

**Mortgage Securitization & Other Assets**  
**11.353/15.429**  
**Tues & Thurs 9:30 am – 11:00 am; 9-354**

Instructor: Walter N. Torous  
Office: 9 - 333

Course Overview

This course investigates the economics of securitization. Securitization is an important innovation in U.S. and global capital markets. It allows highly illiquid assets such as mortgages, automobile loans and credit card receivables to be transformed into more liquid financial instruments. Securitization also allows intermediaries to segment the risk and term structure characteristics of the underlying assets into a wide variety of alternative structures, thus expanding the domain of suitable investors.

Securitization also provides an important source of financing for a variety of businesses ranging from commercial real estate development to automobile manufacturers and dealers.

The course will apply the tools of economics and finance to provide a detailed understanding of the markets for asset-backed securities. The basic mechanics of structuring deals for various asset-backed securities will be explored. It will also consider the risk management techniques used in both the pooling and slicing (tranching) phases of securitization. The course will then consider the numerous problems that arise in pricing pooled assets using Monte Carlo and option pricing techniques and an analysis of the trading strategies that are used in these markets. The course concludes with issues pertaining to the use of asset-backed securities to finance projects and other business activities.

Textbook and Reading Materials

Many of the lectures will be based on Pietro Veronesi's text Fixed Income Securities: Valuation, Risk, and Risk Management (2010) published by John Wiley and Sons.

Reading materials will be posted on the class website. These materials will complement and expand upon the issues discussed in class.

Evaluation

Quizzes (3)	60%
Homework	30%
<u>Participation</u>	<u>10%</u>
Total	100%

Teaching Assistant: Sheharyar Bokhari

## SYLLABUS

<u>Week of:</u>	<u>Topics:</u>	<u>Readings:</u>
February 5	What is securitization? Economic Rationale Legal Foundations	
February 12	Mortgages: FRMs and ARMs	8.1 and 8.2 (but not 8.2.1 yet)
February 19	Pass-through Securities	8.3 and 8.7
February 26	Collateralized Mortgage Obligations (CMOs)	8.4
March 5	<b>Quiz #1 on 3/7/13</b> Term Structure Models: Binomial Tree Models	11.1 and 11.3
March 12	Term Structure Models: Continuous-Time Models	19.1-19.4
March 19	Prepayment and Default Models	8.2.1
April 2	Pricing of Mortgage Backed Securities	12.3
April 9	Monte Carlo Simulation	13.1, 13.2, 13.6, 17.3, 17.5
April 16	<b>Quiz #2 on 4/18/13</b>	
April 23	Commercial Mortgage Backed Securities (CMBS) Servicers Defeasance	
April 30	HBS case: <i>Busse Place</i>	
May 7	Credit Card Receivables and other Securitizations	
May 14	<b>Quiz #3 on 5/16/13</b>	