

4.021 INTRODUCTION TO ARCHITECTURE DESIGN (Fall_17)

Instructor: Lorena Bello Gomez (lobello@mit.edu)

Teaching Faculty: Nicholas Pacula (npacula@mit.edu)

Credits: 3-3-6 U

Hass: A

Schedule: 2 - 5 pm Mon/Wed

Location:

Lectures: 2 - 3:30 pm [3-133] *See Schedule*

Studio: 2 - 5 pm [7-432]

Kit: 55 \$

Teaching Assistants: Andrea Baena (abaena@mit.edu)

Christopher Allen Weaver (caweaver@mit.edu)

[Course Format]

Weekly Lectures, Weekly Workshops [Studio]

Attendance to both is mandatory and absence needs to be approved by instructor. [*]

[Description]

This course provides a foundation to the design of the built environment and architectural design culture. Through lectures and design exercises, students are provided an introduction to design fundamentals and design processes, offering them a rigorous and imaginative foundation for future study within designed-based disciplines. Students will be exposed to architectural design pedagogy, developing skills in design thinking, analysis, and spatial representation through drawing, prototyping and modeling.

[Course Learning Objectives]

1. Introduce undergraduate students to architectural design culture and pedagogy.
(abstraction, ideation, projection, iteration, prototyping, modeling, representation and exhibition)
2. Develop critical problem-solving skills based on architectural design methodologies.
(projecting ideations through: sketches, iterative prototypes, well-crafted models, descriptive and rigorous technical drawings, as well as imaginative representations of spatial qualities)
4. Provide an introduction to the tools and materials associated with an architectural education.
(mostly through hands-on exercises that would be done at the wood shop and studio. Emphasis will be placed on the craft, rigor and precision with which the design intent is realized)
5. Develop public speaking/presentation skills, as well as sensibility to exhibit and curate your work.
(learning to discern which idea, drawing, model, etc... is the best one, as well as how to explain it and display it on the wall, is more important than having 100 ideas)

[Basis for Grading Studio Projects]

30% - Completion of assigned exercises by the stated due dates

30% - Level of craft and quality of representation (drawings and models)

30% - Clarity of design intent (alignment between idea and final results)

10% - Quality of presentation and explanation of work during reviews

[**] Grading criteria

[Studio Culture]

Work in the studio will build sequentially, and therefore your commitment to incremental development on a weekly basis is of paramount importance -- overnight efforts before reviews will not suffice. The pace of studio courses necessitates your regular attendance and requires that deadlines be consistently met. In addition to lowering your grade, late work will prevent you from following the overall structure of the course. It is important that you take advantage of the studio environment. You have been given a studio space; please use it.

Your development as a designer is made possible by the collective nature of the studio. Working in studio, instead of at home, will allow you to participate in the dialogue of the studio setting. Group reviews are collective for a reason. Each of you has something to gain from your peers. Since studio is a place for all, it necessitates the careful attention to the needs of everyone in it. Please see your instructors if there are any problems that you are unable to resolve on your own. As you are required to work 6 hours per week outside the class meeting times, TAs will assist you in Studio during assigned hours, making your work learning experience much richer.

All spraying of fixative, spray paint or any other substance should be done in the shop. Security is a necessary component for a studio that is accessible to you and your colleagues 24 hours a day, 7 days a week.

[*] Attendance- Attendance for the full duration of each lecture and studio is mandatory. The studio is an exceptional learning environment that requires your physical as well as your intellectual presence. You are allowed three excused absences for the semester. An excused absence is defined as one that was discussed with and approved by the professor at least 24 hours prior to the date of absence, or a family or medical emergency that is confirmed by your physician or a dean in Student Support Services. Absences beyond the three allotted will result in a decrease in your final grade. If you mix four or more studio classes, you will be asked to drop the subject or receive a failing grade.

[**]

A: Excellent – Project surpasses expectations in terms of rigor, craft, logic and inventiveness. Student takes concepts and techniques above and beyond those discussed in class.

B: Above Average – Project is thorough, well researched, diligently pursued, and successfully completed. Student pursues ideas and suggestions presented in class and puts in effort to resolve required projects. Project is complete on all levels and demonstrates potential for excellence.

C: Average – Project meets the minimum requirements. Suggestions made in class are not pursued with dedication or rigor. Project is incomplete in one or more areas.

D: Poor – Project is incomplete. Basic skills including graphic skills, model-making skills verbal clarity or logic of presentation is not appropriate. Student does not demonstrate the required design skills and knowledge.

F: Failure – Project is unresolved. Minimum objectives are not met. Performance is not acceptable. This grade will be assigned when you have more than one unexcused absences.

[Exercises]

1st Exercise (September 06th to Sep 27th)

DRIFT DRAWING (Drift Drawing / Dividing Tool / Code)

2nd Exercise Part A (October 2nd to October 25th)

CORNER (Mass & Void explorations in Basswood, Framing explorations in piano wire, Hybrid of prior)

2nd Exercise Part B: (October 30th to November 30th)

EXPANDED CORNER (Shift in scale to inhabit the Space through modeling and representation)

2nd Exercise Part C: (Dec 5th to Dec 14th)

INHABITED CORNER (Use different media such as casting, etc. to represent the interior Space)

Intro / Sept 06

A Trans-Scalar-Practice: 10^{-03} to 10^{+07} [From Objects to Earth through time and space]

Required Reading:

1. Rasmussen, S. 1989, c1959. *Experiencing Architecture*. Cambridge, MA: MIT Press: 104-126 and 127-158 ("Scale and Proportion" and "Rhythm in Architecture")

Take a look at:

Wingler, Hans M. 1978, c1969. "Origin and History of the Bauhaus." *The Bauhaus*: Weimar, Dessau, Berlin, Chicago. Cambridge, London: MIT Press: 1-11

Gropius, W. 1965. *The New Architecture and the Bauhaus (1935)*. Cambridge, MA: MIT Press.

Neuhart, J&M., Eames, R. 1989. *Eames Design: The Work of the Office of Charles and Ray Eames*. N.Y: H.N. Abrams.

Films/Links:

Powers of Ten. A film dealing with the relative size of things in the universe and the effect of adding another zero. Ray and Charles Eames. 1968. < Link: <http://powersof10.com/> film >

Design Q&A. Volume 4. *The Films of Charles and Ray Eames*. Chatsworth, CA: Image Entertainment, 2005

Powers of Ten: < <http://www.powersof10.com/>>

The Films of Charles and Ray Eames. 6 video discs. Chatsworth, CA: Image Entertainment, 2005

Eames: The Architect and the Painter. United States: First Run Features. 2011. (84 min)

Objectified. Gary Hustwit. 2009 (75 min) (Available at Netflix and YouTube on demand) Bauhaus Archiv

Museum of Design: <http://www.bauhaus.de/bauhausarchiv/publikationen+M52087573ab0.html>

Eames Office: <http://eamesoffice.com/>

Lecture 01/ Sep 06

A Common Language Through Scales: 10^{+00} DRAWING: LEWIT / ELIASON / UTOPIAS

Required Reading:

Miralles, E. (2002). *Enric Miralles, 1983-2000 : Mental maps and social landscapes = mapas mentales y paisajes sociales*. (Rev. and extended ed., El croquis ; 30,49/50,72). El Escorial, Madrid: Croquis Editorial: 192-193

Take a look at:

Cook, P. 1993. "An Archigram Legacy (1986)." *Peter Cook: Six Conversations*. London: Academy Editions: 123-125

Foster, S.N. 2001. "Richard Buckminster Fuller." *Buckminster Fuller. Anthology of the New Millennium* ed. by Thomas T.K. Zung. New York : St. Martin's Press: 1-8

Cook, P. 2003. *The City Seen as a Garden of Ideas*. New York: Monacelli Press.

Wigley, M. 1998. *Constant's New Babylon :the Hyper-Architecture of Desire*. Rotterdam: Witte de With: 010 Publ.

Films/Links:

Moving Beyond Materiality. Tomás Sarraceno. 2012. <<http://architecture.mit.edu/lecture/moving-beyond-materiality>>

The Archigram Archival Project <<http://archigram.westminster.ac.uk/>>

Visit to MIT Media Labs:

Changing Places Lab <<http://www.media.mit.edu/research/groups/changing-places>>

Mediated Matter Lab: <<http://www.media.mit.edu/research/groups/mediated-matter>>

Senseable City Lab: < <http://senseable.mit.edu/>>

Lecture 02/ OCT 2

The Recurrent Field of Inhabitation: 10^{+01} DOMESTIC SCALE: VILLAS / NINE SQUARE GRID

Required Reading:

Peter Eisenman. "Diagram: An original Scene of Writing" in *Diagram Diaries*. Universe Publishing, 1999, 26-35.

———"Toward an Understanding of Form in Architecture" in *Peter Eisenman: Feints*. Skira, 2006, 30-31.

———"A Critical Analysis: Andrea Palladio" in *Peter Eisenman: Feints*. Skira, 2006, 50-65.

———"In My Father's House Are Many Mansions" in *John Hejduk, 7 Houses*. Institute for Architecture and Urban Studies, 1979, 8-20.

Take a look at:

Peter Eisenman. *The Formal Basis of Modern Architecture*. Lars Muller, 2006.

John Hejduk. *John Hejduk, 7 Houses*. Institute for Architecture and Urban Studies, 1979.

Anders Abraham. *A New Nature*. Lars Muller Publishers, 2015.

Colin Rowe. "The Mathematics of the Ideal Villa: Palladio and Le Corbusier Compared" in *The Architectural Review*. March, 1947, 100-104.

Moneo, R. 2004. *Theoretical Anxiety and Design Strategies*. Cambridge, U.S.: MIT Press: 146-197 and 308-359 and ("Peter Eisenman" and "Rem Koolhaas")

Films/Links:

Mon Oncle. Jaques Tati. 1958 (117 min)

The paintings of Juan Gris (1887-1927) <https://www.juangris.org>

Lecture 03/ Jan 17

To Read the Space in Architecture : 10⁺⁰¹ ON CRAFT & REPRESENTATION

Required Reading:

Robin Evans. "Translations from Drawing to Building" in *AA Files No. 12*, 3-18.

———"Architectural Projection" in *Architecture and Its Image*. Canadian Center for Architecture, 1989, 19-35.

John Berger. "Seker Ahmet and The Forest" in *About Looking*. Vintage International, 1980, 86-93.

———Chapter 1 of *Ways of Seeing*. Penguin Books, 1990, 7-33.

Irwin Panofsky. *Perspective as Symbolic Form*. Zone Books, 1997, 27-45 (Chapters 1 & 2).

Take a look at:

Education of An Architect: A Point of View. Cooper Union for the Advancement of Science and Art, 1979.

Aldo Rossi. 1982 (1994 print). *The Architecture of the City*. Cambridge, MA: MIT Press: 13-61 (Introduction and "The Structure of Urban Artifacts")

Anders Abraham. *A New Nature*. Lars Muller Publishers, 2015.

Films/Links:

PlayTime. Jacques Tati. 1967 (155min)

Ways of Seeing with John Berger. BBC Series of 4 epsidoes.

https://www.youtube.com/watch?v=0pDE4VX_9Kk (30 min. each)