

2031a: Architectural Practice and Management

Fall, 2021

CLASS SYLLABUS (v1.4)

Yale University School of Architecture

Phil Bernstein BA '79 ARCH '83, Professor Adjunct

Susana La Porta Drago, Lecturer

Teaching Fellows: Melinda Agron ARCH/MBA '19, Dov Feinmesser ARCH '16, Danielle Davis ARCH '14, Cristian Oncescu BA '09, ARCH '14, Instructors

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0. **ABSTRACT:** The process by which an architectural design becomes a building requires the designer to control many variables beyond those purely aesthetic. While the practice of architecture was formally established in the United States in the late nineteenth century, the roles and responsibilities of today's architects are rapidly evolving under the influence of broad building industry changes like sustainability, social equity, digital technology, globalization, and integrated project delivery. Understanding architectural practice as the mechanism that realizes design--and project management as the leadership and control of the means that make projects happen--is as central to the successful design of a building as its form and character, and some might argue more so. Effective practitioners understand and deploy both design and practice skills to assure their visions reach fruition in the varied contexts of profession, practice, and the individual project.

This course creates an understanding of the structure and efficacy of architectural practice; the business context in which architects design and realize buildings; and key elements of architectural project management and execution, while engaging in a critique of current versus future practice models and approaches. It is designed to familiarize you with basic principles of practice and identify issues that you will face in your future career.

This course fulfills the professional practice requirement for an accredited professional degree precedent to sitting for the Architectural Registration Exam (ARE) and is required for M.Arch I candidates in their last year.

1. **DESCRIPTION:** This course will familiarize you with principles of architectural practice and the related discipline of project management in the context of the current, rapidly evolving building industry. It is designed to provide an understanding of the fundamentals of practice in combination with those of organizing and running architectural projects. Simultaneously, course material will highlight changes in the roles and responsibilities of the players in the AEC process and anticipate how those changes may affect practice during your career. Lectures will describe the profession, options for modern practice, concepts and techniques for determining scope of services, writing Owner/Architect and consultant contracts, negotiating fees, assessing and minimizing risk, and planning schedules. The final project will provide an opportunity to integrate these skills by producing and presenting a proposal for a small commission as a member of a small office.
2. **STRUCTURE:** There will typically be one class meeting each week, a lecture about the primary practice or management topic. Other course meetings will be scheduled as required. Please examine the course schedule carefully as there are several "off schedule" class meetings to accommodate studio travel, jury weeks and other activities. Class sessions meet each Tuesday from 2:00 pm to 4:00 pm in Room B51. Note that there will be several class sessions that occur outside of class time, these are marked on the attached syllabus chart in **blue boxes**. The last class session will be the presentation of the final project during Exam Week, December 13 through 17.
3. **COURSE OUTLINE:** The schedule and table on the following pages is your complete guide to the semester, showing lecture dates, topics, description, assignments and other important dates during the semester.
4. **TEAMS:** The class has been randomly divided into small "firms" (teams) each of which will work together during the semester. See attached Student List for team assignments.
5. **ASSIGNMENTS:** Assignments for relevant topics are given at the end of each session and will be comprised of a combination of classroom and outside work, some in teams and others individually. All assignments will be posted on the Canvas website. Each assignment is designed to explore a relevant practice issue. Creating deliverable products in a timely fashion is a basic principle of competent professional practice, and you will be expected to execute the

assignments on time. Thirteen assignments (including the final project, a group exercise) will be given during the semester. Assignments must be posted digitally to Canvas no later than 5:00 pm on the date that they are due. Assignments that are posted late will result in significant deductions:

<u>Late Deductions</u>		<u>Example: Due Sunday</u>	
0 to 1 day late	= minus 20%	if posted on Monday	- 0 % (5 points total)
1 to 2 days late	= minus 40%	if posted on Tuesday	- 20% -1 point
3 to 7 days	= minus 60%	if posted after Tues. and before Sun.	- 40% -2 points
8 to 14 days	= minus 80%	if 1 to 2 weeks late	- 60% -3 points
15 days +	= minus 100%**	if 2 to 3 weeks late	- 80% -4 points
			-100% -5 points

****In order to receive a passing grade, you must complete and turn in all thirteen assignments (irrespective of grade), and receive a cumulative grade of at least 70 points. A cumulative score for the term of 75 points or below will result in a final course grade of Low Pass. Midterm warnings will be issued if average is close to 70% or below based on assignment grades through midterm point.**

This policy is meant to provide strong encouragement to keep up with the weekly assignments, as this is how you will best benefit from the flow and structure of the course. All assignments will be submitted and graded using the Canvas course website - please visit the course site and review your attendance and assignment grades regularly.

6. **OFFICE HOURS AND COURSE RESOURCES:** Phil's office is 313 on the third floor and he is regularly available there. Reach out directly if you would like to make an appointment. Generally, he can be easily reached at phillip.bernstein@yale.edu. Course information will also be available on our Canvas website. Watch this site for announcements and updates of course information—lecture outlines and assignments will be posted there the day of the lecture, as well as a current accounting of assignment grades and attendance records.
7. **TEACHING FELLOW /ASSISTANTS:** The course will be supported by lecturer Susana La Porta Drago and four Teaching Fellows (Melinda Agron, Dov Feinmesser, Danielle Davis, and Cristian Oncescu) and a Teaching Assistant (Madeline Reid). Susana, (a Principal at Pelli Clarke Pelli Architects), Danielle (Pirie Architects), Cristian, Dov and Melinda (all at Newman Architects) will be additional professional resources for you, attend class, answer questions about course materials and content, and be primarily responsible for grading assignments during the term. They will also participate in the evaluations of the final project. Our Teaching Assistant will support course logistics, be available to answer questions about content and approach, and help orchestrate the term. Please make sure you meet them.
8. **READING:** Readings for the semester will be distributed by the Canvas website. There are required readings for each class that are indicated by **a bold gray box** plus other reference reading should you desire more information. The reading list has been put on reserve at the Haas Library under our course number (2031a) and can be referenced from the Canvas website.
9. **ATTENDANCE:** Weekly lectures as indicated on the schedule are the fundamental mechanism for transmission of the material, and as such attendance at each lecture is required in order to pass the course. Readings, lectures and assignments are designed to work in concert, and each is critical and therefore required. Only one unexcused absence from a lecture will be permitted; you may only miss a second lecture by permission from the instructor. As this class only meets weekly, the attendance policy is different than the rest of the School, only one unexcused absence is allowed, so please plan your time (and set charrette alarm clocks accordingly).

Attendance will be taken during the first 5 minutes of class (whether you are physically present or attending via zoom) and posted on Canvas. If you are late, you will be marked absent.

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Bibliography

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CLASS SESSIONS		Date	Description	Format	Guest(s)	ASSIGNMENTS			
						Description	Format	Pts.	Due
PROFESSION									
01	Class preparation: experience survey					A Establish demographics of class	Online survey	5	Sun 08/29
	Introduction: History+Roles	Tue 08/31	Introduction, history of practice, role of the architect in society, professional context	Lecture	None	B ANALYZE your reasons for becoming an architect and CREATE future scenario (10 years)	Short essay	5	Sun 09/05
	Legal and Ethical Contexts	Tue 09/07	Practice context: legal issues and ethical obligations of the architect	Vignette workshop/group	None	C DESCRIBE relevant ethical constraints and ANALYZE typical situations	Online Quiz	5	Sun 09/12
	Health, Safety and Welfare and the Architect's Responsibilities	Tue 09/14	The evolution, structure and nature of building codes and the architect's relationship to their use and implementation	Lecture	None	D SPECULATE on the future of architectural licensure—structure, intent, certification	Reading prompt	5	Sun 09/19
	SPECIAL SESSION: AXP/ARE and Licensure	Tue 09/14	NCARB presentation on AXP, the ARE and licensure in Connecticut	Lecture	NCARB	NONE			
PRACTICE									
04	Firm Organization and Client Constituencies	Tue 09/21	Client markets and practice approaches; practice structure, organization and purpose.	Watch modules online	None	E-1 Prior to class watch online lecture.	Canvas video	P/F	Tue 10/05
	Advanced Studio Travel Week 9/25-30								
	Client - Architect Roundtable	Tue 10/05	A panel discussion of local practitioners who will describe firm origins, operations and strategy.	Panel discussion	Client/Architect panel	E-2 Demonstrate an understanding of firm structure and market by comparing and contrasting two firms.	Short essay	5	Sun 10/10
	Starting a Firm	Tue 10/12	Opportunities and challenges of starting a new firm.	Panel discussion	Firm entrepreneurs	F Create a strategy and approach for a firm for team	Group problem set	5	Sun 10/17
	Mid-term Juries 10/18-22								
06	Firm Financial Management	Tue 10/19	Business of practice: financial structure, approach, constraints, principles	Watch modules online	Brian Kenet	G-1 Prior to class, watch online lecture	Canvas video	P/F	Tue 10/19
				Class workshop		G-2 Understand implications of changing influences of firm financial operations	Problem Set	5	Thu 01/05
07	Equitable Practice	Tue 10/19	Equity issues in the architecture profession and the need for greater understanding of ways to improve the architecture community	Lecture, working groups	Nancy Alexander, Renee Cheng	NONE			
PROJECT									
08	Scope of Services	Tue 10/26	Project organization, management structure; tasks and services approach, definitions of basic and additional services	Workshop/group	None	H Define the basic scope of service for a project by defining its characteristics and your role as the architect.	Problem Set	5	Sun 10/31
	Project Delivery	Tue 11/02	Review of basic project delivery approaches and the evolution of delivery models and the architect's role	Lecture	None	I Unpack the key characteristics of a project and select a delivery model, defend the choice.	Problem Set	5	Sun 11/07
	Contracts and Risk Management	Tue 11/09	Role of contracts in project management strategy; understanding and managing professional risk	Lecture	Leslie King (proposed)	J Identify the key risk factors in projects and basic strategies for managing that risk.	Problem Set	5	Sun 11/14
	Fees, Levels of Effort, Compensation	Tue 11/16	How architects are paid: principles of compensation, fee strategy, analysis and typologies, financial implications of value propositions	Workshop/group	None	K Define, analyze, propose and defend a fee.	Problem Set	10	Sun 11/28
	Full Recess 11/20-28								
12	The Architect's Role in Construction	Tue 11/30	Roles, responsibilities and risks of the architect during construction; relationship to the builder	Workshop/group	Schwartzman (proposed)	L Practice response strategies for various challenges faced by architects during construction.	Problem Set	5	Sun 12/05
13	Future of Practice / Interim Reviews	Tue 11/30	Speculations on the evolving role of architects, challenges facing the profession and its role in building and design	Lecture	None	Final Presented at Lecture 11 (11/16), first review is 11/30, final review TBD.	Group Problem Set	35	TBD
	Final Reviews 12/6 - 10								
	Exam Period 12/13 - 17								
Fin	FINAL PROJECT PRESENTATIONS	Week of 12/13	Presentations of final integrated projects	Review	TBD				TBD

Course Bibliography and Reading List

CLASS SESSIONS		Title	Author	Reference	HPP	Section	Pages
01 Introduction: History+Roles	08/31/21	<u>The Reflective Practitioner</u>	Schon	"The Crisis of Confidence in Professional Knowledge" pp. 3-20			
		<u>Architecture: The Story of Practice</u>	Cuff	pp 22 - 45			
		<u>Harvard Design Magazine 32: Spring/Summer 2010</u>	Wickersham	"Learning From Burnham: The Origins of Modern Architectural Practice" pp 18-27			
		<u>Architecture School: Three Centuries of Educating Architects in North America</u>	Ockman	Introduction pp. 10-32			
		<u>Assembling the Architect: The History and Theory of Professional Practice</u>	Johnston	Chapter 1: "Seeing Double: Histories of Architectural Practice" pp. 7-34			
		<u>From Craft to Profession: The Practice of Architecture in the Nineteenth Century</u>	Woods	Chapter 1, pp. 9 - 26			i
02 Legal+Ethical Context	09/07/21	<u>Professional Practice 101</u>	Pressman	pp. 46 - 58 (ethics)			
		<u>Ethics and the Practice of Architecture</u>	Wasserman	pp 31 - 48			
		<u>From Disinterested Expert to Marketplace Competitor: How Anti-Monopoly Law Transformed the Ethics and Economics of American Architecture in the 1970s</u>	Wickersham	138-158		http://dx.doi.org/10.1080/13264826.2015.1129349	
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	1.1	The AIA Code of Ethics and Professional Conduct	2-12
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	1.2	Ethics and Architectural Practice	13-17
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	1.3	Design Beyond Ethics	18-26
03 Health, Safety Welfare	09/14/21	<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	13 - Building Codes, Standards 2.3/The Evolution of Responsible Control and Professional Control	13.1, 2	Building Codes, Planning	857-880
		<u>Architecture Design Data: Practice Competency in the Era of Computation</u>	Bernstein				
03X AXP, Testing and Licensure		<u>ARE Guidelines</u>	NCARB	See CANVAS for link		https://www.ncarb.org/sites/default/files/ARE%20Guidelines.pdf	
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>		See chapter reference on right	3.2	Intern Development	68 - 82
		<u>NCARB Licensing Requirements Tool</u>		See CANVAS for link		https://www.ncarb.org/get-licensed/licensing-requirements-tool	
		<u>Desk Crisis: The Insider's Guide to the ARE 5.0</u>	Desk Crisis	In Library			
		<u>AXP Guidelines</u>		See CANVAS for link			
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>			3.1	Regulation of Professional Practice	52 - 67
04 Firm Organization and Client Constituencies [Practice Roundtable]	09/21/21	<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	5.2	Entrepreneurial Practice: Starting An Architecture Firm	185 - 202
		<u>Assembling the Architect: The History and Theory of Professional Practice</u>	Johnston	Chapter 4: "Architects and Builders" "Scale" (Bernstein) pp. 180 - 185			
		<u>PERSPECTA 40 MONSTER</u>	Bernstein				
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	6.2	Developing Marketing Strategy	342 - 355
05 Starting a Firm	10/12/21						
06 Firm Financial Management	10/19/21	<u>Professional Practice 101</u>	Pressman	pp. 168 - 180 (financial mgmt)			
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	7.2	Financial Management Overview	409 - 418
		<u>How Firms Succeed - A Field Guide To Design Management</u>	Cramer	"The Philosophy of Profit" pp. 152-154			
07 Equitable Practice	10/19/21	<u>The AIA Guides to Equitable Practice</u>	AIA	See CANVAS for link			
08 Scope of Services	10/26/21	<u>Capital Projects Handbook</u>	Yale FC&R	pp 2- 23			
		<u>Architecture Design Data: Practice Competency in the Era of Computation</u>	Bernstein	3.3/Designing Design: Optimizing Solving, Selecting	102-104		
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>		See chapter reference on right	15.1	Defining Project Services	952 - 960
		<u>Managing Project Risk: Best Practices for Architects and Related Professionals</u>	Atkins	"Why Documents Can't Be Used..." pp. 130 - 138			
09 Project Delivery	11/02/21	<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right		Section 9 PROJECT DELIVERY	508 - 583
		<u>Architecture Design Data: Practice Competency in the Era of Computation</u>	Bernstein	Chapter 4.4 "New Values in the Systems of Delivery" pp. 170-179			
10 Contracts+Risk Management	11/09/21	<u>Legal Aspects of Engineering, Eighth Edition</u>	Gayton	"Development of Law" pp 21 - 30			
		<u>Legal Aspects of Engineering, Eighth Edition</u>	Gayton	"Introduction to Contracts" pp. 73 - 79			
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	5.1	Architects and the Law	168-184
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	16.1	Risk Management Strategies	989 - 1006
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	CHAPTE R 17	Agreements and AIA Documents Program	1041 - 1111
11 Fees, Levels of Effort, and Compensation	11/16/21	<u>How Firms Succeed - A Field Guide To Design Management</u>	Cramer	"Redesigning Design Fees" pp. 170 - 172			
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	15.2	Services and Compensation	961 - 974
		<u>Managing Project Risk: Best Practices for Architects and Related Professionals</u>	Atkins	"Fundamentals" pp. 1-17			
		<u>Managing Project Risk: Best Practices for Architects and Related Professionals</u>	Atkins	"Lemons to Lemonade" pp. 242 - 249			
12 Architect's Role in Construction	11/30/21	<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	10.8	Bidding and Negotiation	701 - 712
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	10.9	Construction Phase Services	713 - 729
		<u>Assembling the Architect: The History and Theory of Professional Practice</u>	Johnston	Chapter 4: "Architects and Builders" pp. 145-180			
		<u>Managing Project Risk: Best Practices for Architects and Related Professionals</u>	Atkins	"Zen and the Art of CA" 88-98			
		<u>Managing Project Risk: Best Practices for Architects and Related Professionals</u>	Atkins	"Site Visits..." and "Payment..." pp. 166 - 188			
		<u>The Architect's Handbook of Professional Practice 15th Ed</u>	AIA	See chapter reference on right	10.10	Project Completion and Post-Construction	729 - 739
		<u>Thinking Versus Making: Remediating Design Practice in the Age of Digital Representation</u>	Bernstein				
		<u>Assembling the Architect: The History and Theory of Professional Practice</u>	Johnston	"Architectural practice, Artificial Intelligence" pp. 208-218			
13 Future of Practice	11/30/21	<u>The Architect as Worker</u>	Deamer	"Three Strategies for new value propositions for practice"	209-218		
		<u>Architecture Design Data: Practice Competency in the Era of Computation</u>	Bernstein	4.4 "New Values in the Systems of Delivery"	170-179		
		<u>Redefining Responsible Control in Architectural Licensure under Integrated Project Delivery and Building Information Modeling</u>	Bernstein				