



# THE OHIO STATE UNIVERSITY

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## FISHER COLLEGE OF BUSINESS

**BUSINESS FINANCE #: 4410**

**COURSE NAME: Real Estate Finance**

**Autumn 2022**

### **COURSE DESCRIPTION:**

This course will continue the examination of real estate as an asset class started in BusFin 3400-Intro to Real Estate and reinforce the position that real estate continues to be important component of well-diversified portfolio. The course's goal is to provide students with a solid foundation in basic real estate finance. The course will start with a review the major real estate sectors – Multifamily, Retail, Office, Industrial plus Hotel. It will move on with an overview of Modern Portfolio Theory (MPT) and Capital Asset Pricing Model (CAPM) and discuss the real estate finance concepts such as Capitalization Rate (Cap Rate), Discounted Cash Flow (DCF), Mortgage Amortization and Equity Waterfall. The class will review the real estate capital stack and discuss the use of equity and debt in the financing of real estate. The course will touch on the various types of real estate debt from construction to permanent financing along with the current underwriting metrics used by today's practitioners. The course will then move into real estate due diligence, financial modeling and basic real estate valuation. The course will conclude with the underwriting of an industrial acquisition and the completion of Investment Committee memorandum (IC Memo).

At the completion of the class, students should be able to demonstrate a fundamental understanding of:

- Real estate as an asset class in a well-diversified portfolio.
- Real estate capital stack – equity and debt financing
- Various real estate debt structures along with current underwriting metrics.
- Alternative financing structures including sale-leasebacks, participating debt and ground leases.
- Real estate due diligence, financial modeling (DCF) and basic real estate valuation

### **PREREQUISITES:**

BusFin3400 – Intro to Real Estate.

### **CLASS MEETINGS:**

Schoenbaum Hall, Room 320

T, Th 7:05 – 8:25 p.m.

### **CLASS MATERIALS:**

- Real Estate Finance and Investments – Risk and Opportunities, Peter Linnenman, Ph.D. and Bruce Kirsch – 5.2 The 5.2 Edition has an on-line companion that students may find helpful.
- Book is available at [www.linnemanassociates.com](http://www.linnemanassociates.com) and the OSU Bookstore.
- Business calculator – HP12C or TI BA II Plus. You will need to become acquainted quickly with these calculators. These will be used in class and on exams.
- Microsoft Excel.
- Course readings and worksheet assignments will be posted on Carmen (<http://carmen.osu.edu>).

- Any additional course material will also be posted to Carmen prior to class. It is expected that student be ready to actively participate in class discussion. The link and information to access the material will be posted on the content section of the course website. Please check this regularly
- Supplemental readings related to current events may be added to the course website and/or distributed in class. I am planning on taking the first 10-15 minutes of class to discuss any interesting current real estate market news. Students are encouraged to bring articles for discussion. Good resources are the WSJ, Heartland News, JLL, Colliers and CBRE.

#### **PRINCIPAL INSTRUCTOR:**

Stephen Stuckwisch, MBA, CFA, CAIA

Fisher College of Business

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#### **OFFICE HOURS:**

Fisher Hall, Room 301C

- T, Th 4:00-5:00 p.m.
- By appointment

#### **GRADING:**

<b>Exams/IC Memo/IC Member/Participation</b>	<b>Date</b>	<b>% of Grade</b>
Midterm 1	September 20, 2022	15
Midterm 2	October 18, 2022	15
IC Memo	November 13, 2022	20
- Investment Committee 1	November 15, 2022	
- Investment Committee 2	November 22, 2022	
- Investment Committee 3	December 6, 2022	
Investment Committee Participation	After each IC Date	5
Worksheets		10
Midterm 3	December 1, 2022	15
Class Participation	Every Class	20
<b>Total</b>		<b>100</b>

#### Exams:

The class will have three midterm exams. The three exams will be given electronically on Carmen. Students need to have a laptop or similar device to allow them to access the exam. Business calculators will be necessary. The exams will be open book and open note.

#### Investment Committee (IC) Memorandum and Presentation:

Students will form five member teams using Carmen. Teams will need to be formed by Friday, September 2, 2022. Each team will be responsible for evaluating an actual broker Offering Memorandum (OM) for a newly constructed industrial building that was offered for sale. Over the course of the semester, each group will research the market, analyze comparable properties and prepare an Investment Committee (IC) Memorandum (Memo) that will address the investment rationale, including

the different valuation methods, the investment return and hold period. Various actual IC Memos will be available on Carmen that may be used as examples and serve as templates. Each group will present their recommendation to the rest of the class, which will act as the Investment Committee (IC). This will take place during the three classes toward the end of term. The IC Memo will be due by 11:59 p.m. November 13, 2022. Each project group will be randomly assigned one of the IC dates – November 15<sup>th</sup>, November 22<sup>nd</sup>, or December 6<sup>th</sup>. The OM for the industrial property that will be analyzed will be posted to Carmen by August 23, 2022. When presenting to the IC, each team member must present a portion of the recommendation.

#### Participation as an IC Member:

The rest of the class will serve as the IC. As an IC member, you will be responsible for evaluating the presenting teams' presentations and recommendations. As IC member you will need to vote on whether to undertake the acquisition and why. In addition, each IC member will rank the presenting teams' presentation – 1, 2 and 3. The winning team for each IC date will receive two extra points for the IC Memorandum project. The IC member evaluation forms are available on Carmen. The IC member evaluations are due by 11:59 p.m. the day of each IC presentation.

#### Worksheet Assignments:

There are seven worksheet assignments. Students are encouraged to collaborate on these assignments, but the assignments must be submitted individually via Carmen before the start of class the assignment is being discussed. The seven assignments are:

1. Mortgage Amortization
2. Capitalization Rate
3. Discounted Cash Flow
4. Real Estate Capital Stack
5. Equity Waterfall
6. Development Feasibility
7. Impact of Sponsor Promote

#### Class Participation:

Participation during class is a vital part of this class. It is expected that you have read the material prior to class and come prepared to discuss in class. Each student is expected to prepare three questions relevant to the class topic and be ready to discuss if call upon. There may be times the class will be breaking up into small groups to analyze problems and report back to the broader class. I will be tracking attendance and participation and expect each one to contribute to the class on a regular basis. In addition to attendance, we will be discussing current real estate events at the beginning of class. These may come from the Wall Street Journal (WSJ) or other real estate publications. I encourage students to read the WSJ on a daily basis. The participation grade will include thoughtful questions, respect for your fellow students and prohibition of electronic devices in class, except for laptops/iPads and business calculators.

#### Grading Scheme:

This class will follow the OSU standard Grade Scheme. The OSU Standard Grade Scheme is:

The OSU Standard Grade Scheme	
93-100	A
90-92.9	A-
87-89.9	B+
83-86.9	B
80-82.9	B-
77-79.9	C+
73-76.9	C
70-72.9	C-
67-69.9	D+
60-66.9	D
Below 60	E

## EXPECTATIONS:

### Electronic Devices:

The absence of unnecessary distractions and interruptions is essential for positive and effective learning environment. Therefore, students **may only** use a laptop or iPad to access the presentations during class or take notes. Except for business calculators, any other electronic device **may not** be used in class without submitting a prior written request and receiving explicit permission from the instructor. All non-approved electronic devices must be turned off and put away prior to the start of the class. The instructor reserves the right to disallow laptops and iPads if they are used for other purposes other than accessing the current class material or taking notes.

### Exam Policy:

There are three midterm exams. The IC Memo and presentation are in lieu of a final exam. **There will be no make-up exams unless prior written approval from the instructor prior to the exam date. Also, please see Accommodated Exam – COVID-19 below. If approved, most make-up exams will be completed on-line via Carmen during a specified time assigned.**

### Extra Credit:

Extra credit will not be offered unless it is available to the entire class.

### Office Hours and Communication:

In addition to set office hours, I will be available to speak to any student by appointment. Please e-mail at both my OSU ([stuckwish.1@osu.edu](mailto:stuckwish.1@osu.edu)) and my personal ([sestuck@gmail.com](mailto:sestuck@gmail.com)) to make an appointment. In the e-mail, please give me a general idea of the topic you wish to discuss so I may be better prepared before our appointment. I will respond as soon as I am able, but no later than 48 hours.

### Course Website:

I will maintain communication through Carmen (<http://carmen.osu.edu>). I will use this website post course material, readings and assignments. Please check this regularly.

## SAFETY AND HEALTH REQUIREMENTS:

All teaching staff and students are required to comply with and stay up to date on all [University safety and health guidance](#).

**DISENROLLMENT:**

University Rule 3335-8-3 provides that a student may be dis-enrolled after the third instructional day of the semester, the first Friday of the semester, or the student's second class session of the course, whichever occurs first, if the student fails to attend the scheduled course without giving prior notification to the instructor.

**ACADEMIC MISCONDUCT:**

Academic misconduct will not be tolerated. According to University Rule 3335-1-31-02, all suspected cases of academic misconduct will be reported to the Committee on Academic Misconduct.

**DISABILITY SERVICES:**

The Office of Disability Services verifies students with specific disabilities and develops strategies to meet the needs of those students. Students requiring accommodations based on identified disabilities should contact the instructor at the beginning of the semester to discuss his/her particular needs. All students with a specific disability are encouraged to contact the Office of Disability Services to explore the potential accommodations available to them.

Student Covid-Related Accommodation Process:

The university is committed to supporting students and program participants with COVID-19 based risk factors. Student Life Disability Services, in conjunction with the Office of Institutional Equity, will work with students who are vulnerable to complications from COVID-19 to ensure that they have the necessary resources to participate in university life as safely as possible. Ohio State students from any campus may submit a COVID-related accommodation request. Students registered with Student Life Disability Services can work directly with their assigned Access Specialist to modify their accommodations or make additional COVID-based accommodation requests.

Covid Process:

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12th Avenue.

Accommodated Exams - Covid-19:

Operational Adjustments In order to promote the health and safety of students, Student Life Disability Services will only proctor exams for students with accommodations that necessitate in-person testing for Autumn 2022. Modified exam hours for Autumn 2022 are 9 AM – 5 PM. Students with the following exam accommodations may schedule to take their exams at SLDS:

- Accessible formats (e.g. braille, large print, screen-free)
- Assistive technology (e.g. JAWS, CCTV)
- Private testing room accommodation
- Test assistant (reader or scribe)

Students requesting exam accommodations not listed above, such as extended time or a small-group testing space, will need to take their exam off-site utilizing Carmen or other virtual assessment method. For more information on operational changes, visit the SLDS website.

## CLASS SCHEDULE:

Week	Date	Topic
<b><i>Overview/Review</i></b>		
WEEK 1.1	August 23, 2022	Welcome/Careers in Real Estate
WEEK 1.2	August 25, 2022	Real Estate as an Asset Class/Risk and Opportunities
<b><i>SECTION 2 - CAPM and the RE Financial Foundation</i></b>		
WEEK 2.1	August 30, 2022	Review of the Major Property Types + Hotels
WEEK 2.2	September 1, 2022	Modern Portfolio Theory (MPT) and Capital Asset Pricing Model (CAPM)
WEEK 3.1	September 6, 2022	Annuities, Present Value and Amortization
WEEK 3.2	September 8, 2022	Perpetuities, Gordon Model and Capitalization Rate (Cap Rate)
		Worksheet Assignment - Amortization
WEEK 4.1	September 13, 2022	Discounted Cash Flow Analysis (DCF)
		Worksheet Assignment - Capitalization Rate
WEEK 4.2	September 15, 2022	Review Midterm 1
		Worksheet Assignment - DCF
WEEK 5.1	September 20, 2022	Midterm 1
WEEK 5.2	September 22, 2022	Real Estate Capital Stack (Equity versus Debt)
WEEK 6.1	September 27, 2022	Real Estate Equity
		Worksheet Assignment - Real Estate Capital Stack
WEEK 6.2	September 29, 2022	Use of Debt and Mortgages - Underwriting Metrics
		Worksheet Assignment - Equity Waterfall
WEEK 7.1	October 4, 2022	Construction, Transitional and Permanent Debt Financing
WEEK 7.2	October 6, 2022	Sale Leasebacks, Participating Debt and Ground Leases
WEEK 8.1	October 11, 2022	Review Midterm 2
WEEK 8.2	October 13, 2022	Autumn Break - No Class
WEEK 9.1	October 18, 2022	Midterm 2
<b><i>SECTION 2: Due Diligence, Financial Modeling and Real Estate Value</i></b>		
WEEK 9.2	October 20, 2022	Real Estate Cycles and Analyzing Metropolitan Long-term Growth Patterns
WEEK 10.1	October 25, 2022	Real Estate Due Diligence and Commercial Lease Analysis
WEEK 10.2	October 27, 2022	Development Feasibility and Entitlement Process
WEEK 11.1	November 1, 2022	Real Estate Owner Exit Strategies and Real Estate Return Profiles
		Worksheet Assignment - Development Feasibility
WEEK 11.2	November 3, 2022	Guest Speaker
WEEK 12.1	November 8, 2022	Real Estate Financial Modeling
WEEK 16.1	December 6, 2022	Investment Committee 3

(Note: This syllabus is subject to change)