Course Syllabus

Jump to Today

Architectural Visualization since 1900

Reinhold Martin

Wed 11am-1pm

114 Avery Hall

Fall 2016

As a rule, architects do not build. They draw, write, annotate, diagram, model, map, sketch, photograph, animate, and otherwise visualize objects, spaces, and territories; they make visual and verbal presentations; they compile visual and written analyses and reports; and they issue visual and written instructions.

These lectures introduce key episodes in the history of architectural visualization, in a variety of geographic and cultural contexts across the “long” twentieth century, with close attention paid to housing. The approach is thematic; it follows a loose chronology built around concepts, problems, and practices associated with international modernism and its aftermath. In and through these, we will observe architectural knowledge being constructed, drawings and buildings interacting, and ideas, techniques, and imagery circulating.

Each lecture considers a specific set of techniques within the history and theory of modern and contemporary architecture, the history of technology, and theories and practices of visualization. A limited number of drawings, models, photographs, and other visual artifacts will be analyzed in depth. Some readings situate these examples historically, while others offer conceptual orientation. Together, the lectures offer a historical perspective that reframes concerns shared among different aspects of the GSAPP architecture curriculum, including the design studios, visual studies, and the technology sequence.

The history of architectural visualization is also a history of globalization. Architectural discourse and techniques move constantly across a variety of national, cultural, and geographic boundaries, both historically and in the present. The lectures will therefore emphasize problems and effects of visual translation, standardization, reproduction, interface, transformation, site, and circulation that accompany this movement.

Material covered includes diagrams, travel sketches, orthographic projection, axonometry, perspective, the representation of movement, construction drawings, urban cartography, architectural and aerial photography, rendering, and stages of digitalization, from the period around 1900 to the present. Through these visual materials we will witness the ongoing invention and dissemination of “architecture” as a category in a manner that explains much about contemporary assumptions.

Course Requirements
Students are required to attend all classes, complete the required readings, and complete the class assignments. Additional materials listed as Further Reference are suggested for those wishing to read more deeply in a given subject, or those writing research papers.

There will be two assignments during the semester: A 500-word (max.) paper abstract and research bibliography and a final research paper of 15 pages (max.), double-spaced in 12 point font (about 3,500-4,000 words); plus illustrations.

All papers should follow bibliographic, footnoting, and other guidelines outlined in the Chicago Manual of Style (available as an E-Book through CLIO).

All required and further readings are available on Courseworks or through e-journals on different online databases as indicated (JSTOR, MUSE, WILEY ONLINE, etc.). Most books are available in Avery Library. E-Books are listed as such and may be accessed through CLIO. E-journals may be accessed through the Columbia University Libraries “Databases” at: http://library.columbia.edu/

Grading

Grades for the class will be determined as follows:

- Attendance / participation 20%
- Paper abstract (Due: 19 October 2016) 20%
- Final paper (Due: 16 December 2016 5:00pm) 60%

NOTE: All assignments will be submitted through Turnitin. Instructions will be provided by instructor.

Students with limited experience in writing research papers or writing in academic English are STRONGLY encouraged to seek support at the Columbia College Writing Center:

http://www.college.columbia.edu/core/uwp/writing-center

Students should adhere to standard guidelines regarding academic honesty, such as those described in the GSAS Statement on Academic Honesty, available at:


Schedule and Readings

**Week 1   Media: From Representation to Communication**

7 September 2016
Required Reading


Further Reference


Week 2 Drawing Architecture

14 September 2016

Required Reading


Further Reference


Week 3 Translation: The Movement of Information

21 September 2016

Required Reading


Further Reference


Julien Guadet, Éléments et théorie de l'architecture: cours professé a l'École nationale et spéciale des beaux-arts, 4 v. (Paris: Librarie de la construction modern, 1901-1904) EBOOK


Week 4 The World Picture: Numbers and Standards
28 September 2016

Required Reading


Further Reference


Don Graf, Data Sheets: Thousands of Simplified Facts about Building Materials and Construction (New York: Reinhold, 1944)

Ernst Neufert, Bau-Entwurfslehre (Berlin: Bauwelt Verlag, 1936)


Week 5 Object-Experience: Axonometry versus Photography

5 October 2016

Required Reading


Further Reference


Week 6  Dynamism: Time and Movement, Machines and Organisms
12 October 2016

Required Reading


Further Reference


Gyorgy Kepes, Language of Vision (Chicago: Paul Theobald, 1944) EBOOK


László Moholy-Nagy, Vision in Motion (Chicago: Paul Theobald, 1947)


**Week 7 Horizon as Symbolic Form: Plans and Grids**

19 October 2019

**Required Reading**


**Further Reference**


Bruce Brooks Pfeiffer, Frank Lloyd Wright Drawings: Masterworks from the Frank Lloyd Wright Archives (New York: Abrams, 1990)


Week 8 Pattern Seeing: Systems

26 October 2016


Further Reference


Gyorgy Kepes, Module, Proportion, Symmetry, Rhythm (New York: George Braziller, 1966)

Gyorgy Kepes, Sign, Image, Symbol (New York: George Braziller, 1966)

Gyorgy Kepes, Education of Vision (New York: George Braziller, 1965)

Gyorgy Kepes, The Nature of Art and Motion (New York: George Braziller, 1965)

Gyorgy Kepes, Structure in Art and Science (New York: George Braziller, 1965)

Gyorgy Kepes, Arts of the Environment (New York: George Braziller, 1972)


**Week 9 From Above, From Below: Power and Control**

2 November 2016

Required Reading


**Further Reference**


Week 10  Risk: The International Division of Labor

9 November 2016

Required Reading


Further Reference


**Week 11 Black and White and Color: Form/Figure/Context**

16 November 2016

Required Reading


**Further Reference**

Christopher Alexander, Notes on the Synthesis of Form (Cambridge: Harvard University Press, 1964)


Klaus Herdeg, Formal Structure in Indian Architecture (New York : Rizzoli, 1990)
Klaus Herdeg, Formal Structure in Islamic Architecture of Iran and Turkistan
(New York : Rizzoli, 1990)


Colin Rowe and Fred Koetter, Collage City (Cambridge: MIT Press, 1978)


**Week 12 Computerization Takes Command**

23 November 2016

Required Reading


Further Reference


Peter Eisenman, Diagram Diaries (New York: Universe, 1999)


Thomas Keenan and Eyal Weizman, Mengele’s Skull: The Advent of Forensic Aesthetics (Berlin: Sternberg Press, 2012)


Timothy Lenoir, "All but War Is Simulation: The Military Entertainment Complex," Configurations 8, n. 3 (Fall 2000): 238-335. MUSE (online)


**Week 13 Planetary Pictures**

30 November 2016

Required Reading


http://rsta.royalsocietypublishing.org/content/369/1938/842.full.pdf+html?sid=0d594635-9044-48b8-a33b-927b24ceea52 (Links to an external site.)

Further Reference


Albert Ferré and Tomokoko Sakamoto eds., From Control to Design : Parametric/Algorothmic Architecture (Barcelona : Actar, 2008)


http://www.youtube.com/watch?v=RgqtrlixYR4 (Links to an external site.)

http://www.youtube.com/watch?v=ABZjlfhN0EQ (Links to an external site.)

Albena Yaneva, Made by the Office for Metropolitan Architecture: An Ethnography of Design (Rotterdam: 010, 2009)