

Class Meeting Time: Tuesdays 12:00-2:45pm

PREAMBLE

Real estate development, once solely the purview of policy makers, planners, and attorneys, has become increasingly viable design territory for architects. Now understood as part of a “value adding” equation to such endeavors, the design intent of architects, and procedures and processes we use to bear them, have found increasing use across various stages of development. These include visioning and creative thinking at the outset of any development, the geometric response to various bulk and zoning or land-use criteria during a building’s schematic design phase, the application of those metrics to various funding, building, and costing models during construction documentation; and the utilization of construction phase models to synthesize data from earlier development stages into an actual building. The codification of such a continuous workflow, aided by new technologies, ensures development goals are met while allowing for a common language across disciplines and multiple stakeholders, bringing further utility to constraints and data that drive what can be seemingly discreet endeavors.

COURSE OVERVIEW

The course introduces students to the participants and components to the development process, as well as specific development strategies and design tools for engaging them. Design in this sense is not simply a vision, or a concept utilized for obtaining approvals, it is understood as an encompassing set of procedures that both allow for and ensure that goals are being met at all stages of a project, from early conception through the approval process and building construction. Students will learn how to engage municipal land-use laws and regulations, produce strategies for geometric development based on land-use and environmental constraints, and use simulation to perform value-adding operations to a development proposal. Through lectures and exercises, students will have the opportunity to analyze a building and the redevelopment procedures surrounding it, and develop a geometric response and then parse data from that model to drive a series of documents relating to project cost, funding, and schedule. These documents will be analyzed against a variety of construction means and funding models so time- and cost-effective basis that meets design intentions can be developed.

We will study the property development process in detail, including the locating of an appropriate site(s), assessing site development potential using geometric and spreadsheet models, understanding an appraisal and capitalization rates, generating a buildable envelope, traversing the entitlements process, selecting an ownership structure, and finding financing

Additionally, new development typologies relating to residential and commercial development will be explored such as micro-housing and live-work share spaces. To help facilitate a broad yet introductory knowledge of the subject, a series of guests including members of real estate companies, land-use attorneys, and municipalities will engage the seminar; and various novel models of development will be explored.

LEARNING OBJECTIVES

This course is designed to acquaint students with the fundamental skills and techniques of real estate property development and is situated as a first course for anyone interested in real estate development, and as a foundation for further courses in urban development and real estate. Course content will be delivered via a series of lectures and case studies, and generated through reading responses, as well as a series of exercises that will each build on a previous analysis. Exercises will include geometric responses to land-use criteria, the extraction of building data to generate a pro-forma, and the utilization of cost-data to produce a financing schema. All exercises will be done in teams and will utilize three-dimensional modeling and simulation tools (Rhino/Revit) as well as project management tools (MS Project/Excel), allowing students to develop models that provide internal analysis and foster data sharing with others on the development team (financial professionals, attorneys, planners, etc). A final presentation synthesizing the discrete course exercises into a development proposal focusing on zoning response, building metrics, cost, and schedule will be held for the final class. Participating in class discussions and asking questions are strongly encouraged for your own engagement and learning.

Thematically, the course is divided into four parts:

1. **Introduction** (Weeks 1-2): This part will focus on the roles of developers in specifically urban building and on the development process.
2. **Market Analysis** (Weeks 3-6): Successful projects involve a designed understanding of the local market, the typology, and context. This portion of the course will introduce students to common development typologies (residential, commercial, retail) as well as new and emerging product types. Students will learn how to prepare and use market studies to frame and improve development projects.
3. **Site Evaluation** (Weeks 7-10): This part will walk through the property development process in detail, starting with finding an appropriate site, assessing its development potential using a simple spreadsheet model, conducting a property appraisal, identifying the buildable envelope, navigating the entitlements process, selecting an ownership structure, and finding financing.
4. **Project Feasibility** (Weeks 11-14): In this section, students will learn how to develop and use their own proformas to analyze and evaluate the various feasibility benchmarks of proposed real estate projects

The course will include three (3) interrelated assignments that build upon one another and culminate in a final presentation: (1) Constructing a simple development feasibility model and comparing alternative mortgage provisions (30% of grade); (2) Identifying site opportunities and constraints and preparing a proper market study (35%); and, (3) Building a project pro forma and comparing construction solutions (35%). Students will work on these assignments in teams to be determined.

READINGS

All texts will be digitally delivered. A partial reading list is included at the end of this document.

ACADEMIC INTEGRITY

Refer to this code as published in the University of Pennsylvania Penn BOOK -

<http://provost.upenn.edu/policies/pennbook>. And as recommended on the Provost's website:

<https://provost.upenn.edu/policies/pennbook/2013/02/15/code-of-student-conduct>

<https://provost.upenn.edu/policies/pennbook/2013/02/13/code-of-academic-integrity>

SCHEDULE

Week 1	Tues. 08.30.22	First Day of Classes, course introduction to land use and development
Week 2	Tues. 09.06.22	The development team and process, design as a value-adding proposition
Week 3	Tues. 09.13.22	The risks, returns, and roles of developers; real estate and debt funding
Week 4	Tues. 09.20.22	Market analysis; design, massing and economics of a feasibility study; the development application
Week 5	Tues. 09.27.22	Appraisal methods, capitalization rates and financial models
Week 6	Tues. 10.04.22	Redevelopment law and blight, areas in need of redevelopment; entitlements; Assignment 1 DUE
Week 7	Tues. 10.11.22	Securing a site, evaluating land use, site design, development, and infrastructure
Week 8	Tues. 10.18.22	Construction types and costs
Week 9	Tues. 10.25.22	Pro forma, project costs, financial feasibility and return overview
Week 10	Tues. 11.01.22	Transit-oriented development models
Week 11	Tues. 11.08.22	Affordable housing models
Week 12	Tues. 11.15.22	Mix-use development models, Assignment 2 DUE
Week 13	Tues. 11.22.22	No meeting, Thursday classes meet
Week 14	Tues. 11.29.22	Work Session
Week 15	Tues. 12.06.22	Final Presentation, Assignment 3 DUE

GRADING

Students enrolled in Architecture, City Planning, Historic Preservation and Landscape Architecture degree programs are issued letter grades.

The Weitzman School, with the exception of the Department of Fine Arts, applies a grading system of letter grades as follows:

A+	=	4.0	
A	=	4.0	
A-	=	3.7	
B+	=	3.3	
B	=	3.0	
B-	=	2.7	
C+	=	2.3	
C	=	2.0	
C-	=	1.7	
F	=	0.0	Fail
I	=	0.0	Incomplete

READING LIST (PARTIAL)

Reading discussions will generally take place following the class lecture.

Brown, Peter. How Developers Think: Design, Profits and Community, University of Pennsylvania Press (2016). Chapters to be given and discussed in class.

Soules, Matthew. Icebergs, Zombies, and the Ultra-Thin: Architecture and Capitalism in the Twenty-First Century, Princeton Architectural Press (2021). Chapters to be given and discussed in class.

Reference

Kiger, Patrick. “**The City with (Almost) No Limits**” (2015) <http://urbanland.uli.org/planning-design/city-almost-no-limits/>

McCormick, Kathleen. “**Transforming Inner-Ring Suburbs with Walkable Mixed-Use Development**”, (2017), <https://urbanland.uli.org/development-business/inner-ring-revitalization-transforming-aging-suburbs-walkable-mixed-use-development/>

Pendal, Rolf, et al. “**From Traditional to Reformed: a Review of the Land Use Regulations in the Nation's 50 Largest Metropolitan Areas**” (2006) Brookings Institution, Metropolitan Policy Program. <https://www.brookings.edu/research/from-traditional-to-reformed-a-review-of-the-land-use-regulations-in-the-nations-50-largest-metropolitan-areas/>

Ruy, David. “**Serving, Owning, Authoring**”, Digital Property: Open-Source Architecture, John Wiley & Sons 2016

SHoP. Versioning: Evolutionary Techniques in Architecture, **Architectural Design** (AD) Vol. 72, John Wiley & Sons 2002