

ARCH 583ST: Complexity & Composition

Course Syllabus

NJIT Spring 2024

Instructor:

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Monday, 6:00 – 8:50 PM
New Jersey Institute of Technology
Hillier College of
Architecture + Design

Type of Course:

Elective, Face-to-Face
Seminar Format, 3 credits
3 contact hours per week
meets once a week

Recommended that students have completed:

ARCH 211 – History of Architecture II & ARCH 396 – Architectural Studio VI

Preferred that students have completed:

ARCH 535 – History of Architectural Ideas **OR** ARCH 630/583ST – Critical Theories in Architecture

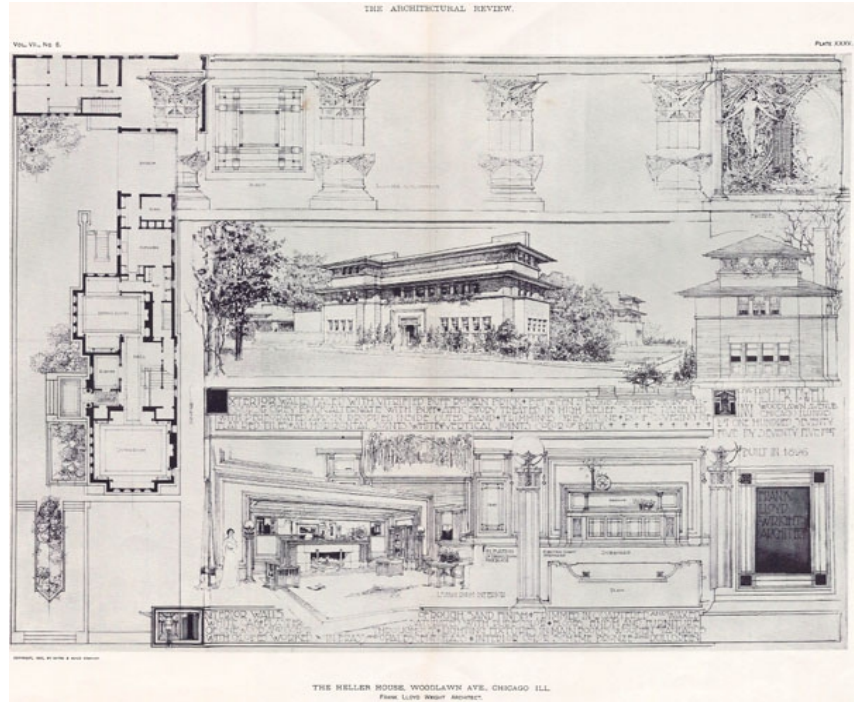
Course Description:

The increasing complexity of 21st century façade systems and the enduring 20th century rejection of Beaux-Arts methodologies have increased the difficulty of and fostered apathy toward the art of elevation. This class will explore precedents and techniques from antiquity to the present alongside advanced façade systems to develop new methodologies that utilize contemporary technologies to compose compelling architectural exteriors.

This seminar is structured around the integration of architectural history, theory, criticism, and technology into the design process. Weekly readings, enclosure technology research, and in-depth discussion will provide a framework, methodologies, and palettes for students to explore the further artistic development of one of their previous studio projects.

Learning Objectives:

The course seeks to both expose students to architectural thought and analyze it in a topical and historical context while allowing an opportunity to discover and formulate methodologies to utilize theory as a generative element for future design endeavors. This course will utilize a topical format to explore ideological approaches to design including, but not limited to parti, massing, material, and detail. Collaborative textual analysis will drive individual architectural design explorations resulting in collaborative critiques of each student's personal design process. As a result, students will develop personalized processes for the utilization of architectural theory as a tool for analyzing, understanding, and executing design.



Heller House Analytique, Frank Lloyd Wright, 1897

NAAB Shared Values:

The National Architectural Accrediting Board accredits NJIT's architecture program. The NAAB has Shared Values of the Discipline and the Profession that must be covered by any architectural curriculum to attain their approval. This course satisfies the following shared values:

Design: Architects design better, safer, more equitable, resilient, and sustainable built environments. Design thinking and integrated design solutions are hallmarks of architecture education, the discipline, and the profession.

Environmental Stewardship and Professional Responsibility: Architects are responsible for the impact of their work on the natural world and on public health, safety, and welfare. As professionals and designers of the built environment, we embrace these responsibilities and act ethically to accomplish them.

Equity, Diversity, and Inclusion: Architects commit to equity and inclusion in the environments we design, the policies we adopt, the words we speak, the actions we take, and the respectful learning, teaching, and working environments we create. Architects seek fairness, diversity, and social justice in the profession and in society and support a range of pathways for students seeking access to an architecture education.

Knowledge and Innovation: Architects create and disseminate knowledge focused on design and the built environment in response to ever-changing conditions. New knowledge advances architecture as a cultural force, drives innovation, and prompts the continuous improvement of the discipline.

Leadership, Collaboration, and Community Engagement: Architects practice design as a collaborative, inclusive, creative, and empathetic enterprise with other disciplines, the communities we serve, and the clients for whom we work.

Lifelong Learning: Architects value educational breadth and depth, including a thorough understanding of the discipline's body of knowledge, histories and theories, and architecture's role in cultural, social, environmental, economic, and built contexts. The practice of architecture demands lifelong learning, which is a shared responsibility between academic and practice settings.

Learning and Teaching Culture Policy:

In addition to the overarching values and ethics of the university, the New Jersey School of Architecture (NJSoA) is dedicated to optimism, diversity and solidarity, professional conduct, constructive evaluation and instruction, collaborative community, health and well being, time management and school-life-work balance, respectful stewardship and space management, and well-rounded enrichment. The pedagogy of architecture and design is as complex as it is rewarding, and as dynamically evolving as the people who learn and teach it. This understanding resides at the core of the NJSoA Learning and Teaching Culture Policy:

<https://design.njit.edu/learning-and-teaching-culture-policy>

Format:

Seminar classes utilize a framework of discussion with colleagues. Perspectives and observations shall not be dismissed out of hand, but must be debated and examined through collaborative research. Course readings are intended to be interrogated and tested thoroughly, not necessarily as predetermined answers, but as a context and origin for questions to be answered through ongoing design endeavors. There shall be no wrong questions nor right answers. Course requirements will be comprised of prior project presentations, discussion participation, class discussion leadership, weekly reading quizzes, and 4 iterations of an ongoing, semester-long design analytique presented to the the class.

Investigations are meant to contribute to further development of architectural thinking and continued development of students' architectural processes in the future. Successful course completion shall depend on the individual student's ability to apply applicable concepts, materials, and assemblies, while developing their ability to draw and speak critically regarding key elements of their own work.

Evaluation and Grading Criteria: (subject to change during semester)

NJIT Undergraduate grading scale:

- A 4.0 Superior
- B+ 3.5 Excellent
- B 3.0 Very Good
- C+ 2.5 Good
- C 2.0 Acceptable
- D 1.0 Minimum
- F 0.0 Inadequate

Incompletes are only granted in the event of a documented medical or family emergency, and must be approved by the instructor and administration.

NJIT has a policy of issuing mid-term warnings for students who are not performing at a satisfactory level. Any student issued a warning will be required to have a conference with the instructor to evaluate satisfactory completion of the work for the remainder of the semester. At any point during the semester students can arrange to meet with the instructor to inquire how their performance of the assignments is progressing and how they may improve. Final grades may be discussed in person at the end of the semester by student or instructor request.

Office Hours:

Instructor is available in person, on campus, by appointment, Thursday from 9-12 AM or remotely by appointment Friday from 9AM- 5PM.

Academic Integrity:

Academic integrity and honesty are of paramount importance. Cheating and plagiarism will not be tolerated. The NJIT Honor Code will be upheld, and any violations will be brought to the immediate attention of the Dean of Students. All students are responsible for upholding the integrity of NJIT by reporting any violation of academic integrity to the Office of the Dean of Students. The identity of the student filing the report will remain anonymous. All students are expected to adhere to:

The University Code on Academic Integrity: <https://www.njit.edu/dos/academic-integrity>

The Code of Student Conduct: <https://www.njit.edu/dos/policies/conductcode/index.php>

HCAD librarian Maya Gervits has assembled excellent resources for a students use on using images, citing, and plagiarism: <https://researchguides.njit.edu/c.php?g=671665&p=4727920>

Class Attendance Policy:

Class will meet once a week: Monday, 6:00 – 8:50 PM (subject to change)

ON TIME attendance is required at all class meetings.

Failure to be on time may result in students not being permitted to take quizzes, present their assignments and receiving a reduced or failing grade on the assignment.

Habitual lateness and/or absences WILL result in such penalties. Unexcused absences can result in the lowering of final grades or failure.

Three or more unexcused absences will require a meeting with the instructor.

Assignments:

Each assignment will constitute a percentage of the overall grade as follows:

Prior Projects Presentation: Ungraded

Each Student will upload at least 2 prior studio project to a shared Google drive folder.
Students will briefly present the prior projects to the rest of the class and make a case for each.
Instructor and classmates will select which project the student shall redesign through the Analytique.

Discussion Participation: 10% of final grade

Will be issued as 2 grades: 5% at Midterm, 5% at End of Term

Discussion Leadership: 10% of final grade

Each Student will lead class discussion once during the term

Weekly Reading Quizzes: 15% of final grade

Analytique I: 15% of final grade

Requirements:

Analytique Presentation of Prior Studio Project

15 SF graphic presentation – Hard copy required (may be tiled)

Reexamining prior project through ALL the topical lenses discussed in class to date

Analytique II: 15% of final grade

Requirements:

Analytique Presentation of Prior Studio Project

15 SF graphic presentation – Hard copy required (may be tiled)

Reexamining prior project through ALL the topical lenses discussed in class to date

Draft Final Analytique: 5% of final grade

Requirements:

Analytique Presentation of Prior Studio Project

15 SF graphic presentation – Hard copy required (may be tiled)

Reexamining prior project through ALL the topical lenses discussed in class to date

Final Analytique & Presentation: 30% of final grade

Requirements:

Analytique Presentation of Prior Studio Project

15 SF graphic presentation – Hard copy required

Completed exterior (re)design of Prior Studio Project

5 copies: 11x17 process booklet to be distributed to jurors at the Final Presentation

Students should upload deliverables to the appropriate Assignments folders on Canvas* and Kepler* in pdf format at the page/image size and quality they are created/presented.

Additional requirements and instructions will be forthcoming.

Canvas: <https://canvas.njit.edu/>

**NB: Kepler is now connected to Canvas, however, work uploaded to Canvas for grading will not automatically be uploaded to Kepler. Students should access Kepler through Canvas and upload work to the appropriate folder for archiving by HCAD.*

Preliminary Schedule: (Subject to Change)

24.01.22 Week 1

Course Framework Discussion
Project Introduction
Topic Schedule
Discussion Leadership Selections & Assignments

Design Topic: History and Traditions of Architectural Representation

Technical Topic: Barriers – Water, Fire, Earth, Air

Assignment: Prior Projects Boards pdf Upload Due 24.01.29

24.01.29 Week 2

Assignment Due: Prior Projects Final Boards Presentation

Design Topic: Conceptions of Enclosure

Readings:

Postscriptum: The Tectonic Trajectory, 1903-1994

Frampton, Kenneth. *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture*. Boston, MIT, 1995.

Technical Topic: Roofs, Eaves, & Parapets

Recommended Process: Enclosure Conception(s) Due 24.02.19

24.02.05 Week 3

Design Topic: Parti

Readings:

Chats V – XIII

Sullivan, Louis. *Kindergarten Chats and Other Essays*
New York: Dover, 1979, 2014

Some Definitions Using the Comparative Method

Historical and Other Precedents: Toward an Old Architecture

Venturi, Robert; Scott Brown, Denise; & Izenour, Steven.

Learning from Las Vegas: The Forgotten Symbolism of Architectural Form.
Cambridge, MA: MIT Press, 1972, 1977

Technical Topic: Doors, Windows, & Other Openings

Recommended Process: Parti Analysis & (re)Composition Due 24.02.19

24.02.12 Week 4

Design Topic: Massing

Readings:

The Lesson of Rome

Le Corbusier. *Towards a New Architecture*. London: Rodker, 1931,
New York: Dover, 1986

Blob Tectonics, or Why Tectonics is Square and Topology is Groovy

Lynn, Gregg. *Folds, Bodies & Blobs: Collected Essays*
Bibliothèque Royale de Belgique, 1998

Technical Topic: Mass Wall Systems

Recommended Process: Massing Analysis & (re)Composition Due 24.02.19

24.02.19 Week 5: Working Session IA
Assignment Due: Analytique I – Enclosure Conception, Parti, Massing

Technical Topic: Surface Fastened Systems

Recommended Process: Design Revisions and Refinements Due 24.04.01

24.02.26 Week 6: Working Session IB
Assignment Due: Analytique I – Enclosure Conception, Parti, Massing

Technical Topic: Cavity Systems

Recommended Process: Design Revisions and Refinements Due 24.04.01

24.03.04 Week 7
Design Topic: Approach & Entry
Readings:
Montage and Architecture
Eizenštejn, Sergei. *Assemblage*, no. 10, pp 110-131, 1937-40, 1989
La Tourette
Rowe, Colin. *The Mathematics of the Ideal Villa and Other Essays*
Boston: MIT Press, 1987

Technical Topic: Rain Screen Systems

Recommended Process: Approach Conception Due 24.04.01

24.03.10 – 24.03.17 Spring Break

24.03.18 Week 8
Design Topic: Solid & Void
Readings:
Transparency: Literal and Phenomenal
Rowe, Colin. *The Mathematics of the Ideal Villa and Other Essays*
Boston: MIT Press, 1987
Transparency: Literal and Phenomenal...Part II
Rowe, Colin & Slutsky, Robert. *Transparency: Literal and Phenomenal II*
Perspecta, vol. 13/14, 1971, 287-301

Technical Topic: Curtain Systems

Recommended Process: Solid/Void Conception Due 24.04.01

- 24.03.25 Week 9
 Design Topic: Material Conceptions and Selections
 Readings:
 Basic Observations
 Rasmussen, Steen Eiler. *Experiencing Architecture*. Boston: MIT, 1959, 1962
 Immaterial/Ultramaterial: Architecture, Design, and Materials
 Mori, Toshiko. *Immaterial/Ultramaterial: Architecture, Design, and Materials*.
 New York: George Braziller. 2002
- Technical Topic: Mullion Frame Systems
- Recommended Process: Materials Conceptions Due 24.04.08
- 24.04.01*** **Week 10: Working Session IIA**
 Assignment Due: Analytique II
 Enclosure Conception, Parti, Massing, Approach, Solid/Void, Materials
- Technical Topic: Architecturally Exposed Structure & Systems
- Recommended Process: Design Revisions and Refinements Due 24.04.29
- *NB: 24.04.01 is the last day students may withdraw from class.*
- 24.04.08** **Week 11: Working Session IIB**
 Assignment Due: Analytique II
 Enclosure Conception, Parti, Massing, Approach, Solid/Void, Materials
- Technical Topic: Double Walls
- Recommended Process: Design Revisions and Refinements Due 24.04.29
- 24.04.15 Week 12
 Design Topic: Regulation
 Readings:
 The Changing Concept of Proportion
 Wittkower, Rudolf. *Idea and Image: Studies in the Italian Renaissance*
 New York: Thames & Hudson, 1978
 The Mathematics of the Ideal Villa
 Rowe, Colin. *The Mathematics of the Ideal Villa and Other Essays*
 Boston: MIT Press, 1987
- Technical Topic: Operable Elements & Exterior Lighting
- Recommended Process: Regulation Conception Due 24.04.08
- 24.04.22 Week 13
 Design Topic: Detail
 Readings:
 What is the Just Subordination, in Architectural Design, of Details to Mass?
 Sullivan, Louis. *Kindergarten Chats and Other Essays*
 New York: Dover, 1979, 2014

The Tell-the-Tale Detail

Frascari, Marco. *Semiotics 1981*. Eds. Deely, John N. & Lenhart, Margot D.
Boston: Springer, 1983

Technical Topic: Stairs, Ramps, and Railings

Recommended Process: Detail Conception(s) Due 24.04.29

24.04.29

Week 14: Working Session III

Assignment Due: Draft Final Analytique

**Enclosure Conception, Parti, Massing, Approach, Solid/Void, Material,
Regulation, Detail**

Technical Topic: Unresolved Unique Conditions

23.05.TBD

FINAL REVIEW

Assignment Due: Final Analytique & 5 copies of Process Booklet