managing real estate risk	* Linneman, chapter 17: “Real Estate Private Equity Funds” First part of Case #1 due at 10a.m.
February 18, Th	No Class. <i>Canceled in lieu of the February 15 guest lecture.</i>	
February 23, Tu	Case #1 discussion	Second part of Case #1 due before 10a.m.
February 25, Th	Midterm Review	
March 1, Tu	Midterm Exam 1	
March 3, Th	No Class. <i>Canceled in lieu of the March 30 guest lecture.</i>	
March 8 & 10	No Class. <i>Spring Break</i>	
March 15, Tu	Topic #10: Real estate cycles Case #2 handed out in class	* Linneman, chapter 20: “Real Estate Cycles” * <i>Adjustment Mechanisms in Real Estate Markets</i> Linneman, chapter 9: “Development Feasibility Analysis”
March 17, Th	Topic #10: Real estate cycles, continued	
March 22, Tu	Topic #11: Equity securitization and the REIT market Case #3 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”
March 24, Th	Topic #11: Equity securitization and the REIT market, continued	* <i>UPREITS: A Vehicle for Tax Deferral and Asset Growth</i> * <i>REITs and Taxes</i>
March 29, Tu	Case #2 discussion	Case #2 due before 10a.m.
March 30, We	Guest Lecture , 6:00p.m., Adam Gallistel, Managing Director and Deputy Regional Head for the Americas, GIC Real Estate (location TBA)	
March 31, Th	No Class. <i>Canceled in lieu of the April 4 guest lecture.</i>	
April 4, Mo	Guest Lecture , 6:00pm, Bruce Gamble, Managing Director, Navigant (location TBA)	
April 5, Tu	Topic #12: 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”
April 7, Th	Topic #12: Securitization of Debt Interests: Commercial Mortgage-Backed Securities, continued.	

Date	Topic	Readings/Assignments
April 12, Tu	Case #3 Presentations, Part 1	Case #3 due before 10a.m.
April 14, Th	Case #3 Presentations, Part 2	
April 19, Tu	Topic #13: Housing	* <i>Safety in Renting Superstar Cities</i>
April 21, Th	Topic #14: Corporate real estate	* Linneman, chapter 19: “Corporate Real Estate Decision Making”
April 26, Tu	Midterm Exam 2	