



# USC University of Southern California

## Finance and Business Economics 589 Mortgages and Mortgage-Backed Securities

**Units: 3**

**Term—Day—Time: Fall 2024, Thursdays, 6:30-9:30 pm**

**Location: JKP 204**

**Instructor: Professor Richard K. Green**

**Office: 331B RGL**

**Office Hours: Thursdays, 3-5 PM**

**Contact Info: [richarkg@usc.edu](mailto:richarkg@usc.edu), 301-467-3582**

**Assistant: Nina Tibayan**

**Contact Info: [tibayan@usc.edu](mailto:tibayan@usc.edu)**

### Course Description

This course provides graduate-level exposure to theory and analytical methods used for valuing and pricing mortgages, mortgage-backed securities, and derivatives. In doing so, this course provides insight into not just how mortgage-backed securities and real estate capital markets operate, but also why. It provides a broad overview of mortgage-backed security, an in-depth discussion of specific structure finance products, and hands-on exercises to enhance learning of key concepts.

The growth in the scale and complexity of the U. S. mortgage market since the securitization revolution of the 1980s has been enormous. The volume of outstanding mortgage-related securities has grown to 9.8 trillion as of the second quarter of 2019, of which about \$600 billion is in commercial mortgage-backed securities. In comparison, the volume of outstanding marketable Treasury securities was about \$16 trillion, total corporate debt securities was about \$8 trillion. The Federal agency mortgage-backed securities outstanding has increased by more than 20 times over the last two decades, from about \$348 billion in 1987 to over \$7 trillion currently. Currently, the Federal Government uses securitization to finance roughly 7 in 10 home mortgages in the United States. The commercial mortgage-backed security market, which grew rapidly between 1990 and 2008, had almost no new transactions in 2009, with the exception of apartment loans financed by Fannie Mae and Freddie Mac. It made a robust recovery since then but has not returned to its earlier state.

The commercial market has in the last two years returned to a state of turmoil. Rising interest rates have made it difficult for properties that are performing well to refinance their debt, and the office market is facing an existential crisis. We will discuss the meaning of all of this.

The primary objective of this course is to combine the theory of finance with the practice of real estate capital markets to enable you to make intelligent business decisions in increasingly complex and turbulent real estate markets.

We will have a number of guest speakers over the course of the semester, who bring special expertise to the class. Their presentations and materials will be just as much a part of class as any other and therefore can be the subjects of exam questions. I will include links to their bios in the syllabus.

### **Prerequisite(s):**

Prerequisite(s) are course(s) that must be taken prior to this course, if any, and are decided by the department/program

### **Recommended Preparation:**

Know the financial functions of spreadsheets very well

### **Course Notes**

I will be flipping the classroom some this semester. There will be a video some weeks that I expect you to watch before class. YOU MUST WATCH THE VIDEO. There will be a short three-question quiz about each video every week, that will need to be completed within 24 hours of the end of class.

### **Communication**

I am happy to set up Zoom meetings with you. You may also text me at 301-467-3582.

### **Required Materials**

Richard K Green, *An Introduction to Mortgages and Mortgage-Backed Securities* (draft chapters).

Michael Lewis, *The Big Short*, Norton.

### **Optional Materials**

Davidson and Kerskovitz: *The Mortgage Backed Security Workbook*.

### **Grading Breakdown**

A grading breakdown includes all contributions to the overall course grade, with their corresponding weights/percentages. The listed assignments will be the same ones found in the Description and Assessment of Assignments section above.

<b>Assignment</b>	<b>% of Grade</b>
Two in Class Exams	30
Project Presentation	30
Final Comprehensive Exam	30
Quizzes on Videos	10
Total	100

## **Project**

**The project this year will be a presentation on how (or whether) you think the housing finance system could help with the housing affordability problems facing the nation right now.**

## **Grading Scale**

I grade on a curve. The mean GPA for the class will be slightly under 3.5 (the maximum allowable under the Marshall School of Business Policy).

## **Course-specific Policies**

You will do exams on your laptops and submit them to Brightspace. More instructions to come.

## **Sharing of course materials outside of the learning environment**

USC has a policy that prohibits the sharing of any synchronous and asynchronous course content outside of the learning environment.

## **SCampus Section 11.12(B)**

Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).

## **Course evaluation**

Please fill it out then it comes.

## Course Schedule: A Weekly Breakdown

Topics/Daily Activities	Readings and Homework	Assignment Dates
August 29 Mortgage Fundamentals; State of the Mortgage Market	Colwell and Dehring Green, Chapters 1-3 Green Video (Course 1)	
September 5 Mortgage Participants	Green, Chapter 2 Green Video (Course 2) Guest: <a href="#">Selma Hepp</a> CoreLogic	Quiz 1
September 12 Refinancing Loans: Residential and Commercial	Secrets to Refinancing Commercial Real Estate <a href="https://www.commercialpropertyadvisors.com/refinancing-commercial-real-estate/">https://www.commercialpropertyadvisors.com/refinancing-commercial-real-estate/</a> Green Video (Course 3)	Quiz 2
September 19 Interest Rate Fundamentals	Green, Chapter 11 Swap Curve <a href="https://www.mathworks.com/discovery/swap-curve.html#:~:text=The%20swap%20curve%20is%20a%20floating%20leg">https://www.mathworks.com/discovery/swap-curve.html#:~:text=The%20swap%20curve%20is%20a%20floating%20leg</a> Guest: <a href="#">Laurie Goodman</a> Urban Institute Green Video (Course 4)	Quiz 3
September 26 Risk	The Big Short (Book and Movie)	Exam 1 (One hour)
October 3 Residential Underwriting	Green Chapter 5	Quiz 4

<b>Topics/Daily Activities</b>	<b>Readings and Homework</b>	<b>Assignment Dates</b>
October 17 Commercial Underwriting	Green Chapter 7 Guest: <a href="#">Todd Popovich</a> HSBC	Quiz 5
October 24 Securitization	Green Chapters 6 and 12	Quiz 6
October 31 Derivatives	Green Chapter 11 Green Video (Course 5)	Quiz 7
November 7 Federal Mortgage Policy	Guest: <a href="#">Genger Charles</a> Amherst Securities	Quiz 8
November 14 International Issues	Guest: <a href="#">Steve Malpezzi</a> University of Wisconsin-Madison	<i>Exam 2 (One hour)</i>
November 21 Equity Issues in Real Estate Finance	Video: Redlined Guest Speaker <a href="#">Vanessa Perry</a> George Washington University	
December 5		Presentations

## Statement on Academic Conduct and Support Systems

*The current **Statement on Academic Conduct and Support Systems** is a required component of all USC syllabi and is updated yearly. Faculty should use the latest version of the Statement on Academic Conduct and Support Systems found in the Curriculum Coordination Office's Syllabus Template. The Statement below is current as of August 2018*

## 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” [policy.usc.edu/scampus-part-b](http://policy.usc.edu/scampus-part-b). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, [policy.usc.edu/scientific-misconduct](http://policy.usc.edu/scientific-misconduct).

### Support Systems:

*Counseling and Mental Health - (213) 740-9355 – 24/7 on call*  
[studenthealth.usc.edu/counseling](http://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](http://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](http://studenthealth.usc.edu/sexual-assault)

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

*Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298*  
[equity.usc.edu](http://equity.usc.edu), [titleix.usc.edu](http://titleix.usc.edu)

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](http://usc-advocate.symplicity.com/care_report)

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity | Title IX for appropriate investigation, supportive measures, and response.

*The Office of Disability Services and Programs - (213) 740-0776*

[dsp.usc.edu](http://dsp.usc.edu)

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

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

[campussupport.usc.edu](http://campussupport.usc.edu)

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

*Diversity at USC - (213) 740-2101*

[diversity.usc.edu](http://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*

[dps.usc.edu](http://dps.usc.edu), [emergency.usc.edu](http://emergency.usc.edu)

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*

[dps.usc.edu](http://dps.usc.edu)

Non-emergency assistance or information.