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.

This lecture course traces these activities across the twentieth century by introducing key episodes in the history of architectural visualization in a variety of geographic and cultural contexts. The approach is thematic and 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 cultural 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, films, and other visual artifacts will be analyzed in depth. Some readings situate these examples historically, while others offer conceptual orientation. Though formally a history and theory lecture, the course brings together concerns shared among different aspects of the GSAPP architecture curriculum, including visual studies, the technology sequence, and the design studios.

A further goal of the course is to introduce students to the material infrastructures and interfaces through which architectural discourse and techniques move across a variety of national, cultural, and geographic boundaries, both historically and in the present. The history of architectural visualization in the twentieth century is also a history of globalization. Problems and effects of visual translation, standardization, reproduction, transformation, site, and circulation will therefore be emphasized.

Material covered includes diagrams, travel sketches, orthographic projection, axonometry, perspective, representations of movement, construction drawings, urban cartography, architectural and aerial photography, rendering, and stages of digitalization, from the period around 1900 to the present.

Course Requirements

Students are required to attend all classes, complete the required readings, and complete the class assignments.

FOR THOSE ENROLLED IN A4024 (Architectural Drawing & Representation II):

Students are expected to complete ONLY Required Readings. Additional materials listed as Further Reading and as Further Reference are suggested for those wishing to read more deeply in a given subject.

There will be four short exams at roughly three-week intervals. In each exam, students will answer two out
of three questions, at a maximum 300 words per answer.

FOR THOSE ENROLLED IN A4326 (Architectural Visualization since 1900):

Students are expected to complete Required Readings AND Further Readings. 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, the preliminary mid-term paper and the final research paper.

Prior to the mid-term paper, students will be asked to select a research subject from the syllabus. The mid-term paper will consist of a 5-page (maximum) analysis of the subject appended with sample illustrations and a working bibliography. This mid-term will then be expanded into a 15-page (maximum) final research paper, plus illustrations. All papers should be 12-point double-spaced and follow bibliographic, footnoting, and other guidelines outlined in the Chicago Manual of Style (available as an E-Books through CLIO).

Required readings are available on Courseworks or through e-journals on different online databases as indicated (JSTOR, MUSE, WILEY ONLINE, etc.). Further readings are listed as reference for those students interested in studying particular subjects in greater depth, and for those writing about these subjects for their research papers. Most books are available on reserve in Avery Library. E-Books are listed as such and may be accessed through CLIO. E-journals may be accessed through the “Databases” search on the Columbia University Libraries website at:

http://library.columbia.edu/

One required book, Erwin Panofsky, *Perspective as Symbolic Form* [1927], available for purchase in Bookculture (West 112th St. between Broadway and Amsterdam Ave.).

Grading

Grades for the class will be determined as follows:

FOR THOSE ENROLLED IN A4024 (Architectural Drawing & Representation II)

This portion of the class will constitute 50% of your total grade, as follows:

Average of four exams 40%

Attendance (9-1) 10%

FOR THOSE ENROLLED IN A4326 (Architectural Visualization since 1900)

Mid-term assignment 15%

Attendance 20%

Final paper 65%

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


[MUST BE READ BY WEEK 5]

Schedule and Readings

**Week 1 Points of Departure**

22 January 2013

Required Reading


Further Reading


Further Reference


“Perspective, a Thing of the Past?” 22-40.


Week 2 Delineation: Partis, Diagrams, and Travel Sketches

29 January 2013

Required Reading


Further Reading


Further Reference


**Week 3 The World Picture: Numbers and Standards**

5 February 2013

Exam #1 issued (for A4024)

Required Reading


Further Reading

Peter Galison, “Aufbau/Bauhaus: Logical Positivism and Architectural Modernism,” *Critical Inquiry* 16, No. 4

Further Reference

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

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


Week 4 Object-Experience: Axonometry versus Photography

12 February 2013

Exam #1 due (for A4024)

Required Reading


Further Reading


Further Reference


Week 5 Dynamism: Time and Movement, Machines and Organisms

19 February 2013

Required Reading


Further Reading


Further Reference


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


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


Week 6 Plan as Generator?

26 February 2013

Exam #2 issued (for A4024)

Required Reading


Further Reading


Further Reference


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


**Week 7 Abstraction 1: Grids**

5 March 2013

Exam #2 due (for A4024)

Required Reading


Further Reading


Further Reference


Mid-term papers due (for A4326)

8 March (by 5pm, PDF by Dropbox)

**Week 8 Pattern Seeing: Systems**

12 March 2013

**Required Reading**


**Further Reading**


**Further Reference**


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


**Spring Break (no class)**

19 March 2013

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

29 March 2013

**Required Reading**


**Further Reading**


**Further Reference**


Catherine de Zegher and Mark Wigley, eds. The Activist Drawing: Retracing Situationist Architectures from Constant’s New Babylon to Beyond (Cambridge: MIT Press, 2001)

Week 10 Risk: The International Division of Labor

2 April 2013

Exam #3 issued (for A4024)

Required Reading


Further Reading


Further Reference


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

9 April 2013

Exam #3 due (for A4024)

Required Reading


Further 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)


Press, 1982)

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


**Week 12 Digitality**

16 April 2013

**Exam #4 issued (for A4024)**

**Required Reading**


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

**Further 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)


Week 13 Abstraction 2: Global Pictures

23 April 2013

Required Reading


Further Reading


Further Reference


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


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

**Exam #4 due** (for A4024)

9 May (by 5pm, PDF by Dropbox)

**Final papers due** (for A4326)

10 May (by 5pm, PDF by Dropbox)
Since its first publication in 1982, Modern Architecture Since 1900 has become established as a contemporary classic. Worldwide in scope, it combines a clear historical outline with masterly analysis and interpretation. Technical, economic, social and intellectual developments are brought together in a comprehensive narrative which provides a setting for the detailed examination of buildings.