

**Advanced Real Estate Investment and Analysis**  
**REAL 2400/8400, Spring 2023**

*(As of December 21, 2022)*

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Drop-in Zoom Office Hours: Tuesday, 1:30-2:30 p.m.  
or by appointment (email to schedule)

This course is designed for majors in Real Estate, both undergraduate and MBA, and finance-oriented students who wish a deeper analysis of real estate investment than is offered in REAL/FNCE 2090 or 7210. The course presumes knowledge of real estate finance at a level taught in REAL/FNCE 2090 and 7210.

This course focuses on commercial or income-producing real estate and blends thinking about different *types* of real estate investments with different *approaches* to investing in real estate assets. Topics covered will span the real estate equity and debt markets, both public and private. Class sessions are comprised of a mix of lectures, guest speakers, and case discussions.

There are two main goals of this class. The first is to prepare you with the full set of tools you will need to start your career in real estate investments. Your likely future employer will expect you to be facile with real estate financial modeling, capable of analyzing real estate markets, adept at assessing risk, and able to write clearly and concisely. This class aims to give you the opportunity to refine those skills and get feedback while you are in school, rather than during your first year of employment.

The second is to help you gain a more sophisticated understanding of real estate investing so you can be more agile in adapting your investment strategy to changes in the real estate environment. To achieve these goals, this class combines analysis of individual investments, big-picture sector or macro analysis, and academic research, and the class material spans both practical and more conceptual topics.

**Cases:** Over the course of the semester, we will analyze and discuss four cases. These cases are a central feature of the class but are demanding. The intent of the cases is to give you assignments comparable to ones you would receive on the job. Hence, you can expect the degree of modeling and analytic difficulty of these cases to be significantly higher than in 2090/7210. You will complete the cases in teams of two.

Cases will be due in advance of being discussed in class. This will give me time to review the cases and to give heads-ups to the case teams that will be presenting. That means you will have just under two weeks to do each case. Cases that are turned in after the deadline but before they are discussed in class will be docked a late penalty of 0.5% per hour. Submissions that are

turned in after the class discussion will get a zero. **Extensions will not be given.**

**Guest speakers:** A number of guest speakers will join us this semester. Some will provide perspective on aspects of real estate investing. Others will lead case discussions. These, too, are an important part of the class and the speakers and topics are selected to advance the curriculum.

**Undergraduate Bonus material:** This class is taught on the Wharton MBA calendar. To achieve the UPenn undergraduate required number of class hours, there will be some additional class content for the undergraduate members of the class. Since this is a new schedule this year, we'll discuss and set the timing of those undergraduate classes at the start of the course.

**Participation and attendance:** You are expected to attend and participate. This is especially true for guest speakers, who are volunteering their time to talk to you. Hence, participation accounts for 20% of your grade.

Your participation grade will be based on:

- Attendance at and engagement with guest speakers.
- Case discussion attendance and presentations.
- Class participation.
- Coming to class prepared to discuss and critique material in lectures and presentations.

**Class attendance for guest speakers and case discussions is mandatory**, will be marked, and will count toward your participation grade. Attendance for the remainder of the lectures is recommended – otherwise, why take the class? – but I don't track it. However, you cannot participate if you are not present, so undoubtedly there will be an effect on your participation score if you regularly do not attend class.

**Readings:** Available from Study.net. The volume of material is not overly burdensome for a course of this type, but some of the material is difficult. All readings should be done prior to the class for which they are assigned. You can expect that some readings may be added over the course of the semester.

**Slides and Excel spreadsheets:** Will be posted on Canvas prior to each class. Bringing copies to class will save you much note taking. Excel spreadsheets will also be posted on Canvas as a resource for you.

**Getting help:** Our goal is to support your development into a successful real estate professional. Thus, we expect to be a resource for you as you work through the assignments and we expect you to proactively reach out to us early and often. There are several ways you can get help:

- TA: There are two TAs in this class. They will take turns being your “big sibling” for this class., holding office hours, answering emails, and generally being your helping hand. (Note: Like real-life older siblings, our TA is not on-call, so please don't email her at midnight the night before the case is due and expect an immediate response.)
- Me: Come to my drop-in office hours (Tuesdays, 1:30-2:30 p.m. on Zoom) or email me

to make an appointment. I enjoy meeting with you, so don't be shy. And, I, too, view it as my role to help you work your way through the material.

- You can always email me or the TA your questions.

**Regrades:** My policy on regrades is appended to the syllabus.

**Honor code:** It is your responsibility to make sure your entire team prepares the cases independently. Violations by any team member will result in the entire team getting a zero on the assignment. Here are the rules: You may verbally discuss the cases, including ideas, approaches, and solution methods, with other students who are currently enrolled in REAL 2400/8400. Each group must separately prepare their own case materials and write-ups without reference to anyone else's case materials or write-ups.

You may not obtain assistance, or solicit advice, from former students, current or past employees of firms involved with the cases, or anyone else involved in the real estate investment industry. You also may not provide such assistance or advice once you are no longer enrolled in this class. You may not share your written materials or Excel with anyone at any point.

Violations of these rules will be treated as violations of Penn's Code of Academic Integrity. I do not distinguish between the plagiarizer – the team using other's materials – and the provider of the materials. Do not circulate your solutions to the cases. If I find your case to be the source of plagiarized material, I will report the violation and do my best to retroactively change your grade.

**Class schedule:** The class is a work-in-progress. I reserve the right to change the content, timing, or sequencing of the material. Conversely, if you want more (or less!) of a topic, let me know.

**Syllabus Quiz:** You get a 0 for the class if you do not get a 100% on the "I read the syllabus" quiz on Canvas. That quiz has just one question, "Did you read and understand the syllabus?" The correct answer is "Yes." I allow retakes.

**Other recommended preparation:** Your future employer will expect you to be really good at Excel modeling (and may give you an Excel test as part of the interviewing process). Use this class to practice your Excel skills and, if you need more preparation, avail yourself of an Excel modeling class *before* getting too far into this course. Real Estate employers also often expect you to know Argus. Take advantage of the Argus course offered by the Zell/Lurie Real Estate Center and use your access to student Argus licenses to learn-by-doing.

**Copyright Information:**

All federal and state copyrights reserved for all original material presented in this course through any medium, including lecture and print. Any copyrighted material provided in this course is for your personal, noncommercial use and may not be copied and distributed to others without the prior permission of the copyright owner. Individuals are prohibited from being paid for taking or transferring their class notes without my express written permission.

| Class topics  | Required readings  |
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| <i>Class #1: Monday, January 23</i>   |  |
| <p>Course Overview</p> <p>Real Estate Market Overview</p> <p>Macro risks</p> <p>State of the market</p>   |  |
| <i>Class #2: Monday, January 30</i>   |  |
| <p><u>First half:</u></p> <ul style="list-style-type: none"> <li>• Valuing redevelopment.</li> <li>• Pro Forma best practices.</li> <li>• Case #1 (Mixed-use development) handed out</li> </ul> <p><u>Second half:</u></p> <p>The Private Equity Markets in Real Estate: Institutional Investors, Private Equity Firms, and Hedge Funds</p> | <p><b>Take and complete the “Yes I read the syllabus!” quiz on Canvas.</b></p> <p>1. Urban Land Institute, “Emerging Trends in Real Estate 2023”.</p>  |
| <i>Class #3: Monday, February 6</i>   |  |
| <p><u>First half:</u></p> <p><u>Guest Speaker:</u> Ed Chaglassian, Principal and Executive Vice President, JBG Smith, and Kai Reynolds, Chief Development Officer, JBG Smith.</p> <p><u>Second half:</u></p> <p>The Private Equity Markets in Real Estate:</p>  | <ol style="list-style-type: none"> <li>1. Peter Linneman and Stan Ross, “Real Estate Private Equity Funds”, <i>Wharton Real Estate Review</i>, Spring 2002.</li> <li>2. Thomas Maira, “Understanding Real Estate Joint Ventures”</li> <li>3. Joanne Douvas, “Adjusting Opportunity Fund Fees”, <i>Wharton Real Estate Review</i>, Fall 2006.</li> <li>4. Seth Chertak and Addison Braendel, “Fund Economics”, <i>PREA Quarterly</i>, Fall 2009,</li> </ol> |

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| <p>Institutional Investors, Private Equity Firms, and Hedge Funds, continued</p> | <p>pp. 40-47.</p> <p>5. Arnold, Ling, and Naranjo, “Private Equity Real Estate Funds: Returns, Risk Exposures, and Persistence”, <i>Journal of Portfolio Management</i>, January 2019, pp. 24-42.</p> <p>6. Bollinger and Pagliari, “Another Look at Private Real Estate Returns by Strategy,” <i>Journal of Portfolio Management</i>, January 2019, pp.95-112</p> |
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*Class #4: Monday, February 13*

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| <p><u>First half:</u></p> <p>Private equity cash flow waterfalls.</p> <p><u>Second half:</u></p> <p><u>Guest Speaker:</u> Daniela Gastner, Managing Director, University of Pennsylvania Office of Investments</p> |  |
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*Class #5: Monday, February 20*

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| <p><u>First half:</u></p> <p>Case #1 discussion.</p> <p><u>Second half:</u></p> <p>Private equity cash flow waterfalls, continued.</p> <p>Case #2 (Waterfall exercise) handed out.</p> |  |
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| <p><i>Class #6: Monday, February 27</i></p>  |  |
| <p><u>First half:</u><br/>“Incidence,” property values, and overdevelopment</p> <p><u>Second half:</u><br/><br/>Commercial Real Estate Debt Markets: Mortgages, CMBS, and Structuring,</p>   | <p>1. Gordon, “How to Build a Bond”<br/>2. Cibelli, “Lord Abbett Investment Brief, CMBS 2017”<br/>Brian Lancaster, “CMBS 2.0 : Public Offerings and Super Senior “AAA” Bonds”, RBS, August 12, 2011.</p>   |
| <p><i>Class #7: Monday, March 13</i></p>   |  |
| <p><u>First half:</u><br/><br/><u>Guest Speakers:</u> Craig Spencer, CEO, and James Tucker, Managing Director, Arden Group.</p> <p><u>Second half:</u><br/><br/>Commercial Real Estate Debt Markets: Mortgages, CMBS, and Structuring, continued</p> |  |
| <p><i>Class #8: Monday, March 20</i></p>   |  |
| <p><u>First half:</u><br/><br/>Case #2 discussion.</p> <p><u>Second half:</u><br/><br/>Commercial Real Estate Debt Markets: Mortgages, CMBS, and Structuring, continued</p> <p>Case #3 handed out.</p>   | <p>1. Black et al, “From Origination to Renegotiation: A Comparison of Portfolio and Securitized Commercial Real Estate Loans,” <i>Journal of Real Estate and Financial Economics</i> (2017)<br/>2. Plazzi et al, “Expected Returns and Expected Growth in Rents of Commercial Real Estate,” <i>Review of Financial Studies</i>, 2010.<br/>3. Joseph Gyourko and Donald Keim, “What Does the Stock Market Tell Us About Real</p> |

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|   | <p>Estate Returns?”, <i>Real Estate Economics</i>, 1992.</p> <ol style="list-style-type: none"> <li>4. Roger Ibbotson and Lawrence Siegel, “Real Estate Returns: A Comparison With Other Investments”, <i>Real Estate Economics</i>, 1984.</li> <li>5. Joseph Gyourko and Jeremy Siegel, “Long-Term Return Characteristics of Income-Producing Real Estate”, <i>Real Estate Finance</i>, Spring 1994.</li> <li>6. Joseph Gyourko, “Real Estate Returns in the Public and Private Markets: A Reexamination Following the Rise of Equity REITs”, Zell/Lurie Real Estate Center at Wharton working paper, January 2004.</li> </ol> <p>William Gentry, Charles Jones, and Chris Mayer, “Do Stock Prices Really Reflect Fundamental Values” NBER Working Paper 10850, October 2004.</p> |
| <p><i>Class #9: Monday, March 27</i></p>  |  |
| <p><u>First half:</u></p> <p>The Public Equity Markets in Real Estate: Advanced REIT Analysis—REIT Structures and Valuation</p> <p><u>Second half:</u></p> <p><u>Guest speaker:</u> Jack Ross, Managing Partner and co-founder, Waterfall Asset Management: Securitization, Risk, and Opportunity</p> | <ol style="list-style-type: none"> <li>1. Peter Linneman, “The Equitization of Real Estate”, <i>Wharton Real Estate Review</i>, Fall 2006.</li> <li>2. Joseph Gyourko &amp; Todd Sinai, “The REIT Vehicle: Its Value Today and in the Future”, <i>Journal of Real Estate Research</i>, 1999.</li> <li>3. Harper, “Basic Valuation of a Real Estate Investment Trust”</li> <li>4. BofAML REIT Primer, 6<sup>th</sup> edition, pp. 1-7, 23-24</li> </ol>   |
| <p><i>Class #10: Monday, April 3</i></p>  |  |
| <p><u>First half:</u></p>   | <ol style="list-style-type: none"> <li>1. Steinfeld and Zisler, “UPREITs: A Vehicle</li> </ol>   |

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| <p>The Public Equity Markets in Real Estate: Advanced REIT Analysis—REIT Structures and Valuation, continued</p> <p>Case #4 (REIT merger) handed out</p> <p><u>Second half:</u></p> <p>Case #3 discussion</p>       | <p>for Tax Deferral and Asset Growth”</p>   |
| <p><i>Class #11: Monday, April 10</i></p>   |   |
| <p><u>First half:</u></p> <p>Linkages Between the Public and Private Real Estate Markets</p> <p><u>Second half:</u></p> <p>TBD</p>  |   |
| <p><i>Class #12: Monday, April 17</i></p>   |   |
| <p><u>First half:</u></p> <p>Real Estate in a Portfolio</p> <p><u>Second half:</u></p> <p>Case #4 discussion.</p> <p>Discussion led by:<br/> <u>Guest speaker:</u> Andy Jonas, Managing Director, Goldman Sachs</p> | <p>3. Chapters 10 &amp; 11 in Berk and DeMarzo, <i>Corporate Finance</i></p> <p>4. Chapter 6 in Copeland &amp; Weston, <i>Financial Theory and Corporate Policy</i></p> |

## Regrade Policy

I strive for accuracy and equity in the grading for this class. However, despite my best efforts, grading is sometimes imperfect. 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.

The onus for bringing any errors to my attention falls upon you. Pick up your assignments promptly so you can check the grading and make sure that your grade on Canvas matches the grade on your assignment.

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 email both to me or place both in my mailbox in Vance.

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 via email or to my mailbox in Vance. Be sure to take the time to make sure you understand the errors you made before submitting the regrade request. Also, if an error is circled but no point deduction is noted, we did not take off points for it.

3) To aid your understanding of the material and of the grading philosophy, I typically provide an explanation of how the points were allocated. 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 me by email or to my mailbox in Vance. 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 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 rubric.

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. I cannot go over the grading of your assignment in “real time,” with no forewarning – I need enough notice to review it in advance.

### *General policies:*

1) I personally do all the regrades, in conference with the graders.

2) 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.

- 3) Regrade requests will be accepted for *three weeks* following the *return* of an assignment. If an assignment has multiple parts, the deadline for a regrade request for *any* part of the assignment is three weeks after the return of the *last* part of the assignment.
- 4) The acceptable margin of error on a 100-point assignment is +/- 2 points. Please do not submit regrade requests for one or two points total. The exception is if we totaled up your points incorrectly: In that case I will correct any size error.