This course applies the latest economic thinking and research to the task of analyzing real estate market fundamentals: understanding urban spatial structure, city fiscal and regulatory policies, forecasting supply/demand and real estate cyclicality. In addition to the 2 weekly lectures, and readings, the course involves 5 largely computer-based exercises (30% of grade), a mid term and final exam (each 35% of grade). The exams are 1½ hours and cover material in each half of the course.

The course materials are two. First, there will be 12 lecture PPT files that represent the material in the lectures (see outline below). Revisions to these will be posted on the course web site just prior to each set of lectures. This material represents a significant update and expansion of the text DiPasquale and Wheaton, Economics and Real Estate Markets (Prentice Hall, 1996). Some texts are available at the MIT Coop, and CopyTech has Xerox copies (it is officially out of print). However, the lecture files will enable students to cover the material without purchase of the text. Second, there is a set of journal articles (listed below) that are all posted on the course website (either as URLs or PDF files). These are required reading and can also be downloaded.

**COURSE OUTLINE**

I. Introduction (9/5, 9/10)
   A. The Real Estate Sector: Capital and Property markets
      1. Review of Economic concepts
   B. Micro and Macro economic analysis
   C. EXERCISE: Comparative statics: understanding changes in real estate markets (9/10-9/17)

II. Residential land markets: prices and land use (9/12, 9/17)
   A. Location and rents: spatial equilibrium
   B. Submarkets and land use segregation
   C. Urban growth, rents and prices

III. Residential development (9/19, 9/24)
   A. The highest use for residential development
   B. Location, land use and density
   C. Transition between land uses (gentrification, redevelopment)
   D. EXERCISE: determining optimal housing FAR (9/24 – 10/1)

IV. Industrial Location (9/26)
   A. Historical development and changing technology
   B. Transportation and shipping costs
   C. Tax and public policy effects

V. Office location: Edge Cities (10/1, 10/3)
   A. The office space market and the Labor Market
   B. Theories of Multiple centered cities.
      1. Agglomeration and employment clustering
      2. The commercial Land Market

VI. Retail Location, Shopping Centers, E-commerce (10/8, 10/10, no class on 10/15)
A. Retail travel patterns and the distribution of stores
B. Pricing, spatial competition, internet competition
C. Shopping centers, store clustering, agglomeration
D. EXERCISE: simulating potential shopping center demand (10/10-10/24).

MID-TERM EXAM (10/22– in class, on material in sections I-VI)

VII. Local government and land markets (10/17, 10/24)
   A. Property taxes, public expenditure and local services
   B. Community choice, "capitalization", and income segregation
   C. The fiscal incentives for land use regulation

VIII. Regulating/managing Development (10/29, 10/31)
   A. Public goods and "Neighborhood" effects.
   B. Internalizing external effects through government or private contracts.
   C. Congestion, transportation infrastructure, planning regional development.

IX. Macro analysis of housing (11/5, 11/7, 11/12)
   A. Housing units, households and Tenure choice
      1. Demographic, economic influences
   B. Housing appreciation, mortgages and the cost of owning
   C. Moving, Vacancy and Sales: the demand for housing quality.
   D. Alternative sources of housing supply

X. Macro Analysis of non-residential property (11/14, 11/19, 11/21)
   A. The operation of non-residential Markets.
      1. Vacancy, Absorption, market frictions
      2. Leasing, term structures.
   B. Long term trends in space usage and demand.
   C. Stock flow theory and real estate cycles.
   D. EXERCISE: Developing MSA market forecasts: apartments (11/21-12/10)

XI. Time Series Analysis of Real Estate Markets (11/26, 12/3, no class 11/28)
   A. Asset pricing: Expectations, information, "efficient markets".
   B. The time-series properties of housing and commercial space markets.
   C. Alternative approaches to forecasting markets.

XII. Regional Growth and Real Estate Markets (12/5, 12/10)
   A. The Determinants of metropolitan growth
      1. Export demand and Industrial development
      2. Demography, migration and Wages
   B. A model analyzing impact of demand and Supply Shocks on real estate
   C. Economic competition and equilibrium between cities.
   D. Systems of cities: specialization, labor sorting, supply constraints

FINAL EXAM: (week 12/16, 10:30-12:00 in classroom, on material is sections VII-XII)
11.433(15.021j) Reading List

I. Introduction, Real Estate micro, macroeconomics: DiPasquale and Wheaton, Chapters 1,2.

Wheaton, W. et. al., “100 years of Commercial Real Estate Prices in Manhattan”, Real Estate Economics 37, 1 (2009), 69-84.


II. Residential Land Markets: DiPasquale and Wheaton, Chapter 3.


III. Residential Development: DiPasquale and Wheaton, Chapter 4.


IV. Industrial Location: DiPasquale and Wheaton, Chapter 5.


V. Office Location and Edge Cities: DiPasquale and Wheaton, Chapter 5.


VI. Retail Development: DiPasquale and Wheaton, Chapter 6.


Rolheiser, L. "Commercial Property Tax Incidence: Evidence from the rental market", *MIT Center for Real Estate (Cambridge)*, June, 2017

Fuest, Peichl, Siegloch, "Do higher local corporate taxes reduce wages: micro evidence from Germany", *ZEW discussion paper 16-003 (Mannheim)*, December, 2015


Hans Koster, Jan Rouwendal, "The effects of mixed land use on Residential property Values", *Tinbergen Institute Paper* TI2010-105/3 (October, 2010).

Chetty, R. and N. Hendren, “The Impact of Neighborhoods on Intergenerational Mobility:…” (2015), Harvard University and NBER.


IX. Macro housing analysis: DiPasquale and Wheaton, Chapters 8,9,10.

Todd Sinai and N. Souleles "Owner Occupied Housing as a Hedge against Rent Risk”, *Quarterly Journal of Economics*, (May, 2005), 763-789.


X. Macro Analysis of Non-residential property:  DiPasquale and Wheaton, Chapters 11,12.


XI. Time Series Analysis of Real Estate Markets.


XII. Regional Growth and Real Estate Markets: DiPasquale and Wheaton, Chapter 7.


