

**NEW YORK UNIVERSITY
Stern School of Business**

Department of Finance

Spring 2009



**REAL ESTATE CAPITAL MARKETS
C15.0038**

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REAL ESTATE FINANCE
C15.0039

SYLLABUS

Course Number: C15.0038
Days: Tuesday and Thursday
Times: 2:00 – 3:15 PM
Dates: TBA
No Classes: TBA
Teaching Assistant: TBA

All classes are held at TBA.

Course Objective:

This is the second two tightly focused courses intended for finance students specializing in real estate. This course covers equity and debt instruments trading in secondary markets: how real estate debt is securitized, pass-through securities, CMOs, CMBS, with a novel discussion of structuring subprime and CRE-CDOs from a credit-risk perspective. We also cover equity structures, in particular REITs and important issues in accounting and financial disclosure of equity REITs. The valuation and trading in capital markets, from the investment perspective is rounded off by a discussion of investment performance attribution and the use of real estate derivatives to manage market and credit risk.

An important **prerequisite** of this course is **‘Foundations of Financial Markets’**, C15.0002, that develops the basic concepts and tools of modern finance, in particular risk and return, as well as a solid understanding how financial markets work and how different kinds of financial instruments are valued.

Ideally, the **‘Real Estate Finance’**, C15.0039, which rigorously applies topics from corporate finance/financial management associated with raising capital in the ‘primary markets’ has been successfully completed by the student prior to attending this class. In addition, students benefit if they are familiar with topics covered in courses such as “Debt Instruments”, C15.0026, “Investment Principles”, C15.0041, “Investment Topics”, C15.0042, and “Futures and Options”, C15.0043.

In this course, students refine their understanding of analytical valuation techniques and risk measures; and they apply this knowledge by structuring appropriate securitization solutions, valuing existing securities, and considering real estate investment risk and performance issues at the portfolio level. Students will deepen their mastery of market and credit risk analysis, and apply portfolio and risk management techniques to real estate investments as an asset class.

Students collaborate in small teams on real estate-specific cases and present them at the end of the course.

As real estate finance and investment analysis are two of the most complex and sophisticated aspects of applied finance, it is increasingly important – in addition to displaying analytical dexterity and spreadsheet modeling skills – that financial practitioners know how to communicate their analysis. In order to hone professional writing and speaking skills, this course requires students

- to interact with their peers during the preparation of case studies and
- to demonstrate their ‘persuasive communication’ abilities in speaking and writing

All NYU students can readily ask for help with writing skills from ‘The Writing Center’ at NYU's Expository Writing Program in the College of Arts and Science. For further details, please visit http://www.nyu.edu/cas/ewp/html/writing_center.html

Required Books:

- (BF): Brueggeman and Fischer: “Real Estate Finance and Investments”, 13th edition, 2007, McGraw-Hill, ISBN: 0-07-352471-9
- (F-MBS): Fabozzi: “Handbook of Mortgage-Backed Securities”, 6th edition, 2006, McGraw-Hill, ISBN: 0-07-146074-8
- (F-FI): Fabozzi: “Fixed Income Analysis, Workbook, 2nd Edition”, 2007, Wiley, ISBN: 978-0-470-06919-6
- (GP): Garrigan and Parsons: “Real Estate Investment Trusts: Structure, Analysis and Strategy”, 1997, McGraw-Hill Irwin, ISBN 0-7863-0002-7

Recommended Books:

- (B): Benninga: “Financial Modeling”, 3rd edition, 2008, ISBN: 978-0-262-02628-4
- (BRL): Block: “Investing in REITs: Real Estate Investment Trusts: Third Edition”, 2006, Bloomberg Press; ISBN: 1576601935
- (BO): Bluhm and Overbeck: “Structured Credit Portfolio Analysis, Baskets and CDOs”, 2006, Chapman & Hall/CRC, ISBN: 1-58-488647-1
- (FBB): Fabozzi, Bhattacharya, Berliner: “Mortgage-Backed Securities: Products, Structuring, and Analytical Techniques”, 2007, Wiley, ISBN: 047-004773-9
- (GLLZF): Goodman, Li, Lucas, Zimmerman, Fabozzi” “Subprime Mortgage Credit Derivatives”, 2008, Wiley, ISBN: 047024366X
- (K): O’Kane: “Modelling Single-name and Multi-name Credit Derivatives”, 2008, Wiley, ISBN: 0470519282
- (LSF): Lancaster, Schultz, Fabozzi: “Structured Products and Related Credit Derivatives: A Comprehensive Guide for Investors”, 2008, Wiley, ISBN: 0470129859
- (SJM): Syz: “Property Derivatives: Pricing, Hedging and Applications”, 2008, Wiley, ISBN: 0-470-99802-1
- (W): Wagner: “Credit Risk: Models, Derivatives, and Management”, 2008, Chapman & Hall/CRC, ISBN: 1584889942
- (W): Whiting: Playing the REITs Game: Asia's New Real Estate Investment Trusts, 2006, Wiley, ISBN: 978-0-470-82204-3
- (P): Perrucci: Mortgage & Real Estate Finance”, 2008, Risk Books, ISBN: 190634812X
- (PC): Poorvu and Fisher: “The Real Estate Game: The Intelligent Guide to Decision-Making and Investment”, 1999, ISBN: 0-684-85550-X

- (R): Rees: “Financial Modelling in Practice: A Concise Guide”, 2008, Wiley, ISBN: 978-0-470-99744-4
- (SJL): Suarez: “European Real Estate Markets”, 2009, Palgrave Macmillan, ISBN: 0230013163
- (T): Tavakoli: “Structured Finance and Collateralized Debt Obligations: New Developments in Cash and Synthetic Securitization”, 2008, Wiley, ISBN: 0470288949

Case Studies: Students collaborate in small teams (maximum three individuals) on real estate specific cases and present them at the end of the course. The applied case studies are designed to emulate key issues encountered in practice, and - by requiring students to make judgments - they complement the conceptual command of the analytical material in a unique and realistic manner.

Supplementary Readings: Handouts, articles, additional exercises, review material and all other relevant communication will be posted on the Blackboard website for this course.

Course Structure: This course gives you the opportunity to meld previously gained knowledge in realistic and sophisticated real estate applications with important new analytical tools, and the course structure reflects the variety and depth of subject material covered:

Preparation time involves review, background reading, and problem solving using EXCEL and WORD for the write-ups. Preparation and presentation of case studies require teams (of no more than three individuals).

Classroom time consists primarily of discussions of concepts and occasional review of assignments. Students will be regularly called upon to present their analysis in-class and to relate it to previously studied materials.

Grading, Exercises and Examinations: Throughout the semester, you can check your understanding of the material by doing the assignments. This weekly assessment is complemented by a midterm exam and short, unannounced, in-class quizzes. The final exam is comprehensive.

Grade Distribution: Grading is based on the distribution of results across all class participants, rather than the total number of points, and the grading process adheres to the grading curve set by the Finance department. The professor has no control over this class curve, which is distributed approximately as follows:

A:	(A, A-)	25%
B:	(B+, B, B-)	45%
C:	(C+, C, C-)	25%
D and F:		5% (earned by the student who has not handed in assignments nor taken exams)

Grading criteria are as follows:

Assignments and writing	30 points
Midterm exam	20 points
Class participation	10 points
In-class quizzes	10 points
Final exam	<u>30 points</u>
TOTAL	100 points

Attendance: Students are expected to attend each class and participate actively and knowledgeably. Constructive, courteous, and active class participation is required and carries 10% of the final grade in the course. The classes will start on time, attendance will be taken at the start of each session, and if you are late or have missed a session, please inquire with other students, outside of class-time, about what you missed. During sessions, please turn off portable phones and all other electronic devices that might distract your colleagues. Recruiting activities are not acceptable reasons for class absence. Please notify me as soon as possible if it appears likely that you will miss class for an extended period of time due to illness or another reason.

Deadlines:

- each assignment (the WORD write-up as well as any supporting model) is due by e-mail 24 hours prior to class meetings, and a hardcopy of each assignment is due at the beginning of the class on each class meeting date (specified in the “SCHEDULE” below)
- the final versions of cases are due by the Sunday prior to the week when they are presented

Assignments: All students are expected to pursue and meet the highest standards of academic excellence by adhering to the norms of a serious intellectual community. If you are unclear about the rules and styles of citation, please read the section “Bibliography and Footnote Style Guide” and follow the resources listed at <http://library.nyu.edu/research/bibliographies>.

Each assignment must take the form of a professional communication: a document in WORD that conforms to formatting standards, that is easy to read (double-spaced), and that includes bibliographic references and all supporting models.

The structure of a professional communication opens with an executive summary, followed by a succinct description of the project/assignment, then the body of your analysis with a clearly articulated commentary, accompanied by excerpts and graphs imported from the supporting analytical models, which you may have to create and which you must append to the assignment.

If you are asked to ‘replicate’ a table or results presented in a textbook, for example, you cannot merely ‘copy the numbers’ from the source, but you must first create the underlying EXCEL model.

Compelling narrative, neatness, organization, logic, clarity, grammar, punctuation, and spelling of each assignment are important elements to impress me, your colleagues, your bosses and your clients...

Consider that this course is an opportunity to network with other sophisticated real estate finance professionals, to enhance your analytical prowess to new heights, to polish your written and verbal presentation and communication skills, and to have fun in a polite atmosphere. In this class, you are rewarded for asking intelligent questions - - and you will not lose your client (or your job) if you make a mistake...

My goal is to provide you with the chance to demonstrate your ‘mastery and/or proficiency of core and ancillary material comprising the course’, by submitting work ‘in a condition that could be used confidently in a professional setting with virtually no modification’.

I hope this characterization, quoted from NYU’s “Qualitative Standards for Grades”, and which constitutes the requirement to earn an “A” - the highest grade possible, is a truthful portrayal of your performance ahead...

New York University promotes an ethical learning environment and ensures that all students understand the concepts of academic integrity. This is an extremely important issue for the students' time at NYU, but also for the time after graduation. Hence all students are required to familiarize themselves with the Statement of Academic Integrity and the NYU Stern Undergraduate College Student Code of Conduct: http://w4.stern.nyu.edu/uc/currentstudents/codeofconduct.cfm?doc_id=5599.

A student's responsibilities include, but are not limited to, the following:

1. A duty to acknowledge the work and efforts of others when submitting work as one's own. Ideas, data, direct quotations, paraphrasing, creative expression, or any other incorporation of the work of others must be clearly referenced.
2. A duty to exercise the utmost integrity when preparing for and completing examinations, including an obligation to report any observed violations.

Please read this carefully and make sure that you follow it whenever you submit any work for this course. Also realize that there are a number of penalties associated with violating the Statement of Academic Integrity and the Code of Conduct; they range from failure for a paper or course to dismissal from the University.

At his url: http://w4.stern.nyu.edu/citl/articles.cfm?doc_id=3396, you find additional links to meta-teaching issues on Academic Honesty, Civility in the Classroom, Copyright/Fair Use, Diversity, and How People Learn.

Welcome again and good luck!

SCHEDULE (subject to revision)

Week # and Dates	Topic	Background readings (must be completed prior to class session)
1	Introduction to course	1) R. Greer, Winter 1997, "What is an Asset Class, Anyway?", Journal of Portfolio Management, pp. 86-91. 1) S. Hudson-Wilson and B. Elbaum, Spring 1995, "Diversification Benefits for Investors in Real Estate", Journal of Portfolio Management, pp. 92-99.
2	Fixed rate mortgages Adjustable rate and variable payment mortgages Shared amortization mortgages Reverse-Annuity mortgages	Chapters 4 and 5 (BF) Chapter 1(F-MBS)
3	Agency Pass-Through Securities	1) Chapter 19 (BF) pp 554-571 2) Chapters 2, 3, 4 (F-MBS)
4	RMBS: Prepayment analysis and modeling and valuation of mortgage backed securities	1) Chapter 19 (BF) pp 572-578 2) Chapters 24, 25, 31 - 34 (F-MBS)
5	Structuring CMOs, IOs, and POs and derivative securities	1) Chapter 20 (BF) pp 581-604 2) Chapters 19, 20, 21, 22, 23 (F-MBS)
6	Non-Agency mortgage-backed securities	1) Chapters 5, 6, 28 (F-MBS)
8	Commercial mortgage backed securities	1) Chapter 20 (BF) pp 605-615 2) Chapters 49, 50, 51, 52 (F-MBS)
9	Real Estate Investment Trusts	1) Chapter 21 (BF) 2) Chapters 1, 2, 3, 9, 12, 13, 14 (GP)
10	Credit risk analysis: the cash flow and asset volatility perspectives CRE-CDOs, and Subprime Mortgage Credit Derivatives	1) Chapter 20 (BF) 2) Handout
11	Real Estate Investment Performance and Portfolio Considerations	1) Chapter 22 (BF)