



UNC  
COLLEGE OF  
ARTS & SCIENCES

THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

DEPARTMENT of CITY and REGIONAL PLANNING

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### **PLAN 375**

Real Estate Development  
Maymester 2020  
Wednesday May 13 - Friday May 29  
9:00 a.m. - 12:15 p.m.

### **Instructor**

Emil Malizia, Research Professor  
Dept. of City & Regional Planning  
919-259-1439 cell  
[malizia@email.unc.edu](mailto:malizia@email.unc.edu)  
Contact hours: May 13-28  
Schedule half-hour slot between 9:30 a.m. & 2:30 p.m.

### **Course Description**

The course offers a thorough examination of real estate development from the entrepreneurial and public perspectives. The emphasis is on risk management and the inherent uncertainties of property development. The four dimensions of real estate are addressed: physical, legal/institutional, financial and economic/market. There are no prerequisites.

### **Method of Instruction**

Teaching this course remotely without team work changes the pedagogy dramatically. To cover the material, the instructor will post power point presentations, class notes, readings, and the reports of teams from previous classes. Students work through this material consulting with the instructor as needed. Conversations among students is encouraged.

### **Experiential Education**

Experiential education objectives are normally achieved through field work, field trips, group work, and interviews. Only the interviews are part of this offering. In spite of these changes, EE credit is still being offered for taking this course.

### **Honor Code**

The UNC Honor Code states: “It shall be the responsibility of every student at The University of North Carolina at Chapel Hill to obey and to support the enforcement of the honor code, which prohibits lying, cheating, or stealing when these actions involve academic processes or University, student or academic personnel acting in an official capacity.”

## Grading

CD/MD analysis	15%
DCF analysis	5%
Paper from interview	20%
Paper from project review	10%
Final Examination	50%

## Text

David R. Godschalk & Emil E. Malizia, *Sustainable Development Projects*. Chicago: APA Press, 2013. Used copies are usually available online, but you are not required to purchase the text. The instructor will distribute a pdf version of the book.

Lecture notes and additional readings will be distributed as email attachments. Sakai will not be used.

## Remote Instruction

I will send a series of emails from May 13 onward with all material related to each course topic. I strongly suggest that you create a folder or several folders to save these materials. On May 25 (Memorial Day) I'll send WORD documents with review questions. The final exam on May 29 will include questions related to these review questions.

## Coursework

You should work diligently each day to complete the readings and other assigned material. It will be difficult to catch up. The term is very short. You have only two and one half weeks to complete all readings and assignments and prepare for the exam. If you devote at least 6 hours each day to the course, you should achieve a reasonable level of learning. Devoting more time should yield additional learning benefits.

The major reading assignments follow with suggested due dates to keep you on track.

- 05/14 Graaskamp chapter (375GraasReading pdf)
- 05/15 Text, Ch. 3-4 use to complete Assignment #1
- 05/16 Text, Ch. 5
- 05/18 Text, Ch. 6 use to complete Assignment #2
- 05/19 Text, Ch. 7

### Additional Readings & Reference Material

- DCF analysis: 765 Greenfield excel
- Government relations: ajhp-Malizia pdf
- Community relations: 765PorterLogJam pdf
- Leases: 765LeasePrimer Rev14 pdf

Construction: 765ConstructionContracts Bass pdf & 375ConstructionContracts  
Word doc to facilitate note taking on the Bass reading  
375Construction Topics Word doc  
Urban design/vibrant centers: Making Downtowns ...Urban Land article pdf  
EDQ article pdf (skip Relevant Literature section)  
CNU-25 great ideas pdf: Read sections on Public Realm (pp. 124-130) and  
Transit Oriented Development (pp. 188-195)

As noted, you will likely receive handouts and other materials.

## **Orientation**

Zoom session, May 13, 9:30 a.m.

Course logistics

Detailed review of syllabus: content, assignments, grading and other aspects of the course

Time commitments and expectations

Review content of the text and reading assignments

Developer interviews: See p. 5

Open discussion/Q & A

## **Topics**

The real estate development process: Content, milestones, basic concepts & terminology

Participants in development: Roles of consumer, producer & government

Development team & decision criteria

Risk management: General techniques & specific tools

Financial dimension: Back-of-the-envelope, static financial analysis & dynamic financial analysis

Cost-driven/Market-driven analysis (Assignment #1)

Real estate lending: underwriting criteria

Review of Assignment #1; review of apartment design alternatives in Text

Revenue-expense analysis – project timeline & cash flows for solvency

Review example in Text, Ch. 5

DCF basic concepts & structure, review of Ch. 6 example (Assignment #2)

Review assignment #2 – DCF analysis

Financial plan

Ownership structures

Legal dimension: Political economy discussion; government's role in capitalist economies – historic & current

Roles of government in RED

1) Regulation, Long-range planning, zoning, CIP, project review

2) Infrastructure provision & financing tools

3) Development facilitation – Public-Private Partnerships

Community relations

Why do many people hate real estate developers/development?

Economic dimension: Urban economics (bid rent) & spatial structure

Agglomeration economies & diseconomies  
Site selection & site control  
Real estate appraisal  
Real estate market analysis  
Commercial leases

Physical dimension: Construction types  
Construction management  
Construction contracts  
Environmental factors in RED: Phase I, II & III environmental analysis

Physical/economic dimensions: capital budgeting & construction costs

Physical dimension: Placemaking & urban design  
Urban land nexus (economic space, social space, circulation) features of density, diversity & connectivity  
Vibrant places/centers, measures of vibrancy, review of research results

## **Assignments**

### Assignment # 1: CD-MD analysis

See pp. 6-7 below. Templates will be provided to help you complete the assignment.  
Send a copy of your analysis by May 18.

### Assignment #2: DCF for the apartment project described in Ch. 6

Using the spreadsheet provided for this project, conduct a sensitivity analysis that assumes a 5% reduction in rent. First, record the negative impact of lower rent on NOI, NPV and BTIRR. Second, change 3 other assumptions by an amount that is large enough to compensate for the 5% rent reduction. For example, you could lower the vacancy rate or operating expenses. You could increase growth assumptions or degree of leverage. You could modify loan terms (rate & amortization period) or the going-out capitalization rate.

Report the value of each factor you select that compensates for the 5% rent reduction such that NOI, NPV and BTIRR are approximately restored to their original values.

Do any of these compensatory changes seem realistic? Send your analysis by May 20.

### Development Project Review

Previous classes have identified a commercial development project (\$5 mill. or more) completed within the past 3 years usually in North Carolina. The teams were asked to address the following topics.

1. Determine the development timeline:
  - What were the approximate dates from idea inception through stabilized occupancy?
  - How many months did it take for the developer to go from securing the site to receiving public approvals?
  - How many months did construction take – from building permit to CO?
  - How long did it take from CO to achieve stabilized occupancy (or target sales)?
2. Describe the project

Property type or types if mixed/multi use  
GBA by property type  
Location – city & subarea: downtown redevelopment, suburban greenfield  
Cost – try to distinguish land/site costs, site development costs, hard construction costs & soft costs

3. Development team identification

Developer(s)  
General contractor  
A&E firm –architect & engineers  
Attorney  
Commercial banker financing construction

4. Significant features of the project

Is the project noteworthy in some way?

5. Challenges

Describe one or more important problems tackled by the development team

You will receive one team's final report. You should write a short paper (about 2 pages, 1.5 spaced) that includes a summary of the project and your comments on any aspect of it that you find interesting or important. Due May 26.

### **Developer/Development team member interview**

Conduct a zoom, skype or telephone interview.

The most valuable interview would be with an active developer. Many development companies pursuing commercial projects that have more than one partner fulfilling the developer role. Alternatively, you may interview a general contractor, construction lender or architect actively involved in commercial development.

Identify the professional you plan to interview and schedule the interview.

Send the person's name and affiliation to the instructor by May 22.

Interview questions:

1. Current position –describe what you do
2. Career path – how did you come to do what you are now doing?
3. How did you become qualified to do this work? – combination of experience, apprenticeship and education
4. In the real estate course I am taking, we are emphasizing how developers and development team members manage risk during the development process.  
Please describe the areas of risk that concerned you most  
Which strategies did you generally use to manage/mitigate risks?
5. Do you have any advice to offer to students who may want to pursue a career in real estate development?

Write a paper based on your interview (about 3 pages, 1.5 spacing). Please use the questions listed above as the format for the paper. If you do not get an answer to a question, just list that question in the paper as unanswered.

Send a copy as an email attachment by May 28.



## Static Financial Analysis: Cost-Driven & Market-Driven Analysis

Emil Malizia, PhD, FAICP

### Exercise

Your task is to analyze a proposed office project in the Research Triangle area. The developer proposes the construction of a four-story office building with 80,000 square feet (SF) of gross building area (GBA). The design of the project results in a building efficiency ratio of 85%. The site is 3.0 acres and the asking price is \$750,000. This site is more than adequate for the building footprint, associated parking, and landscaping.

Preliminary construction numbers indicate a construction “hard cost” of \$160 per SF. Construction interest for the 18-month construction period, indirect costs for design, legal work and other “soft costs” are estimated to be 25% of hard costs. Site development costs are estimated at \$3 per sf for the site.

The lender is offering debt financing at a rate of 4.5% amortized over 20 years, with monthly payments and a 10 year term (call provision). The annualized monthly mortgage constant on such a loan is 0.0759179. The lender will apply a 75% loan to cost ratio (L/C) and use a debt coverage ratio (DCR) of 1.25 to underwrite the project.

The developer is seeking investors who are willing to provide the equity and want to earn 12% cash-on-cash return (12% on equity invested).

Analysis of comparable projects indicates that annual operating expenses will average \$2.50 per SF of space (GBA). Conversations with the local assessor’s office indicate that the rate for real estate taxes is \$1.20 per \$100 value. The appraiser will use the cost of the project as its initial assessed value.

The market for office space is improving, and demand for small buildings is growing. When lease up is completed (i.e., first year of stabilized operations), the project should have a vacancy rate of 10%. Rents are expected to stabilize at \$28.00 per SF of leasable space, paid on a gross basis (i.e., the owner pays operating expenses and real estate taxes).

## Analysis of the Project

*Using the Cost driven and Market driven approaches, answer the following questions:*

1. Construction cost estimate

How much will it cost to construct the proposed four-story building including land?

2. Income analysis

What is the expected (stabilized) net operating income given expected market rents for this project?

3. Cost driven analysis with loan to cost ratio

What level of rents is necessary to support the capital costs of this project?

How does this rent level compare to current market rents?

4. Market driven analysis with debt coverage ratio

What are the justified mortgage amount and justified project investment using this approach?

If estimates of the cost to construct the building and associated soft costs are firm, how much can the developer pay for the land?

By how much would the land price have to be reduced in order to make the deal “work”?

5. How can you use the CD/MD analysis to estimate the amount of loan? What is that amount?