USC Marshall School of Business

FBE-599: Real Estate Investment Trust (REIT) Analysis

Spring 2022, Thursdays: 12:30 pm – 3:20 pm, 3.0 units

Instructor:	Christopher Parsons and Marco Giacoletti
Office:	Meetings held in person or via zoom, if circumstances permit
Office Hours:	<i>Thursdays</i> 10:00am – 11:00 am and by appointment
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COURSE DESCRIPTION

This course is designed to train the fund managers of the Marshall Real Estate Fund (MREF). In this class, the goal is to train real estate fund managers in both the analysis of REIT stocks, and in the construction of an active REIT portfolio designed to outperform the unmanaged Bloomberg REIT index of equity REIT stocks. REITs offer a unique combination of attributes of real estate assets and financial securities, and thus provide an opportunity for student fund managers to gain analytical skills related to core real estate valuation and analysis, security analysis, and active management portfolio construction.

Most of the course is based on *experiential learning*, in which small teams of 2-4 students work on developing their investment ideas, "pitch" them to one another, and then use this feedback to improve them iteration by iteration. Ultimately, the final recommendations will be executed via trades, and thus implemented into the MREF portfolio.

In the instructor-assigned teams, undergraduates and MBAs will work side-by-side: MBAs will take on the role of associates, with undergraduates taking the role of analysts. Whereas all team members will participate in every aspect of the analysis, this hierarchy is intended to replicate the dynamics of teams in the real estate, investments, banking and consulting industries.

- Associates (1-2 per team) will be disproportionate contributors to the organization, vision, and management of the teams. In addition to assimilating the data analysis produced by analysts (see below), associates are expected to pay special attention to how any strategy interacts with the fund's overall strategy, including proposals by other teams. Associates are also expected to serve as the lead for internal (within teams) discussions, and will play a disproportionate role in presenting the ideas to the class (between teams), and incorporating feedback from these discussions.
- Analysts (2-3 per team) will be primarily responsible for the data collection and analysis related to the development of investment ideas. Quantitative analysis using statistical packages, as well as data visualization, will be important tools analysts use in their roles. Technically, analysts will report to their corresponding associate, who functions as the team lead.

The background which prepares students for this exercise is organized around the following questions:

- What fundamental factors determine the value of real estate, and how do we quantify them? In this introduction to real estate valuation, we begin with a primer on urban economics, whose primary goal is to understand the role played by *physical space* in the various decisions faced by workers, firms, regulators, and other agents. We will apply these insights to commercial real estate analysis and valuation, carefully considering the separate roles played by supply and demand in determining the fundamental value for real estate.
- **REITs: What are they, what makes them special as investment vehicles, and how does their outlook appear?** After building a foundational framework based on general real estate valuation, the course moves specifically to consider real estate investment trusts, i.e., *REITs.* We discuss the history and structure of the REIT industry, REIT performance as an asset class, tax advantages of REITs, and critically, the current outlook for REITs in today's investment and interest rate environment, especially in a post-pandemic world.
- **How are REITs valued?** Following our discussion of industry background and outlook, we take up the subject of valuation of REIT stocks. We take two sequential approaches. First, we value REIT stocks using stock valuation metrics and techniques, including FFOx, AFFOx, PEG ratios, and a DDM valuation model. Our second valuation method values REITs as a portfolio of real estate assets, and in this "real estate valuation," we value the real estate assets held by the REIT, subtract off the debt, and then divide the resulting equity value by the number of shares and OP units outstanding.
- How can investors use analysis of REITs to create value? With the above foundation established, we are now in a position to consider how data-driven investors can derive strategies to beat a passive index of REIT stocks (i.e., a "REIT index" fund). Student teams will primarily consider *pairs trading strategies*, which form over- and under-weighting positions of specific REITs, informed by the economic and valuation analysis tools described above. This section of the class also focuses on performance benchmarking, in particular a careful consideration of the risk inherent in each position. Only with the proper measure of risk can an investor's value-added, i.e., the strategy's "alpha," be accurately determined.
- What are the frontiers of REIT research? We will wrap up the REIT training with a class discussion of recently published REIT research from academics and practitioners. The contemporary content will be selected from the top journals in finance, economics, and real estate. Students will also be given opportunities to generate original research, based on discussions of current research.

LEARNING OBJECTIVES

Upon successful completion of this course, students will be able to:

- Articulate the key factors that determine the value of real estate and of REITs, and how to exploit the insights gained from valuation to construct trading strategies (*learning goal 2 in Appendix 1*)
- 2) Weight risk and reward in a high-stake settings, and take decisions that create long term value for investors, based on reliable data-driven insights (*learning goal 1 in Appendix 1*)
- 3) Present their analysis and insights in a professional and rigorous way, so that they can be shared with executives (*learning goal 2 in Appendix 1*)

4) Lead a diverse team, composed of analysists and associates, to both conduct valuation, construct trading strategies, and present their insights (*learning goal 3 in Appendix 1*)

COURSE MATERIALS

This syllabus and additional course information are available through Blackboard, which is the primary channel of communication for this course. Please take note of announcements and email messages you receive. You can also communicate directly with the course instructors. To access Blackboard from your web browser, enter https://blackboard.usc.edu, and log in using your USC username and password (email blackbord@usc.edu if you experience problems).

GRADING:

ASSIGNMENTS	% of Grade
TAKE HOME MIDTERM	35%
TEAM PROJECT AND PRESENTATION	40%
MEMORANDUM ON PRESENTATIONS OF OTHER TEAMS	15%
CLASS PARTICIPATION	10%
TOTAL	100%

Final grades for this course will reflect the weighted sum of your assignment grades and will adhere to the grading policy approved by Marshall.

MIDTERM

Approximately one-third of the course grade will be derived from a midterm exam. The exam will be take-home, and done individually. The covered content corresponds to the course meeting prior to that time. The structure of the midterm will be different for undergraduate and graduate students. Details TBD.

TEAM PREOJECT AND PRESENTATION

At the end of semester, student teams will pitch their final recommendations to their classmates, and to the instructors. Evaluations will be based on the soundness of the fundamental analysis, clarity of communication, and originality. While the development of an investment recommendation and of the presentation are going to be a joint effort within every team, our expectation is that undergraduate students will mostly be in charge of constructing the underlying quantitative analysis, while graduate students will work on the big picture, direction and pitch of the idea. Accordingly, MBA students have a larger share of their grade determined by the performance in the final presentation. Grades for individual student contributions to team projects are assigned by us, based on our observations of the team's working dynamics, our assessment of the team's project quality, and thoughtful consideration of the information provided through your peer evaluations. (see Appendix II). Each team will also be expected to turn in a report containing the quantitative analysis supporting their presentation. Details TBD.

MEMORANDUM ON PRESENTATIONS OF OTHER TEAMS

We expect team presentations to be a valuable learning experience for the entire class, not only for the team that is presenting. Students should provide feedback to the presenters, and we plan to use the discussion of each investment strategy as an opportunity to discuss in depth the practical implementation of the concepts introduced in the course. Each student is expected to prepare a memorandum, overviewing the main points emerged from class discussion during each presentation. The memorandum will be submitted on the last day of classes. Details TBD.

PARTICIPATION

Class participation is an extremely important part of this course as the richness of the learning experience will be partially dependent upon the degree of preparation by all students prior to each class session. Our expectation is that you are prepared for all classes and will actively participate in and meaningfully contribute to the small group discussions (see also Appendix III). Graduate students in particular will be expected to actively engage and lead any relevant discussions.

ATTENDANCE POLICY

While we strongly encourage live class attendance, if you are unable to attend live, you have until 11:59pm on the Tuesday following class to watch that week's class session and submit your comment to the discussion thread. If you cannot attend class or (watch the recording) or submit the weekly assignment by deadline due to a religious holiday, family emergency, or health problem, please email one of the instructors prior to the deadline.

THE IMPORTANCE OF COURSE EVALUATIONS

The student course evaluations are valuable. This course will be improved, based on feedback from students and instructor observations.

TECHNOLOGY REQUIREMENTS

Although the course is primarily taught in person, students unable to attend class may access courser material either: 1) through zoom (live), or 2) through recorded class videos. For each of the latter, access is through Blackboard. To participate in online learning, you will need:

- Access to a working computer that has a current operating system with updates installed, plus speakers or headphones to hear lecture presentations;
- Reliable Internet access and a USC email account;
- A current Internet browser that is compatible with Blackboard (Google Chrome is the recommended browser for Blackboard);
- A working video camera with microphone for use on Zoom;
- Microsoft Word as your word processing program; and
- Reliable data storage for your work, such as a USB drive or Office365 OneDrive cloud storage.

If your computer does not have Microsoft Word, Office 365 package is available to you free of charge and allows you to install Word, Excel, PowerPoint, Outlook, OneNote, Publisher, and Access on up to 5 PCs or Macs and Office apps on other mobile devices including tablets. Office 365 also includes unlimited cloud storage on OneDrive. To download Office 365 log into your student (University) email through a web browser, choose Settings (top right corner), and select software. If you have further questions or need help with the software, please contact the USC ITS service portal.

HOW TO ACCESS READINGS VIA USC LIBRARIES

All of the readings can be accessed for free using the USC Libraries website (<u>https://librar-ies.usc.edu/</u>). Please see the Appendix for detailed instructions.

COURSE OUTLINE AND ASSIGNMENTS: SUBJECT TO CHANGE WITHOUT NOTICE

Theme	Topic and Date	Complete BEFORE Class
Overview of Course Introduction to Urban Economics	Week 1: 01/13/22 Course Introduction and Urban Economics, Market for Space	 Read: the syllabus Read: <i>Tobin's Q and the addition of new space</i>, Nordby and Taylor (Journal of Portfolio Management (JPM), 2013)
REITS and the REIT Industry REIT valuation and analysis	Week 2: 01/20/22 Structure, history, investment characteristics, contemporary REIT outlook	• Read: <i>The REIT Industry</i> , 2015, CFA Institute
	Week 3: 01/27/22 Valuing REITs as stocks; measuring and using FFO and AFFO multiples, applying a two-stage DDM model to identify potential trades.	• Read: Commercial Real Estate Analysis and Investments, Chapter 23, Geltner Miller, Clayton and Eichholtz, 3e

	Week 4: 02/03/22 Valuing REITS as real estate; NAV, NAV premiums, implied cap rates	• Read: <i>Do Stock Prices Really</i> <i>Reflect Fundamental Values? The</i> <i>Case of REITs</i> , William M. Gentry, Charles M. Jones, and Christopher J. Mayer, NBER Working Paper (2004).
	Week 5: 02/10/22 Managing Performance and Risk Against an Index; Pairs-trading and tracking- error math	 Read: <i>Determinants of Tracking</i> <i>Error for Equity Portfolios</i>, Raman Vardharaj, Frank J. Fabozzi and Frank J. Jones, <i>Journal of</i> <i>Investing</i>, 12, No. 2 (2004), pp. 37- 47 Read: <i>Pairs Trading: Performance</i> <i>of a Relative-Value Arbitrage Rule</i>, Evan Gatev, William N. Goetzmann, and K. Geert Rouwenhorst, 19, No. 3 (2006), pp. 797-827. Read: <i>Performance of Pairs</i> <i>Trading Strategy in the U.S. REIT</i> <i>Market</i>, Masaki Mori and Ziobrowski Alan J., <i>Real Estate</i> <i>Economics</i>, 39, No. 3 (2011), pp. 409-428.
	Week 6: 02/17/22 Wrap up discussion of REIT research; Midterm review.	 Read: Why are REITs Currently so Expensive, Stijn Van Nieuwerburgh, 47, No. 1 (2019), pp. 7-17. Read: Asset Allocation, Timing Ability, and the cross-section of Commercial Real Estate Returns, David C. Ling, Andy Naranjo, Benjamin Scheik, 47, No. 1 (2019), pp. 263-313. Note: Pairs or groups of MBAs will present papers and consider how we might implement or use the ideas in building our active REIT portfolio.

	Week 7: 02/24/22 Take Home Midterm	• Take-home Midterm due online 1 hour before start of class – to be reviewed in class
	Week 8: 03/03/22 Preparation for REIT presentations	• Review REIT memo to get an overview of what we need to accomplish and ultimately produce by the end of the semester. Choose REITs to analyze in pairs based on asset similarity and equity return correlations; schedule presentations
	Week 9: 03/10/22 Real Estate Financial Modeling	• Work-through REIT excel model; demonstrate S&P Global to pull REIT financial data; demonstrate RCA to pull market analysis and data; look at a couple of past pairs presentations.
	Week 10: 03/17/22	• No class, Spring Break
	Week 11: 03/24/22	• In-class work on team presentations
Presentation Scheduling	Week 12: 03/31/22 Team Presentations	• Team presentations

	Week 13: 04/07/22 Team Presentations	• Team presentations
	Week 14: 04/14/22 Team Presentations	• Team presentations
	Week 15: 04/21/22 Team Presentations	• Team presentations
	Week 16: 04/28/22 Portfolio Selection Decisions	 Meet to finalize memo and active positions, review estimated tracking error versus 5% budget constraint; review of pairs write-ups in final memo form. Memorandum on other group presentations is due.
	Final Exams Week 05/04/22-05/11/22	• Overview of positions selected to be implemented in the fund, submission of team write-ups

ADDITIONAL INFORMATION

Add/Drop Process

The last day to add the class or withdraw without receiving a "W" (and receive a refund) is January 28. The last day to drop with a mark of a "W" (no refund) is April 8.

Technology Policy

Videotaping faculty lectures is not permitted due to copyright infringement regulations. Audiotaping *may* be permitted if approved by the professor. Use of any recorded or distributed material is reserved exclusively for the USC students registered in this class. Exceptions to this policy may be granted to individual students with appropriate documentation on a case-by-case basis.

Minimal Technical Skills Needed

Most asynchronous course work will be completed and submitted in Blackboard and synchronous sessions will be held on Zoom. Therefore, you must have consistent and reliable access to a computer and the internet. In addition, minimal technical skills are required and include the ability to:

- Organize and save electronic files;
- Use USC email and attached files;
- Check email and Blackboard daily;
- Download and upload documents;
- Locate information with a browser
- Use Blackboard; and
- Use Zoom with a working video camera.

Class Conduct/Netiquette

Professionalism will be expected at all times. Because the university classroom is a place designed for the free exchange of ideas, we must show respect for one another in all circumstances. We will show this respect by exhibiting patience and courtesy in our exchanges (during class and on the discussion board). Appropriate language and restraint from verbal attacks upon those whose perspectives differ from your own is a minimum requirement. Courtesy and kindness is the norm for those who participate in my class. Remember, video conference business meetings and written, electronic communication are and will be the norm, so practice your professionalism in these spaces. Some Netiquette Rules:

- Exhibit professionalism and respect in your: attire, virtual background, manner of disagreeing with classmates, and amount of attention paid to your classmates.
- Display both your first and last name during video conferencing and synchronous class meetings.
- Minimize distractions with muting and video off when moving around
- Do not use all CAPITAL LETTERS or multiple exclamation points. This is considered "shouting" and can be seen as aggressive!!!!
- Begin emails with a professional salutation (Examples: Dr. Name; Hello Professor Name; Good afternoon Dr. Name). Starting an email without a salutation or a simple "Hey" is not appropriate.
- When sending an email, please reference the course number (Ex. BUAD306) in the subject line and sign the mail with your name.
- Use proper grammar, spelling, punctuation, and capitalization. Text messaging language is not acceptable. You are practicing for your role as a business leader.
- Re-Read, think, and edit your message before you click "Send/Submit/Post." As a check, consider whether you would be comfortable with your email/post being widely distributed on the internet.

Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" <u>policy.usc.edu/scampus-part-b</u>. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on Research and Scholarship Misconduct.

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call

studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call

studenthealth.usc.edu/sexual-assault

Free and confidential therapy services, workshops, and training for situations related to genderbased harm.

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086 <u>eeotix.usc.edu</u>

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298 usc-advocate.symplicity.com/care_report Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services (OSAS) - (213) 740-0776 <u>osas.usc.edu</u> OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

USC Campus Support and Intervention - (213) 821-4710

campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity and Inclusion - (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call <u>dps.usc.edu</u>, <u>emergency.usc.edu</u>

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call <u>dps.usc.edu</u>

Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

ombuds.usc.edu

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice - (323) 442-3340 or <u>otfp@med.usc.edu</u> <u>chan.usc.edu/otfp</u>

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.

Appendix I

How FBE 599 Contributes to Marshall Graduate Pro Marshall Graduate Program Learning Goals	FBE 599 Ob- jectives that support this goal	Assessment Method*
Learning Goal #1: Develop Personal Strengths. Our graduates will develop a global and entrepreneurial mind- set, lead with integrity, purpose and ethical perspective, and draw value from diversity and inclusion.	Learn how to weight risk and reward in a high-stake set- tings, and take decisions that create long term value for investors, based on relia- ble data-driven insights	Final presenta- tion and invest- ment recom- mendation
1.1 Possess personal integrity and a commitment to an organiza- tion's purpose and core values.		
1.2 Expand awareness with a global and entrepreneurial mindset, drawing value from diversity and inclusion.		
1.3 Exhibit awareness of ethical dimensions and professional stand- ards in decision making.		
<i>Learning Goal #2: Gain Knowledge and Skills.</i> Our graduates will develop a deep understanding of the key functions of business enterprises and will be able to identify and take advantage of opportunities in a complex, uncertain and dy- namic business environment using critical and analytical think- ing skills.	Understand the key factors that determine the value of real estate and of REITs, present analysis and insights in a professional and rigorous way.	Class participa- tion, Midterm Exam, final presentation and investment recommenda- tion
 2.1 Gain knowledge of the key functions of business enterprises. 2.2 Acquire advanced skills to understand and analyze significant business opportunities, which can be complex, uncertain and dynamic 		
namic. 2.3 Use critical and analytical thinking to identify viable options that can create short-term and long-term value for organizations and their stakeholders.		

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<i>Learning Goal #3: Motivate and Build High Performing Teams.</i> Our graduates will achieve results by fostering collaboration, communication and adaptability on individual, team, and organ- ization levels.	Lead a diverse team, com- posed of analy- sists and asso- ciates, to both conduct valua- tion, construct trading strate- gies, and pre- sent their in- sights	Team manage- ment, in the role of Associ- ate
3.1 Motivate and work with colleagues, partners, and other stake- holders to achieve organizational purposes.		
3.2 Help build and sustain high-performing teams by infusing teams with a variety of perspectives, talents, and skills and aligning individual success with team success and with overall organizational success.		
3.3 Foster collaboration, communication and adaptability in helping organizations excel in a changing business landscape.		

Appendix II

PEER EVALUATION FORM

Please allocate 100 points across all the members of your team including yourself, to reflect your assessment of their individual contributions to the team effort.

Your name:

Team-member name: Contribution:

1.	

2.	

3._____

Total: 100

In the space below, provide some summary comments that can be fed back to each of your team members:

Greatest Team Work Contribution/Strength

1	 	 	
2.			
3.			
3	 	 	

Areas for Improvement as a Team Member and Leader:

1._____

2	
3	

Finally, rate your team members, *and yourself*, based on the contributions to the selected assignment according to the criteria listed below. On a scale of 0 - 2 with 0 equal to ``does not meet expectations'', 1 ``meets expectations'' and 2 ``exceeds expectations''. Last, add up the points for each person with the maximum number of points for each person being 10.

Student Name:

Team Member Name:

Team Members/ Assessment Criteria of Team Contributions	Team Member	Team Member	Yourself
Names:			
1. Role Performance			
2. Assists Team Members			
3. Listening and Discussing			
4. Research and Information Sharing			
5. Time Management			
Total			

Appendix III

CLASS PARTICIPATION

Class participation is an extremely important part of the learning experience in this course as the richness of the learning experience will be largely dependent upon the degree of preparation by *all* students prior to each class session.

In-class participation is also a critical part of this course's learning experience. Cold calling will take place to encourage active participation and to gain multiple perspectives and points of view, thus lending itself to the richness of the learning experience. In-class participation grading will be based on students' demonstrated willingness to participate and the quality of the comments expressed, rather than quantity. While some students are far more comfortable than others with class participation, *all* students should make an effort to contribute meaningfully in *every* class.

Regarding readings, speaker questions and debates, students should diligently prepare and share the outcome of their analyses with the class. Students will offer their opinions in group settings many times in their careers; thus, class participation serves to prepare students for this business experience.

The evaluating of in-class participation is based on the following:

- *Relevance* Does the comment meaningfully bear on the subject at hand? Irrelevant or inappropriate comments can detract from the learning experience.
- Responsiveness Does the comment connect to what someone else has said?
- *Analysis* Is the reasoning employed consistent and logical? Has data from course materials, personal experience, or general knowledge been employed to support the assertions/findings?
- *Value* Does the contribution further the understanding of the issues at hand?
- *Clarity* Is the comment concise and understandable?

During class sessions, we assume the responsibility of a facilitator to encourage a discussion that includes perspectives from a variety of viewpoints and, secondly, to help pull together prevailing analyses and recommendations. The direction and quality of a discussion is the *collective responsibility of the group*. I expect students to provide the initiative for sound and lively discussion.

For each in-class session two (2) points will be awarded to a student for relevant and meaningful participation, one (1) point for modest contributions to the class and zero (0) points for no participation or not attending class. Absences, tardiness and unprofessional conduct will result in the loss of participation credit.

To underscore the importance of participation, 10 percent of the course grade is allocated to class participation.