

SYLLABUS

Thriving through Making Studio
<http://tinyurl.com/thrivingstudio>

Prof. Nancy Yen-wen Cheng
Spring 2016 MWF 1:00-4:50pm, 8 credits

"Imagine a building designed and constructed to function as elegantly and efficiently as a flower: a building informed by its bioregion's characteristics, and that generates all of its own energy with renewable resources, captures and treats all of its water, and operates efficiently and for maximum beauty" - The Living Building Challenge 2.0 <<http://ilbi.org>>

The third term of the Thriving through Making studio is dedicated to using building technology to bring out the poetry of design. It focuses on methodically developing the conceptual design created in ARCH 4/585 Advanced Architectural Design I. It is a chance to build on previous efforts by confirming core concepts and convictions, assessing what solidly supports these concepts and identifying areas for further development.

While strengthening the project's conceptual focus is the overall goal, this term, the art of building will be the main design source. It is an opportunity to explore how building technology and ecological design principles can flourish in your architecture project.

We will revisit previously considered topics to develop them further. At each step of the way, there is a chance to enrich the spatial experience and building articulation through invention. While this refinement requires revising and experimentation, It is important that you stick with the core urban design and building organization ideas established in Winter term. Late re-scheming will not allow enough time for design development. To stay focused, keep your thesis statement, key diagrams, and an up-to-date concept model visible from your workspace along with your most powerful images.

Keep a background panel ready for visitors and surround yourself with inspirational images and music (through headphones) as you work. Graphics from previous pin-ups can be culled for strong representations that can contribute to a pithy and powerful presentation. Consider what representations can you use as is, and which ones could be tuned to tell important aspects of your design idea.

Format: Individual learning within a Common Framework

The studio will have a common framework of weekly topics to encourage dialogue and peer teaching. Within this framework, students have the opportunity to suggest activities, propose alternative approaches and research a personal area of focus. Each student is to identify an area of interest and research relevant building precedents. Graduate students will post the research and present their post in a verbal presentation during weeks 3 through 6.

Class time will be used for presentations, individual desk crits, small group discussion, internal pin-ups and formal reviews. Students will be scheduled for one or two crits and a pinup each week. To maximize effective use of crit time, prepare printouts at standards scales and model images to facilitate trace overlay drawings, including up-to-date plans and sections.

Requirements

Students are expected to conduct themselves professionally and take responsibility for design exploration, production and communication. Attendance is required and students missing more than 3 classes or repeatedly tardy are in jeopardy of not passing.



Column at Zurich Station, Santiago Calatrava

- arrive punctually prepared for every class
- actively participate in studio exercises and discussions
- communicate needs, questions and interests to the instructors
- respect the rights and property of others,
- complete assignments and contribute to team efforts on time

To develop our course website as a common resource, each student needs to post at least 3 blog posts that demonstrate design exploration and professional competency through graphics and reflective writing including

1. Week 1 review reflections
2. Mid-Review presentation
3. Final presentation with thesis booklet that combines the thesis preparation work with the final design drawings.

By the final review, all terminal studio projects must successfully address the National Architectural Accreditation Board's **Realm C: Integrated Architectural Solutions** student performance criteria:

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

C.2 Integrated Evaluations and Decision-Making Design Process: *Ability* to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.

C.3 Integrative Design: *Ability* to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies. – <http://naab.org>

GRADUATE STUDENTS

Graduate students are expected to research and develop their work more thoroughly than undergraduates by spending more time and by using prior educational and professional experience. This will be reflected in stricter standards for grading graduate students as well as differences in specific requirements.

STUDENT ENGAGEMENT INVENTORY

Activity	Undergrad	Grad
Course attendance	113	113
Assigned Readings	18	20
Design homework	80	110
Writing assignments	10	15
Field work / experience	7	14
Research	12	48
Total hours:	240	288

Assessment

For this Pass/NoPass studio, students will be provided interim assessments through verbal one on one desk crits and periodic group pin-ups. A hardcopy progress evaluation after the midterm review will identify specific areas needing attention for successful completion of the course as well as areas of achievement. At the conclusion of the course, students will receive a departmental studio evaluation form that will be discussed in a private exit interview.

Undergraduates	Graduates
10% Participation (attendance and blog posts)	10% Participation (attendance and blog posts)
75% Design Development	70% Design Development
15% Final Thesis Project Report	15% Final Thesis Report
	5% Research Presentation or Project Video

THRIVING THROUGH MAKING – Spring Schedule

What is crucial for making a sustainable building? Working with nature, construction for organizational clarity and expression, environmental systems for air and water systems all contribute to a sound design. Below are weekly topics along with logical deliverables. Students may propose alternative ways to address these issues. The schedule is subject to change

1	3/28- 4/1	Remediate missing pieces from Winter term. Confirm Concept, Urban design, plan -section - elevations. ADA/Life Safety code compliance, parking check.
		STRUCTURE - How can resisting gravity and live loads support the design concept? Examine how elements (columns, piers, load-bearing walls, trusses and frames) can heighten spatial experiences and support enclosure vs. openness. a) Research: Identify and analyze structural examples, Research Material assemblies. b) Diagram lines of structure in plan: show vertical core & lateral bracing c) Draw sections showing primary and secondary framing, enclosure at ½"=1'=0" d) Show structural framing in 3D axonometric (digital model) F 1 April Review in Portland: 1:30pm-6pm, UO White Stag Block, 70 NW Couch
2	4/4- 4/8	ENVIRONMENTAL SYSTEMS a) Use the Living Building Challenge to expand your project's ecological potential: portray how the project addresses the petals b) Examine Seasonal usage, adjust program distribution and form to reduce loads c) Develop how PASSIVE Solar & Natural Ventilation can be integrated.
3	4/11- 4/15	ENERGY SYSTEMS a) Model energy usage of massing, checking % glazing, balance thermal gain & daylighting. b) Study, Select and Diagram ACTIVE heating & cooling zones & circulation
4	4/18- 4/22	FAÇADES : SURFACES, PATTERN AND DEPTH a) Consider compositional strategies. Looking at how to use punctures, transparency, overlay. Contemporary collage, Local symmetry, Base-Middle-Top. b) Research Building Products, color schemes that suit the place. Create a Material Palette, Develop rhythms and patterns with a consistent vocabulary of elements. c) Develop enlarged physical Structural Model or detailed digital model
5	4/25- 4/29	ENVELOPE ASSEMBLY a) Develop Wall Section considering sun, rain and wind; methods and sequences of construction b) Develop layers of Enclosure on Structural Model F 29 April Midterm Review – 278-279 Lawrence (students have option for Portland review)
6	5/2- 5/6	INTERIOR SPACE AND LIGHT: The most intimate experience with a building occurs at the scale of the room, where the hand can touch materials and see how connections are made. Consider Inhabitant values, aspirations and daily activities a) Daylighting model b) Tonal renderings (Digital OR Digitally painted version of daylighting model) c) Reflected ceiling plan
7	5/9- 5/13	LANDSCAPE & WATER a) Sculpt the land and builds vegetation to support the design (i.e. inviting spaces, barriers, highlights) b) Maximize the aesthetic quality of stormwater and its revitalizing potential, show in vignette & detail sections.
8	5/16- 5/20	EXPERIENCE OVER TIME : Phasing diagram. Night and day, seasonal perspective vignettes or animation to refine choreography of program activities, architectural hierarchy, proportions. Show expression of identity.
9	5/23- 5/27	COMMUNICATION : Create layout and schedule, rehearse presentation, develop boards.
10	5/30- 6/3	Th 2 June Review #3 FINAL in Eugene, time and place to be confirmed
11	6/7- 6-10	Final PDF project summary must be posted by Monday, June 6 at 5pm.