

**USC PRICE SCHOOL OF PUBLIC POLICY  
DOLLINGER MRED PROGRAM - SPRING 2024**

**RED545: ADVANCED REAL ESTATE & FINANCIAL MODELING**

***PRELIMINARY SYLLABUS***

Instructor: Ehud Mouchly  
Class Schedule: Sessions will be held on the following Saturdays, from 9:00am to 1:00pm  
**1/13/24, 1/27/24, 2/10/24, 2/24/24, 3/2/24, 3/23/24,  
4/6/24, 4/13/24**  
Location: **Online**

1) **Course Description, Objectives and Prerequisites:**

- a) This course is designed to equip you with a competitive edge through training in efficient quantitative real estate problem solving. We will focus on computerized modeling as an integral tool in decision making and deal structuring. We will jointly explore the potential of new AI tools as an aid in real estate free-form financial modeling. The course will be of greatest benefit to those of you who already have experience in financial and real estate analysis by learning advanced interpretive and technical skills using computerized spreadsheet software.
- b) The advanced nature of the course refers to the complexity of the problems that we will analyze and to the technical level of spreadsheet analysis and modeling. As a prerequisite to attending this course, you are expected to have working knowledge of real estate accounting and finance. You should also have generalized spreadsheet skills, such as spreadsheet commands and functions, use of range names, dynamic linking, meaningful formatting, etc.
- c) You will receive the first "homework" assignment prior to the first meeting of the class. I will determine the eventual instruction level of the course at the first meeting of the class based on your initial work product. That level will depend on my evaluation of the range of registered students' demonstrated real estate finance and accounting knowledge, and modeling skill levels.

- 2) **Course Plan:** Like all good plans, this plan, too, is a basis for change... The following course plan will, thus, be adjusted to meet and challenge the general level of knowledge and skills set of members of the class. It is an [adjustable] plan that may change to be as

realistically advanced as possible to enhance your modeling skills. Below is the tentative agenda:

- a) Session 1 (1/13/24):
  - i) Self-introductions. Sharing of experiences and expectations from the course.
  - ii) "Why model?" Introduction to financial and real estate modeling
  - iii) Nuts and bolts of model building
  - iv) Revisiting the first assignment which you will have completed prior to the first session. This will help establish a knowledge base line of real estate accounting and finance, and modeling aptitude of registered students.
  - v) Overcoming circular logic
  - vi) Briefing on take-home assignment
- b) Session 2 (1/27/24)
  - i) Review of take-home assignment
  - ii) Introduction and working through the "modeling toolkit."
  - iii) Modeling construction and permanent loans
  - iv) Briefing on take-home assignment
- c) Session 3 (2/10/24)
  - i) Review of take-home assignment
  - ii) Simulations of real estate partnership structures. Distributions modeling, including waterfalls.
  - iii) Briefing on take-home assignment
- d) Session 4 (2/24/24)
  - i) Review of take-home assignment
  - ii) Modeling office building and apartment building
  - iii) Briefing on take-home assignment
- e) Session 5 (3/2/24)
  - i) Review of take-home assignment
  - ii) Project cash flow modeling from static proforma to cash flow projections and sensitivity analysis
  - iii) Briefing on take-home assignment
- f) Session 6 (3/24/24)
  - i) Review of take-home assignment
  - ii) Methods of sensitivity analysis and decision support system
  - iii) Modeling land use optimization

- iv) Briefing on take-home assignment
- g) Session 7 (4/6/24)
  - i) Review of take-home assignment
  - ii) Monthly income property cash flow modeling. Mortgage amortization modeling exercise
  - iii) Modeling for-sale housing development and investment
  - iv) Briefing on take-home assignment
- h) Session 8 (4/13/24)
  - i) Review of take-home assignment
  - ii) Modeling land development projects
  - iii) Course wrap-up
  - iv) Briefing on "take-home" final assignment

3) **Teaching Method:**

- a) The basic course format will be generating and working through real estate computerized business models and case studies, including "reverse engineering," simulations, analytical calculations, identification of key analytic issues and inferential modeling. We will make time during class for discussion and hands-on Q&A.
- b) Our sessions will be in a workshop format combining lecture and interactive sessions devoted to skill-building in advanced real estate financial analysis, modeling, exercises, and review of assignments. If you need introductory or remedial training in basic spreadsheet use and real estate financial analysis, this is **not** the place.
- c) Student-submitted case studies are encouraged. If yours is a particularly thoughtful and interesting project, you will be allowed – subject to discretionary approval – to substitute your project analysis in lieu of class assignments.
- d) In addition to the "homework" session assignments, short periodic readings will also be assigned.

4) **Prerequisites for Registered Students:**

- a) Successful completion of RED542 (or equivalent) and either successful completion or concurrent attendance in RED546 (or equivalent);
- b) A solid working knowledge of real estate financial analysis, understanding of real estate accounting, and spreadsheets use;

5) **Auditing the Course:**

- a) Registered USC students may audit the class with prior instructor permission, but only if they commit to attend every class session.

- b) Auditing students need not submit assignments. They will be asked to sit in the “peanut gallery.” Registered students will have absolute priority in class discussions.
- 6) **Hardware & software:** All students must have a laptop / notebook computer in their possession with access to high-speed internet. Microsoft Excel (Office365) will be the spreadsheet of instruction. Some assignments will benefit from use of Microsoft Word and PowerPoint.
- 7) **Collaboration:** Unlike the “real world,” joint work on a single computer or networked / shared work in class or on-line defeats the learning objective of individual skill-building and is counter-productive. Having said that, collaborative work may occasionally be specifically assigned.
- 8) **Communications:** All students must have USC e-mail accounts capable of attaching and detaching, encoding and decoding Microsoft Office and Adobe Acrobat PDF files. All communication, homework assignments and reviews will be handled only via e-mail (and Zoom, as appropriate.)
- 9) **Suggested / Recommended Readings:**
- There is no mandatory textbook for this class. However, you will benefit by referring to appropriate sections in the following recommended books and resources (in no particular order):
- a) Brueggeman & Fisher. Real Estate Finance & Investments, 17<sup>th</sup> edition, 2022, McGraw-Hill Education
  - b) Peiser & Hamilton, Charles, Egelanian, Dermisi. Professional Real Estate Development, the ULI Guide to the Business, 4<sup>th</sup> edition, 2022, Washington: the ULI
  - c) Long. Finance for Real Estate Development, 2019, Washington: the ULI
  - d) Alexander, Kusleika, Walkenbach. Excel 365 Bible, 2022, Wiley
  - e) Staiger. Foundations of Real Estate Financial Modelling, 2<sup>nd</sup> edition, 2018, Routledge
  - f) Zuckerman & Blevins. Real Estate Development Workbook and Manual, Paramus: Prentice Hall (*out of print, but worth looking for*)
  - g) Zuckerman. Real Estate Investment and Acquisition Workbook, Aspen Law & Business Publishers (*out of print, but worth looking for*)
  - h) The internet contains a vast amount of online training and support resources, *e.g.:*
    - i) <https://support.microsoft.com/en-us/office/excel-video-training-9bc05390-e94c-46af-a5b3-d7c22f6990bb>
    - ii) Linked-In Learning Online Training - accessible through your personal USC account at [my.usc.edu](http://my.usc.edu)

- 10) **Grading:** Subject to prevailing School regulations, students may opt for either a letter grade or Pass/Fail grade. If you choose a letter grade, it will be awarded based on the follows:
- a) 1/3, for class participation, including: real-time spontaneous solutions for modeling financial and real estate issues; suggestions for alternative solutions to modeling issues; demonstration of inferential thinking; application of theories learned in RED 542 and RED 546 or equivalent courses to real world problems.
  - b) 1/3, for demonstration of increased skill levels from session to session through work on take-home assignments.
  - c) 1/3, for "Final" take-home assignment. There will not be an in-class final examination.
- 11) **Class Schedule:** Class will meet for four hours every other week on Saturdays (see the schedule at the top). Attendance in class meetings is mandatory. We will also convene every other week for a one-hour zoom conference, where attendance is optional.
- 12) **Office Hours:** No set time. Students may request a short individual phone/zoom conference with me at mutually convenient times.

### **Statement on Academic Conduct and Support Systems**

#### **Academic Integrity:**

*The University of Southern California is a learning community committed to developing successful scholars and researchers dedicated to the pursuit of knowledge and the dissemination of ideas. Academic misconduct, which includes any act of dishonesty in the production or submission of academic work, comprises the integrity of the person who commits the act and can impugn the perceived integrity of the entire university community. It stands in opposition to the university's mission to research, educate, and contribute productively to our community and the world.*

*All students are expected to submit assignments that represent their own original work, and that have been prepared specifically for the course or section for which they have been submitted. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s).*

*Other violations of academic integrity include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), collusion, knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.*

*The impact of academic dishonesty is far-reaching and is considered a serious offense against the university. All incidences of academic misconduct will be reported to the Office of Academic Integrity and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the university.*

*For more information about academic integrity see [the student handbook](#) or the [Office of Academic Integrity's website](#), and university policies on [Research and Scholarship Misconduct](#).*

*Please ask your instructor if you are unsure what constitutes unauthorized assistance on an exam or assignment, or what information requires citation and/or attribution.*

**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](https://osas.usc.edu). You may contact OSAS at (213) 740-0776 or via email at [osasfrontdesk@usc.edu](mailto:osasfrontdesk@usc.edu).

**Support Systems:**

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

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

[988 Suicide and Crisis Lifeline](#) - 988 for both calls and text messages – 24/7 on call

The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

[Relationship and Sexual Violence Prevention Services \(RSVP\)](#) - (213) 740-9355(WELL) – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

[Office for Equity, Equal Opportunity, and Title IX \(EEO-TIX\)](#) - (213) 740-5086

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

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

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) 740-0411

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

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

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) 442-1200 – 24/7 on call

Non-emergency assistance or information.

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

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) 442-2850 or [otfp@med.usc.edu](mailto:otfp@med.usc.edu)

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

