

Real Estate Economics MBAX 6835 Course Syllabus for Fall 2008

Lectures:	Wednesday 6:30pm-9:15pm Koelbel S110
Instructor:	Professor Thomas G. Thibodeau
Office:	Koelbel S417
Office Hours:	Tu, Th 3:00pm-4:45pm; Wed 4:00pm-6:15pm; and by appointment
Phone:	303.735.4021 (Office) 303.492.3643 (Katie Mrazik – CU Real Estate Center)
Email:	tom.thibodeau@colorado.edu

Description and Objective:

The course will first describe the three major approaches to estimating real property value: market (or sales) comparison, the income approach, and the cost approach. These techniques will be used to estimate market values for both residential and commercial properties.

The course will then examine real estate market operations. We will examine various theories of land price determination and use these models to understand how the private market allocates land to competing residential, office, retail, industrial/warehouse, hotel and other end users. This course draws heavily from topics taught in traditional urban and regional economics courses and treats real estate like any other scarce resource allocated in a market oriented economy. The student will examine how factors influencing the demand for real estate interact with the factors influencing the supply of real estate to determine market rents and how the flow of future expected income is capitalized to yield the market price of the asset.

Materials:

1. Required Text
Income Property Valuation, by Jeffrey D. Fisher and Robert S. Martin (FM), 3rd Edition, Dearborn Financial Publishing, Inc. 2008.
2. Optional texts (on reserve in Business School Library):
 - a. *Urban Economics and Real Estate: Theory and Policy*, John F. McDonald and Daniel P. McMillen (MM), Blackwell Publishing, 2007.
 - b. *Ten Principles for Successful Development around Transit*, Robert Dunphy, Deborah Myerson and Michael Pawlukiewicz (DMP), The Urban Land Institute Press, 2003.
 - c. *Resort Development Handbook*, Urban Land Institute (ULI), Urban Land Institute Press, 1997.

Course Requirements and Grading:

1. Two take-home exams each worth 30% of your course grade; and
2. A group project worth 40% of your course grade.

Schedule of Classes, Course Outline and Assignments

Class 1: September 10, 2008

- I. Course Overview (The Syllabus)
 - A. Economic Fundamentals of Real Estate Markets
 - 1. Demand: Population and Employment
 - 2. Supply: Existing Stock and New Construction
 - 3. Market Equilibrium
 - 4. Market Dynamics and the Role of Expectations
 - B. Three Approaches to Real Property Valuation
 - C. Real Estate Markets
 - 1. The Housing Market
 - 2. Commercial Property Markets
 - D. Urban and Regional Economics
 - 1. Location Theory: Bid Rents and Rent Gradients
 - 2. The Role of the Public Sector

- II. Economic Fundamentals: Population and Employment
 - A. Residential Real Estate
 - 1. House price (asset price, service price)
 - 2. After-tax user cost and tenure choice (rent vs. own)
 - 3. Demand drivers (population, households, income, preferences, and expectations)
 - 4. Housing supply (existing stock, new construction)
 - 5. Cycles
 - 6. Defining/Identifying housing submarket boundaries
 - a. Geographic
 - b. Governmental (variation in level and/or quality of public services)
 - c. Land Use
 - 7. Some Stylized Facts: prices, the existing stock, new construction
 - a. The US Housing Market
 - b. Colorado Housing
 - c. The Denver MSA
 - d. Boulder: the County, the City
 - B. Economic Drivers in Commercial Property Markets
 - 1. Economic Base Analysis
 - a. Location Quotients
 - b. Employment Multipliers
 - 2. Employment by NAICS Sector
 - a. US Employment
 - b. Denver MSA
 - c. County
 - 3. Impact of Commercial Real Estate on the Colorado Economy (NAIOP Study)
 - a. Direct and Indirect Impacts
 - b. Output and Employment
 - c. Existing, new construction, tenant improvements, transactions, refinancing
 - d. By property type (office, retail, industrial, hotel)

Class 2: September 17, 2008

III. Valuation Techniques

- A. Market (or Sales) Comparison
 - 1. Identify Comparable Properties
 - 2. Non-real estate adjustments
 - 3. Financing adjustments
 - 4. Marking Property Values to Market (the temporal adjustment)
 - a. Hedonic House Price Indices
 - b. Repeat Sales House Price Indices
 - 5. Estimating Implicit Prices: Making Adjustments for Differences in Important Property Characteristics
 - a. Paired Sample
 - b. Regression Analysis
 - i. \$ vs. % adjustments
 - ii. Valuing proximity externalities
 - 6. Price Comparable Properties as if they were the Subject Property
 - 7. Estimate the Market Value of the Subject Property by Taking a Weighted Average of Adjusted Comparable Values
 - a. Single-family property
 - b. Multifamily property

Assignment: Read Chapters 1, 2, 3 and 12 of FM, pages 189-192 of MM, and the Maxwell_Appraisal.pdf. The market comparison approach to value problems will be assigned today.

Class 3: September 24, 2008

- B. The Income Approach
 - 1. Overall Capitalization
 - a. Stabilized NOI
 - b. The Cap Rate
 - i. Market determined cap rate and credit spreads
 - ii. Relationship between cap rates and discount rates
 - 2. Discounted Cash Flow Valuation
 - a. Property CFs
 - b. Equity CFs
 - 3. Capital markets

Assignment: Read Chapters 6, 7, 8 and 19 of FM. 1899 Wynkoop, the income approach to value problem, will be assigned today. **The proposal for your course project is due today.**

Class 4: October 1, 2008

- C. The Cost Approach
 - 1. Infrastructure costs (Candellas)
 - 2. Building costs

- a. Cost New
 - i. Types of cost
 - ii. Building cost indices
 - b. Adjusting for Depreciation
 - i. Physical
 - ii. Functional
 - iii. Economic
 - c. Single Family Construction Costs
 - d. Commercial Property Construction Costs
- D. RS Means CostWorks[®]
- E. Land Valuation
- 1. Site Attributes
 - a. physical
 - b. location
 - c. government/legal
 - 2. Valuation Techniques
 - a. Sales Comparison
 - b. Extraction Method
 - c. Development Approach
 - d. Land Residual
- F. Highest and Best Use

Assignment: Read Chapters 4, 13 and 14 of FM. The cost approach/highest and best use problems will be assigned today.

Class 5: October 8, 2008

IV. Market Analysis

- A. Residential Property Markets
- 1. Market analysis
 - a. The Demand Side
 - i. Population
 - ii. Households
 - Owners
 - Renters
 - Tenure Choice
 - iii. Income
 - iv. Race/Hispanic Origin
 - v. Life Cycle
 - vi. Expectations
 - b. The Supply Side
 - i. The Existing Stock
 - Single-Family
 - Multi-Family
 - ii. New Construction
 - 2. Single-family markets
 - a. Denver Metro House Prices
 - b. Absorption Rates

- c. New Construction
- d. Market Intelligence Builder InfoTools™
 - i. Proposed and active subdivision status
 - ii. Mapping and aerial imagery
 - iii. Demographics

Class 6: October 15, 2008

- 3. Multifamily Markets
 - a. The Existing Stock
 - i. Operating Income and Expenses
 - Rents
 - Vacancies
 - Expenses
 - ii. Valuation
 - Cap Rates
 - Asset Prices
 - b. New Construction
 - i. Letter of Intent
 - ii. Assemble Team (architect, planner, civil engineer, and architect)
 - iii. Due Diligence
 - Preliminary Site Plan Approval
 - Soil Reports
 - Phase I Environmental Report
 - Phase II Environmental Report
 - iv. Municipal Requirements
 - v. Conceptual Design
 - vi. Entitlement Process
 - vii. Financing
 - identify potential sources of equity, debt
 - proforma
 - lender's package (e.g. appraisal...)
 - viii. Construction
 - Drawings
 - Management
 - ix. Property Management
 - Absorption
 - Stabilized Occupancy
 - x. Disposition

Assignment: The first take-home exam will be assigned today.

Class 7: October 22, 2008

- 4. Affordable Housing
 - a. Federal Government Programs
 - i. Homeownership
 - ii. Rental Housing Assistance

- b. State of Colorado: Colorado Housing Finance Agency
- c. City of Boulder
 - i. Program Eligibility
 - ii. Programs
 - iii. Financing
- d. Non-Profits
- e. Affordable Housing Case Study

Assignment: Read Affordable Housing in Boulder, CO by Lewandowski, Thibodeau and Wobbekind and Boulder Mobile Manner, by Ryan Hibbard and Thomas Thibodeau

Class 8: October 29, 2008

- 5. Colorado Resort Markets
 - a. The Housing Market
 - i. House Prices in Eagle, Summit, Routt and Grand Counties
 - ii. The Ski Resort Context
 - iii. The Market for Second Homes
 - a. High End Condominiums in Steamboat Springs
 - iv. Workforce Housing
 - b. Eagle County
 - i. The Arrabelle at Vail Square
 - ii. The Lodge Chalets at Vail
 - iii. Vail Mountain Club
 - iv. The Ritz-Carlton Residences in Vail
 - v. EVERVAIL
 - c. Summit County
 - i. Crystal Peak Lodge
 - ii. One Ski Hill Place
 - iii. 804
 - iv. Mountain House
 - v. Keystone—One River Run

B. Commercial Property Markets

- 1. Introduction to Co-Star

Assignment: Read ULI's *Resort Development Handbook*.

The first take home exam is due today.

Class 9: November 5, 2008

- 2. Commercial Property Markets in Denver: Office, Retail, Industrial and Hotel
 - a. Submarkets
 - b. Operating Income and Expenses
 - Rents
 - Vacancies
 - Expenses

- c. Valuation
 - Cap Rates
 - Asset Prices
- d. New Construction
 - The Pipeline
 - Absorption

Assignment: The second take-home exam will be assigned today.

Class 10: November 12 2008

C. Mixed Use and Transit Oriented Development

1. TOD Planning
 - a. The role of the public sector, private sector and community
 - b. It Starts with a Vision: What do neighborhoods want?
 - c. Organizations Responsible for Developing the Vision
 - d. Overview of the TOD Process
 - i. The Planning Process
 - ii. How is TOD Different from Other Types of Development?
 - iii. Does Government Need to Provide Incentives?
 - e. The Denver TOD Initiative Strategic Plan
 - f. Station Specific Recommendations
2. What Will the Market Support?
 - a. Regional vs Local Development
 - i. Site size
 - ii. Mix
 - iii. Density
 - iv. Required Infrastructure
 - b. What Comes First: Jobs, Rooftops or Recreational Activities?
 - c. Dynamics / Challenges of the Land Use Markets
 - d. TOD Transformations: Opportunities to Introduce New Products
 - e. TOD Financing Tools
3. Partnering with Developers
 - a. Bringing the Vision in Line with the Market
 - b. Public/Private Partnerships
 - c. Finding the Right Developer
 - d. Developers Point of View: The Risk/Return Tradeoff
 - e. Common Mistakes Made by Cities
 - f. Development Lessons Learned
4. Case Study: Englewood, Colorado
5. Boulder Transit Village: TOD in Boulder, CO
 - a. The Site
 - b. The Vision
 - i. Plan Components
 - ii. Affordable Housing
 - c. Next Steps
 - d. Challenges and Opportunities
 - e. Case Study: Residences @ 29th Street

Assignment: Read *Ten Principles for Successful Development around Transit*, Robert Dunphy, Deborah Myerson and Michael Pawlukiewicz and Chapter 14 of MM.

Class 11: November 19, 2008

- V. Location Decisions, Agglomeration Economies and the Origins of Cities
 - A. Basic Location Theory for a Firm
 - 1. Role of Transportation Costs for Manufacturing Firms
 - 2. Cost and Availability of Labor
 - 3. Amenities
 - B. Agglomeration Economies
 - 1. Economies of scale for a firm
 - 2. Economies of scale for an industry
 - 3. Economies that arise from the size of an urban area
 - C. Employment and the Economic Function of Cities
 - D. Theory of Rent, Land Rent and Bid Rent
 - 1. Theories of land rent (Ricardo and Von Thunen)
 - 2. The Traditional Monocentric City Model (Alonso, Muth and Mills)
 - a. for firms
 - b. for households
 - 3. Polycentric cities

Assignment: Read Chapters 3-6 of MM. **The second take home exam is due today.**

Class 12: December 3, 2008

- VI. The Role of Government
 - A. What are the Objectives of Federal, State and Local Governments?
 - 1. Provide services (defense, public safety, education, transportation, administration)
 - 2. Address market failures (in land use, in construction, minimize externalities, protect the environment)
 - 3. Social insurance (housing, unemployment, welfare)
 - B. How Does Government Accomplish/Finance these Objectives?
 - 1. Taxes
 - a. Income taxes
 - b. Sales taxes
 - c. Property taxes
 - d. User fees
 - 2. Subsidies
 - a. AFDC, Housing Vouchers, LIHTC, Medicare, Medicaid, Social Security
 - 3. Regulation
 - a. Building codes
 - b. Zoning
 - 4. Planning
 - a. Components of a Comprehensive Plan
 - C. Public goods
 - 1. The Tiebout Theory of Urban Public Finance

- 2. Fishel's Homevoter Hypothesis
- D. Special Districts
 - 1. Creation
 - 2. Operations
 - 3. Financing
- E The City of Boulder, Colorado
 - 1. Services
 - 2. Financing

Assignment: Read Chapter 13 of MM, the 2007 City of Boulder CAFR, and the 2008 City of Boulder Blue Ribbon Panel Report.

Class 13: December 10, 2008

VII. Putting It All Together

- A. Arvada Panel
 - 1. The City's Vision
 - 2. Real Estate Markets
 - a. The Housing Market
 - b. Commercial Markets
 - i. Office
 - ii. Industrial
 - iii. Retail
 - 3. The Development

December 17, 2008: No class. Student projects due by 6:30pm.