

**School of Architecture | University of Miami**  
**Spring 2023**  
**ARC 557/657: Design and Fabrication Techniques**  
Prototyping for the Public  
Max Jarosz



Private Commission, by Philipp Aduatz

Digital fabrication and construction technologies are enabling designers and makers to experiment with new design methodologies. The course will explore the relationship between technology and fabrication in the context of the public realm and seek new territories for exploration. We will analyze public realm projects that create engaging public spaces and the fabrication strategies behind them as well as propose and build new prototypes for future public spaces. The focus for this semester will be on robotic production of public furniture where students can expect to gain hands-on experience with the robotic arm as well as potential access to a large format concrete 3D printer to print their final designs. The course will aim to enrich students understanding of both public space and fabrication.

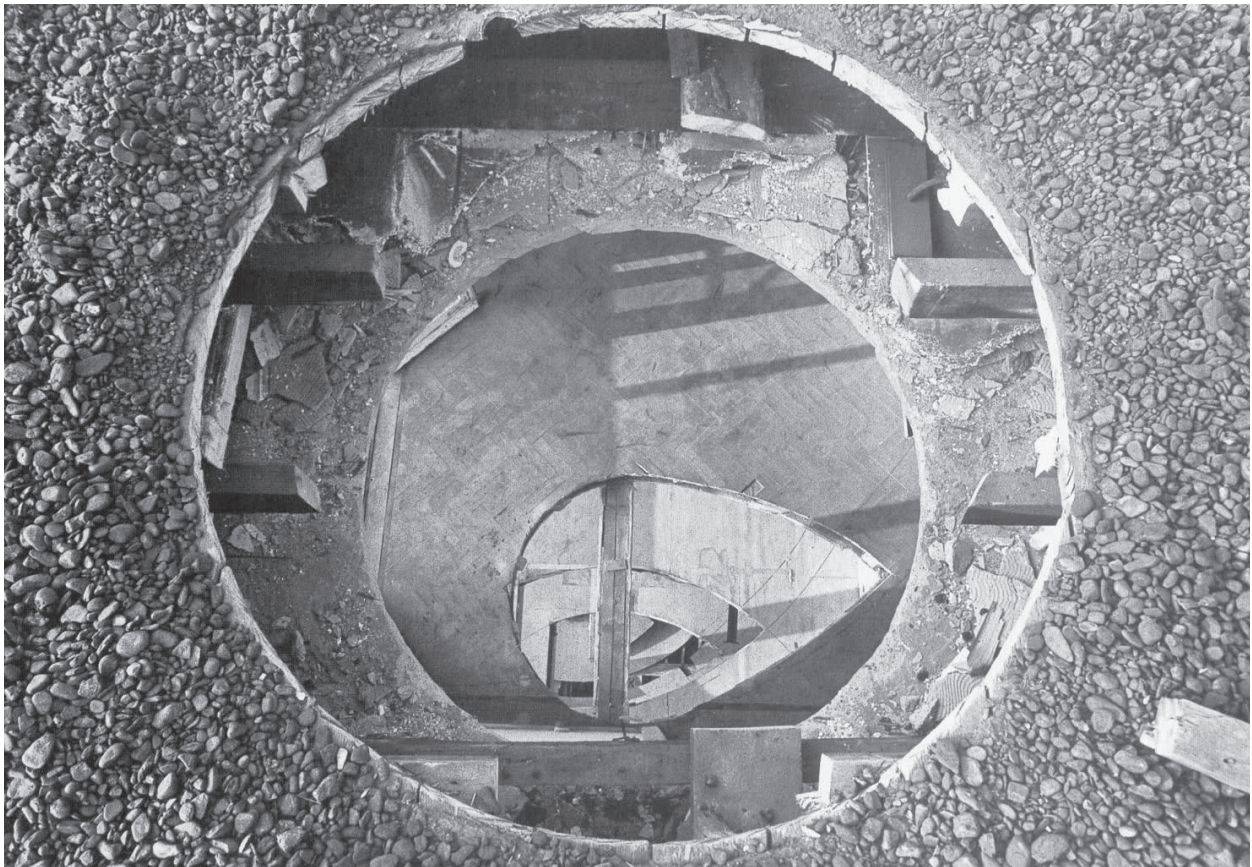
School of Architecture | University of Miami  
Spring 2023 | Tuesday 6:35pm-9:20pm

Elective Course ARC 585-685

# A ROCK WITH A HOLE CUT THROUGH

– REMODELING A SERIES OF GORDON MATTA-CLARK'S 'CUTTINGS'

Florian Sauter



*Conical Intersect, Paris, 1975*

Difficult to grasp in their spatial complexity, and even more so since the run-down buildings that Gordon Matta-Clark appropriated for his sculptures were destroyed shortly after his interventions, the physical model appears to be the ideal instrument to capture the raw power of the American artist's "non.u.mental" work. On that basis, and for the first time in history, this seminar seeks to re-construct a series of Gordon Matta-Clark's "anarchitectural" interventions—*Splitting: Four Corners*, 1974; *Bingo*, 1974; *Day's End*, 1975; *Conical Intersect*, 1975; *Office Baroque*, 1977; *Circus: The Caribbean Orange*, 1978—through a set of large-scale models. At the same time, it introduces the student to the exact analysis of historical data. In a larger, ideological sense, the seminar is to "open a state of enclosure," especially towards the architectural community, which in Matta-Clark's opinion

for much too long ignored his evolving notion of what space is really all about: "In spite of no longer working as an architect I continue to focus my attention on buildings, for these comprise both a miniature cultural evolution and a model of prevailing social structures. Consequently, what I do to buildings is what some do with languages and others with groups of people: I organize them in order to explain and defend the need for change. However, unlike other artists, I feel the need to become directly involved in a context that is physically, politically and socially structured, in short, to leave the studio and go out on the streets. To leave the studio to relate to those buildings that have been abandoned by a system that doesn't look after them, that imposes the use and fate of property only as an end in itself. What I propose is to transform one of these industrial constructions in a liberated way."

**School of Architecture | University of Miami**  
**Spring 2023**

**ARC 476-676**

Nineteenth and Twentieth Century Architecture  
Dr. Victor Deupi



Joseph Paxton, *Crystal Palace*, London (1851)

This course examines the history of architecture and human settlements during the 19th and 20th centuries in Europe and America, as well as the cultural, technological, and theoretical developments of the modern world. The class will be a mixture of seminars and workshops, with lectures to provide historical background. Seminars will allow students to look in depth at a topic and will include case studies presented by students. Workshops will provide creative, collaborative opportunities to hone analytical, writing, public speaking, research skills, and look at how architects and engineers work together through studying projects and drawings.

**ARC 528/628 Spring 2023**  
**INTRODUCTION TO HISTORIC PRESERVATION**  
Prof. Jorge L. Hernandez 3 credits



*A mason works on repairing damaged oolitic limestone walls on historic building.*

The goal of this historic preservation course is to familiarize students with the foundational concepts, principles and history of cultural heritage stewardship. The course provides a general introduction to the history and theory of historic preservation and includes examples of cultural heritage stewardship fundamental to the engagement of cultural resources, planning and management. Instruction is conducted in a lecture and seminar format. Learning resources include selected readings and require that students come prepared to engage in class discussions and debate the topics of each assignment.

# CONSTRUCTION MANAGEMENT



LAND



MULTI-FAMILY



OFFICE



INDUSTRIAL



RETAIL

## ARC 549 / ARC 649

SPRING 2023

INSTRUCTOR: VICTOR SANTANA RA, LEED AP

Real estate development is a collaborative, multi-disciplinary effort in which a group of professionals contribute their expertise to a project in a time-sensitive environment. Focusing on the five major development types: Land, Multi-Family, Office, Industrial and Retail; students will be introduced to the stages of development and the life cycle of a project.

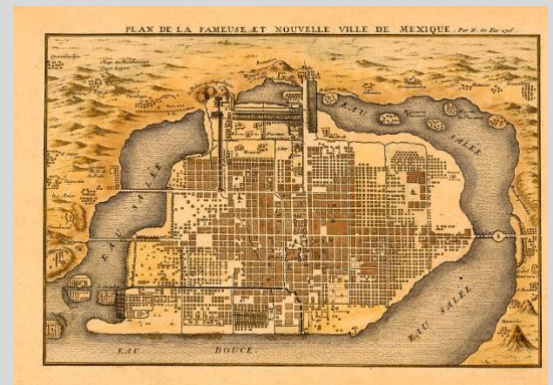
# ARC 574/674 RENAISSANCE ARCHITECTURE (3 CREDITS)

Spring 2023, M&W 9:30-10:45

Dr. Victor Deupi



As we consider the shape of cities and the role of monuments within them in the twenty first century, it is worthwhile examining how architects and patrons of the past dealt with similar issues when they first set about articulating a modern (humane) world view. The Renaissance and Baroque periods count among the most fruitful eras of experimentation in architecture and urban design, and they continue to exert a strong influence on the world today, especially in the west. This course surveys the theory and practice of architecture from fifteenth through seventeenth-century Europe, focusing primarily on Italy. Topics of study include the Renaissance revival of classical antiquity, the changing nature of architectural practice, the role of religious orders like the Jesuits in the dissemination of architectural style and taste, and the importance of illustrated books in advancing theoretical and practical notions about architecture and the city.



NB This course will be taught in a “Flipped Learning” modality.  
The course also contributes to the Classical Certificate in Architecture

# ARC 539/639: Adaptation to Climate Change



**Professor Elizabeth Plater-Zyberk**  
**Spring 2023**

This upper and graduate level elective seminar introduces students to the topic of climate change with a focus on adaptive response. The course reviews current scientific evidence, the contradictions that stymie effective mitigation, and the adaptations of the built environment required by accelerating change.

While scientists study evolving conditions with a steady rate of benchmark announcements, for non-scientist observers, the information may seem confusing and the prospects overwhelming. It is difficult to assess one's own role or potential response.

This course provides students with a foundation of basic knowledge as a framework for personal and professional response to the evolving conditions that threaten quality of life and, in certain cases, the ultimate viability of human habitation.

The course will include readings, guest speakers, a visit to a local site of recent adaptation, and student presentations that include creative proposals for adaptation to climate change impacts.

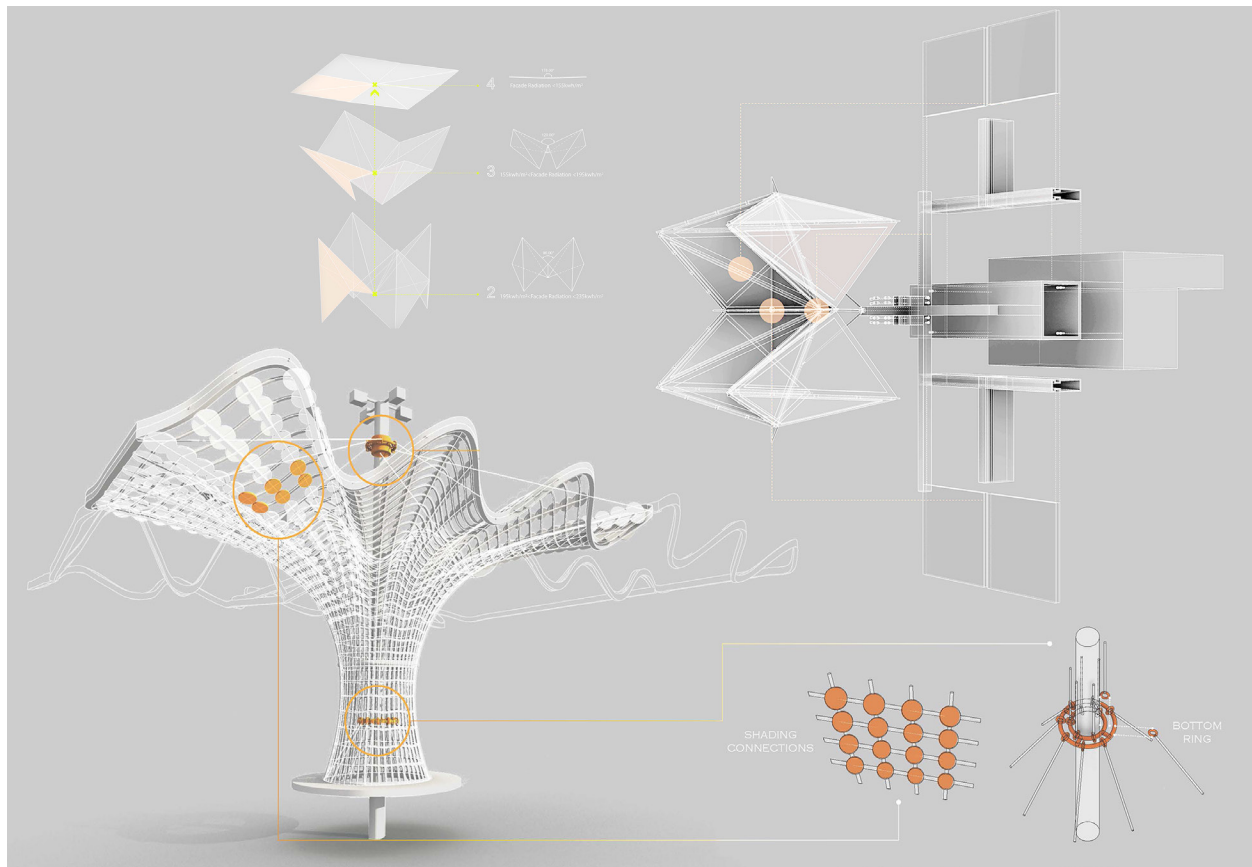




School of Architecture | University of Miami  
Spring 2023

ARC 556 / 656: Parametric Tectonics  
Explorations Through Iterative Design and Optimization

Juan Manuel Yactayo



Past student projects from this course: Wei Wang (top) and Jingshi Wang (bottom)

Visual scripting tools, such as “Grasshopper”, enable designers to automate processes and to translate complex data into architectural language. Beyond stylistic expressions, these tools allow for a highly efficient workflow that is becoming a standard in today’s practice. This introductory course will focus on the production of a facade and pavilion prototype derived from a parametric-based approach to design. Students will work with several media including Grasshopper, animation software, and fabrication tools. At the end of this 3-credit elective, students will understand the benefits of computational tools for iterative design explorations and accurate climate analysis. In parallel, students will be exposed to different construction methodologies as well as experimental graphics techniques.

# A Critical History of Contemporary Architecture: From High Tech and Decon to Classicism and the Neo-Vernacular

Dr. Richard John

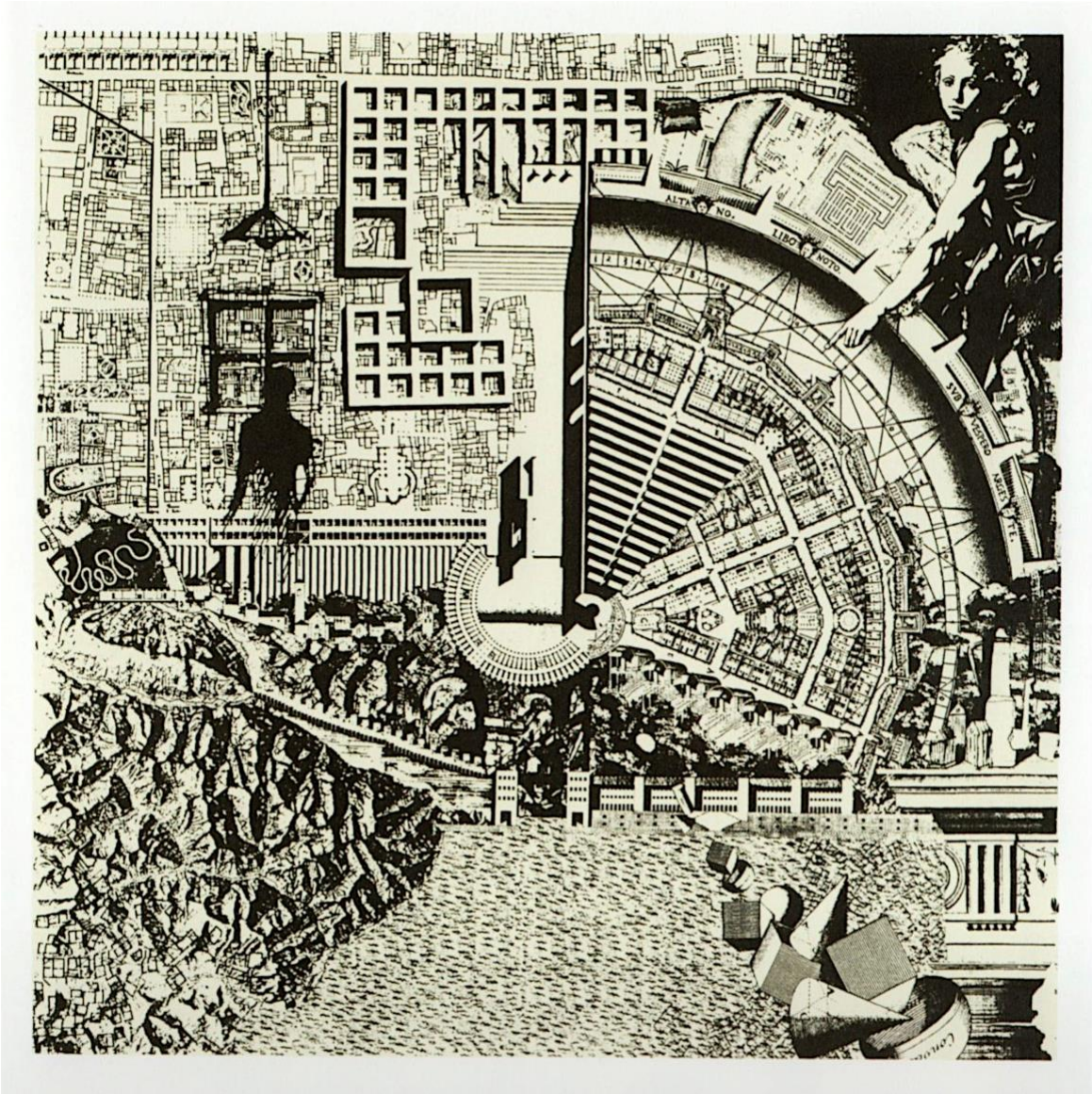
ARC 585/685, 3 Credits, Spring 2023



Though the professional architectural press hardly acknowledges it, there are two broad movements in contemporary architecture which are currently vying for the mantle of the avant garde. Both have their roots in historical traditions: one has developed from the Modern Movements of the Twentieth Century, while the other draws inspiration from the longer tradition of Western Classicism. This course will adopt a radically revisionist approach to the recent history of architecture by focusing on the all the major architectural idioms which have flourished in Europe and America following Post-Modernism, including High Tech, Deconstructivism, the Classical revival, and regional vernaculars. The approach will be primarily monographic and will involve examining a series of key architects. Students will have the opportunity to research in depth the work of a recent architect from any of these movements. This course counts as a History elective.

## ARC 586-622 URBAN DESIGN HISTORY & THEORY IMAGINING AND BUILDING THE METROPOLIS

JEAN-FRANCOIS LEJEUNE, Ph.D.



Aldo Rossi. *Città analoga*. 1976.

The course is a complement to the History of the City (ARC 590). Lectures, films, readings, and students' presentations will focus on the 20<sup>th</sup> century city. Through a concentration of some of the most important Capital cities like Berlin, Vienna, Barcelona, Tokyo, and Rome, the course will highlight the realities, ideologies, and utopias of the 20<sup>th</sup> century metropolis. Among the themes will be the debate between small town and metropolis, the Charter of Athens, Team X, New Towns and Neighborhood Units, Metabolism, Townscape, Aldo Rossi's concept of the Analogous City, the Reconstruction of the European City, as well as an introduction to the history of its preservation. Semester's works will include presentation of readings and graphic analysis of specific case studies.

The background features a collage of four circular images: top-left shows a modern building with palm trees and red flowers; top-right shows an aerial view of the Miami skyline and waterfront; bottom-left shows a large wave crashing; bottom-right shows a paved walkway lined with palm trees. The University of Miami logo is centered in a white circle.

UNIVERSITY  
OF MIAMI



**New Interdisciplinary  
Undergraduate Course on  
Resilience**

ARC 481-Q, 3 credits  
Spring Semester 2023

**Freshman level. Students in all years can enroll.**

**Goal: to learn multi-faceted approaches to building resilience. New modules each week, including:**

**Built and Natural Environment**

Climate Change; Extreme Events; Climate Adaptation; Resilient Cities

**Human and Societal Health**

Climate Migration; Inequalities; Public Health; Climate Justice

**Sustainable Business and Policies**

Economic consequences; Climate Law, Policies, Equity

**Data Literacy**

**Flipped Learning: Pre-recorded video lectures + problem-driven, discussion-based classes led by faculty experts.**



## Contemporary Latin American Architecture

Spring 2023 3 credits ARC 560/660 / T/TH 5:05-6:10PM/ Prof. Jose Gelabert-Navia

An examination of Contemporary Latin American Architecture and Urbanism from the turn of the 20<sup>th</sup> Century to the present day. The work of some of the great figures on Latin American Modernism such as *Niemeyer* and *Barragan*, to contemporary figures such as *Paulo Mendes da Rocha* and *Isay Weinfeld* will be discussed. The influence of the Modern Movement in Europe and *Le Corbusier* will be reviewed. Large scale City Plans such as *Lucio Costa's Plan for Brasilia* and *Roberto Burle-Marx's designs for Flamengo Park and Copacabana* in Rio de Janeiro will be analyzed.

The course meets twice a week for a lecture/seminar. There will be assigned readings to complement the lectures. Attendance and two Term Papers are required: The first on a specific building that was significant to the Movement and the Final Project on the work of an individual Architect.

'To be immersed in thinking-building means that we are not indifferent to the world.'  
Coleman Coker

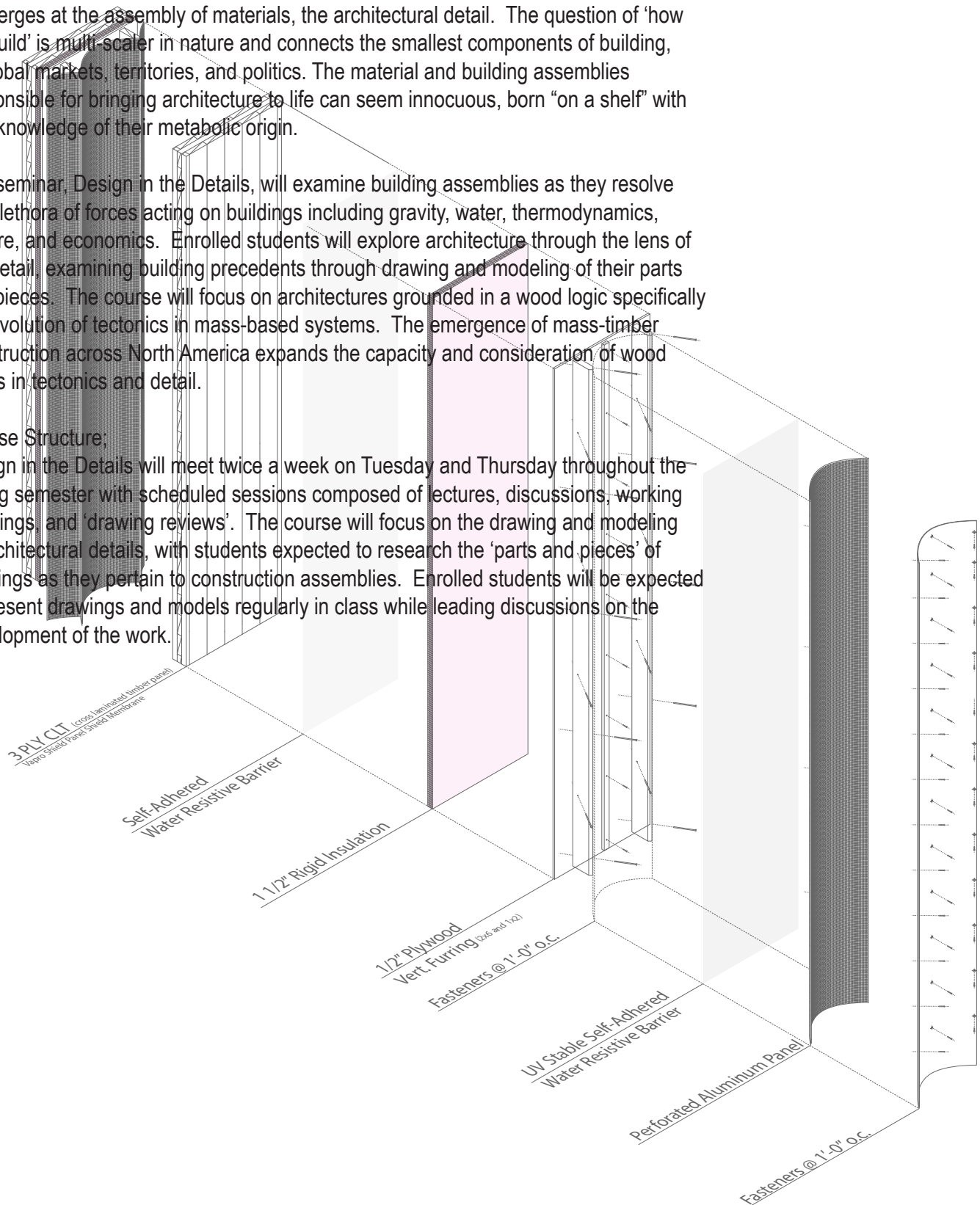
### Course Description:

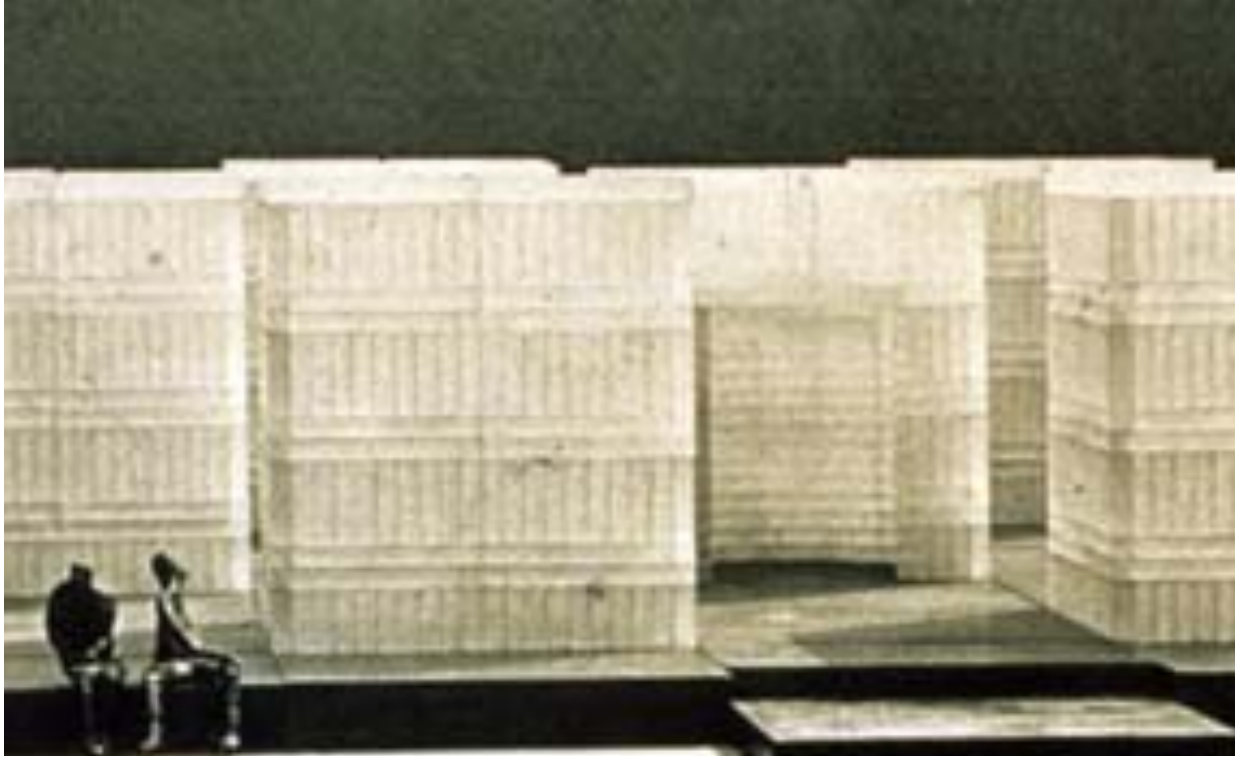
The design of architecture [thinking] and the construction of buildings [making] converges at the assembly of materials, the architectural detail. The question of 'how we build' is multi-scalar in nature and connects the smallest components of building, to global markets, territories, and politics. The material and building assemblies responsible for bringing architecture to life can seem innocuous, born "on a shelf" with little knowledge of their metabolic origin.

The seminar, Design in the Details, will examine building assemblies as they resolve the plethora of forces acting on buildings including gravity, water, thermodynamics, culture, and economics. Enrolled students will explore architecture through the lens of the detail, examining building precedents through drawing and modeling of their parts and pieces. The course will focus on architectures grounded in a wood logic specifically the evolution of tectonics in mass-based systems. The emergence of mass-timber construction across North America expands the capacity and consideration of wood logics in tectonics and detail.

### Course Structure:

Design in the Details will meet twice a week on Tuesday and Thursday throughout the spring semester with scheduled sessions composed of lectures, discussions, working meetings, and 'drawing reviews'. The course will focus on the drawing and modeling of architectural details, with students expected to research the 'parts and pieces' of buildings as they pertain to construction assemblies. Enrolled students will be expected to present drawings and models regularly in class while leading discussions on the development of the work.





Louis Kahn's 1968 model for the Monument to the Six Million Jewish Martyrs, plexiglass and painted wood on painted base. Image Source: Kent Larson, William Mitchell, and Vincent J. Scully. Louis I. Kahn: Unbuilt Masterworks. (United States: Crown Publishing Group, 2000).

## ON GLASS THE MEANING OF MATERIAL

*"Glass and light- two forms of the same thing! Modern architecture is beckoned to a better reckoning by this most precious of the architect's new material. As yet, little has been done with it but the possibilities are large."*

Frank Lloyd Wright

This course will examine the role of glass in architectural history from the earliest artifacts to the present. Once a precious and magical substance, glass and its making have now become mainstream, largely shaping the image of the contemporary city. Yet despite its prevalence, it is surprising how little this material has modified our sense of architecture beyond the manipulation of a building's surface in search of maximum transparency.

Through the use of lectures, case studies, guest speakers and relevant site visits, the class will examine glass production and the evolution of the glass industry as well as the material qualities and poetic potential of glass to transform our understanding of architecture through the extension of vistas, the completion of forms and the production of environments of brilliance and illusion.

**Prof. Adib Cure**  
Spring 2023



# ELECTIVE COURSE (3 CREDITES)

## "NET ZERO ENERGY PRACTICES IN ARCHITECTURE"

Dr. Haleh Moghaddasi, LEED GA - SPRING 2023



ENERGY EFFICIENCY



ONSITE RENEWABLE



CLEAN POWER & ELECTRIFICATION



OFFSETS, OFFSITE RENEWABLE



STOCKHOLDER ENGAGEMENT



WASTEWATER MANAGEMENT

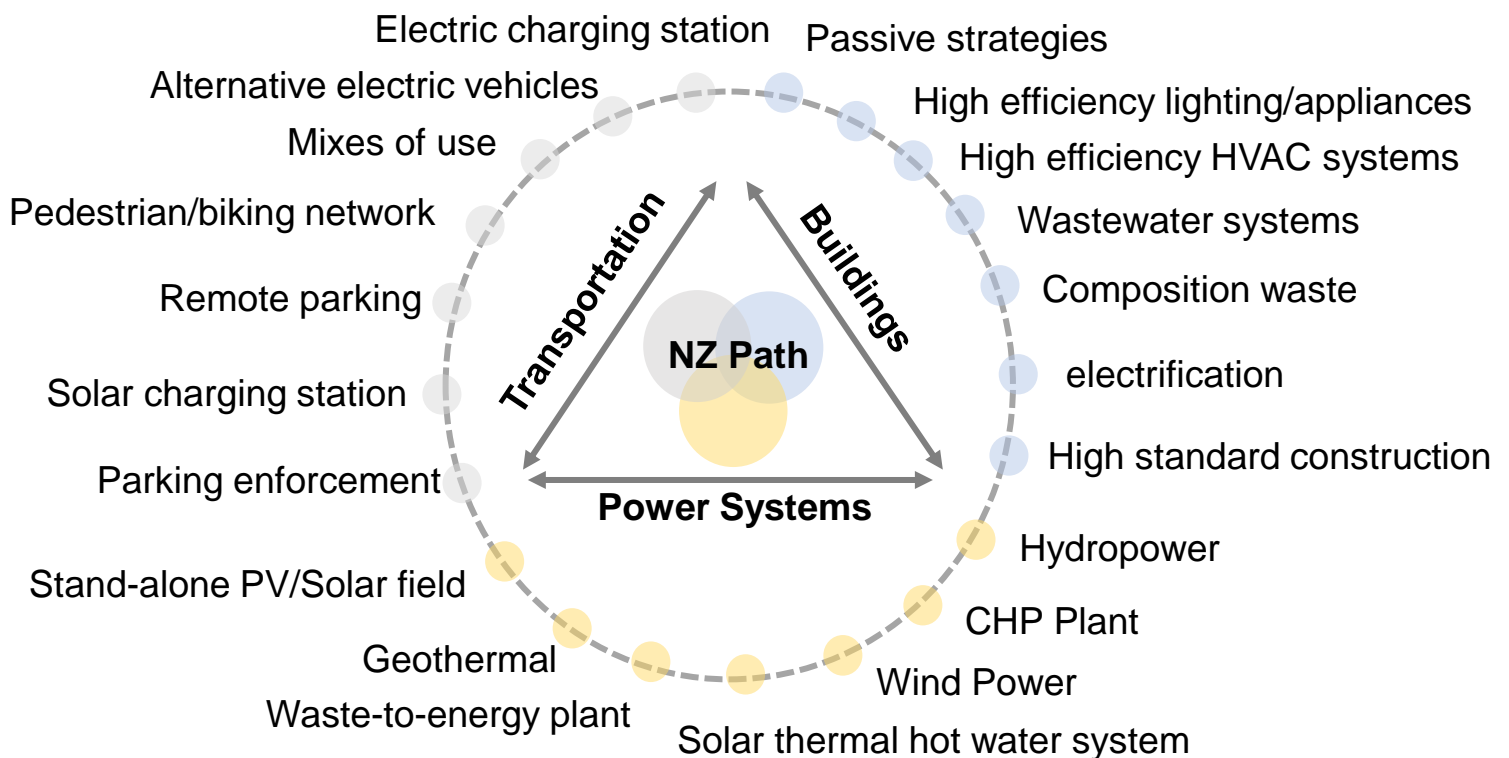


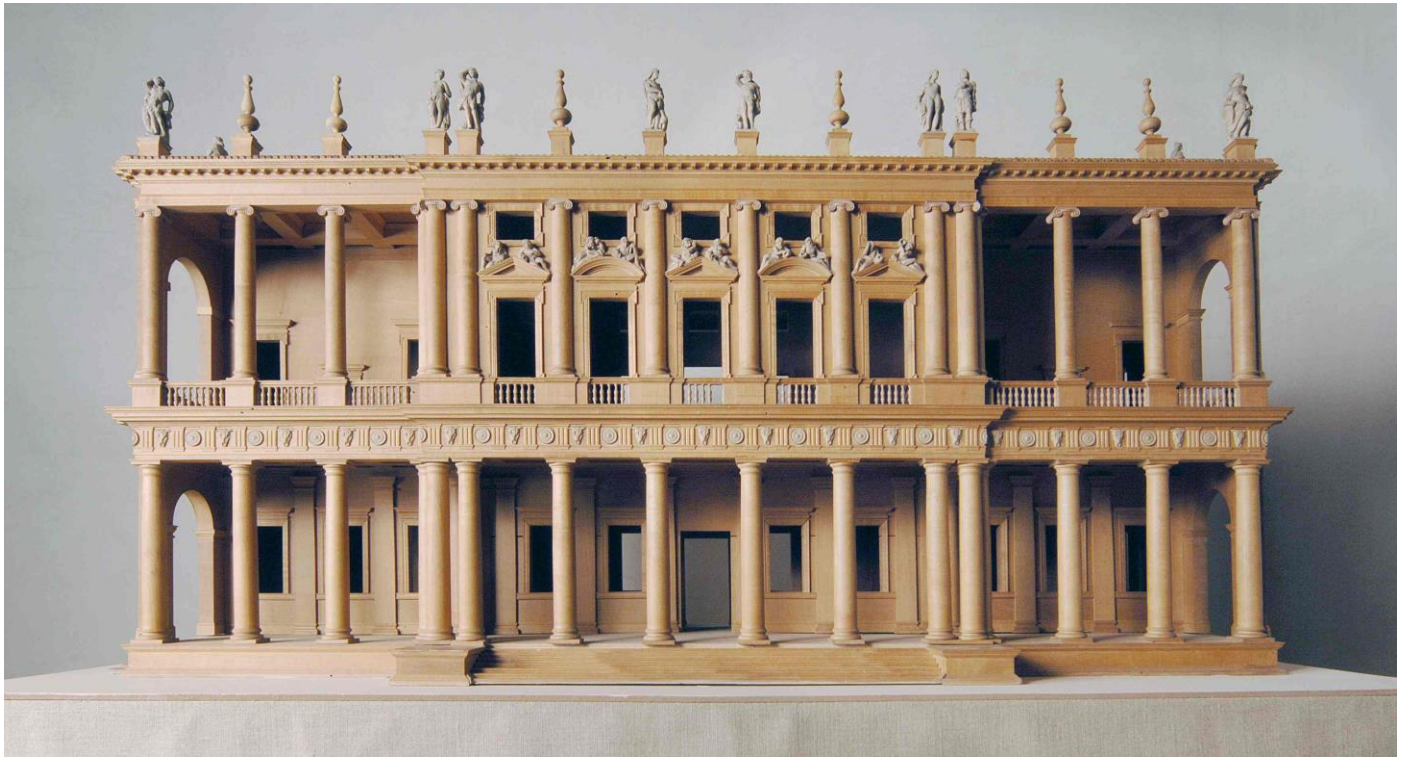
CARBON CAPTURE



WASTE-TO-ENERGY

This course will introduce students to fundamental of Net Zero energy (NZ) practices in buildings at the community level for measuring and analyzing whole building and community level energy use including: energy efficiency, on-site renewable productions, and passive strategies. The students will learn benchmarking and the move to accelerate achieving NZ by 2050. The above outlined NZ principles will be presented through analyzing case studies, individual/team presentations, and guest lecturers from the experts in the field.





# The Architecture and Urbanism of Andrea Palladio

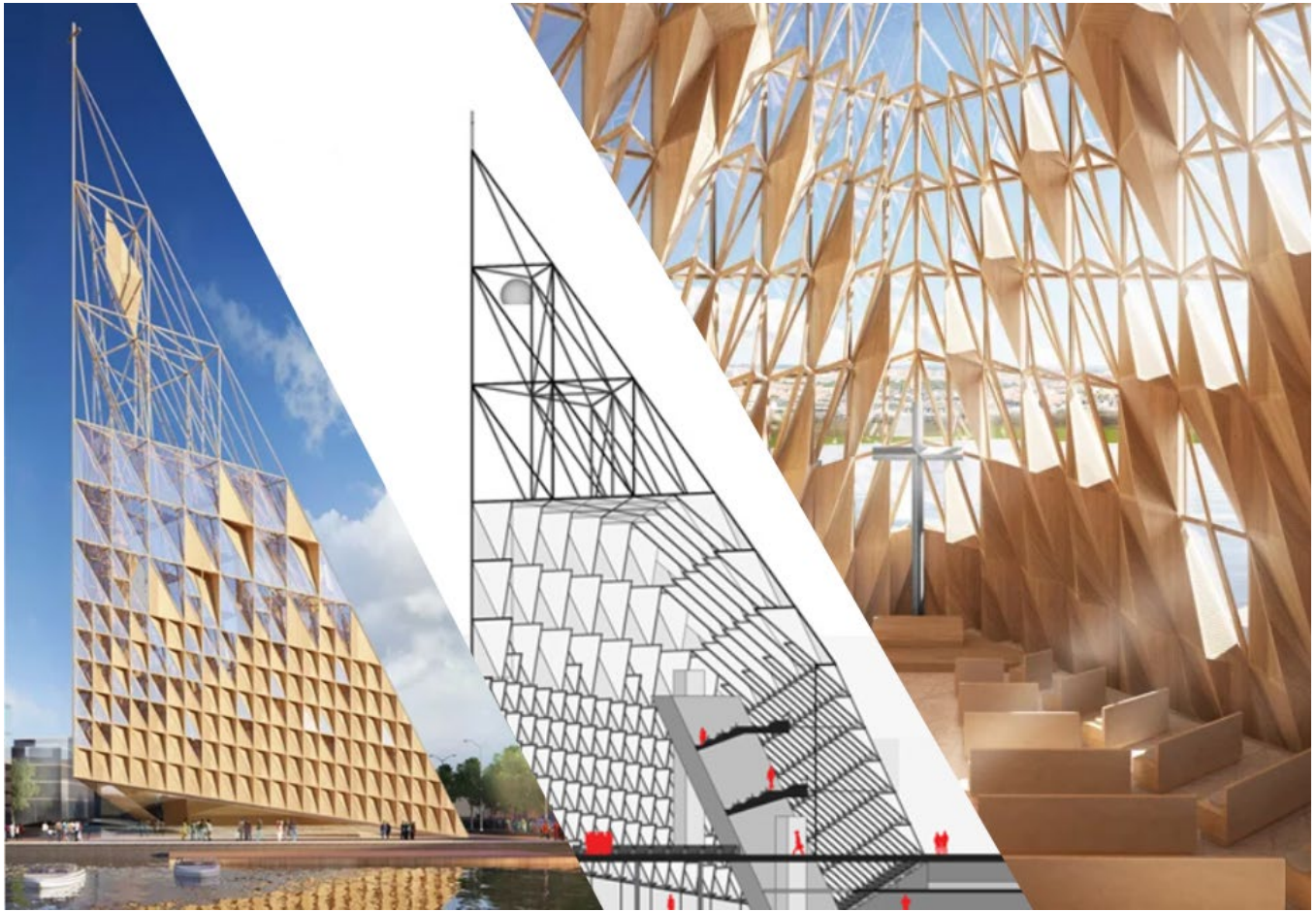
## Seminar and Workshop

The course consists of a seminar and workshop dedicated to a comprehensive study of the architecture and urbanism of the Italian Renaissance architect Andrea Palladio. Of interest are the antecedents of Palladio's work, typological characteristics of the domestic program in Venice and the Veneto for instance, the theoretical and cultural context of the Italian Renaissance in Northern Italy, materials, and methods of construction in the late Middle Ages and the influence of Palladio in history since the Renaissance, in Europe, and, particularly, in America.

The text of the seminar is complimented by a critical workshop project-document descriptive of the compositional, tectonic, and programmatic qualities of the work of the architect by means of traditional and contemporary media in architecture representation: object model, modeling, drawing, and fabrication.

# Religion & Sacred Space in the Era of Artificial Intelligence & Virtual Reality

Spring 2023



Vertical Church, Architects of Invention proposal for the Sydhavnen Church, Copenhagen

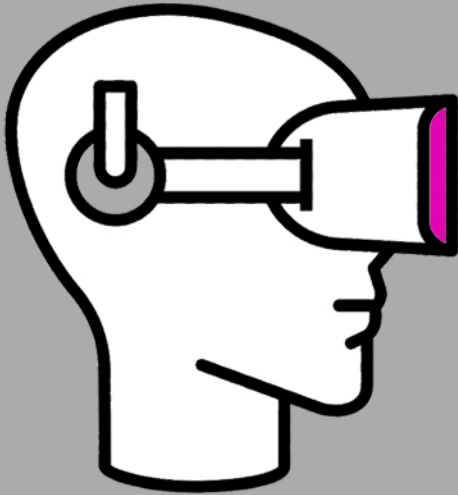
## | Religion & Sacred Space in the Era of Artificial Intelligence & Virtual Reality |

| REL406-TU, JUS401-TU, CIM489/689-TU, ARC 586/686 TU - Thurs 6:00 PM – 8:30 PM (Online) |  
| W. Green, Religious Studies; K. Grinfeder, Communications & D. Hector, Architecture |

Throughout human history, religion and sacred space have been significant factors in the formation of human community and the communication of prosocial values. Digital culture has created new and transformative modes of communication that affect our senses, change how religion works, and the fundamental manner in which we build societies.

Through a collaboration between students and faculty from Architecture, Communications, and Religion, this course examines the varied impacts that the rapidly developing technologies of VR & AI have on perceptions of wellbeing and sacred space.

Format: **An online, discussion-based seminar that will meet in the metaverse.** VR headsets will be provided for all course participants. Assignments include the design of our metaverse classroom and a sacred ritual in VR.



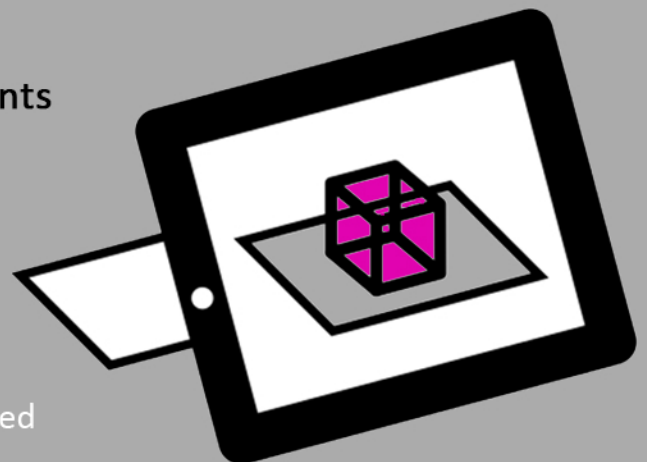
This class introduces concepts of Virtual, Augmented and Mixed Reality in Architecture while investigates the histories of visual media, immersive visualization, and the advancement of digital technology, in relation to architectural representation.

Reading of seminal texts will be assigned weekly to help navigate through a selected history of spatial extension in architecture, art and design.

## Introduction to Virtual, Augmented and Mixed Reality in Architecture

ARC 586/ARC 686-B1  
3 credits  
Instructor: Ruth Ron  
[rron@miami.edu](mailto:rron@miami.edu)  
Fridays 9:05-12:05

The class will test several VR/AR/MR hardware and software as experimental means to generate spatial documentation, and creatively explore architectural time, space & movement. Through these inexhaustibly rudimentary means, students will be asked to develop digital, virtual, and augmented spatial narratives.



Prior knowledge of Photoshop and Rhino is advised

School of Architecture | University of Miami  
Spring 2023

ARC 581 | ARC 681 | (3 Credits)  
CMA 642 (2 Credits)  
**EMERGING TECHNOLOGIES IN DESIGN & CONSTRUCTION**  
Adam Demler (*Lecturer*)



Microsoft PowerPoint Stock Images  
Logos of Technology Companies

**This course will review, use, discuss and study the application of emerging technologies within the building industry. Students must have previous knowledge of topics such as BIM and a strong interest in the use and application of technology to design, construction and real estate. Many students simply do not understand the myriad of technologies that will confront them in the workplace and what will be required of them in 21st century practice. This course helps students understand and prepare for emerging technologies that are being explored and applied to innovative business use cases within professional practice.**

**Discover, explore and develop your emerging technology skills. Become a thought leader within the building industry.**

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**School of Architecture | University of Miami**  
**Spring 2023**

**ARC 527 and ARC 627 (graduate students)**  
Architectural Photography and Composition

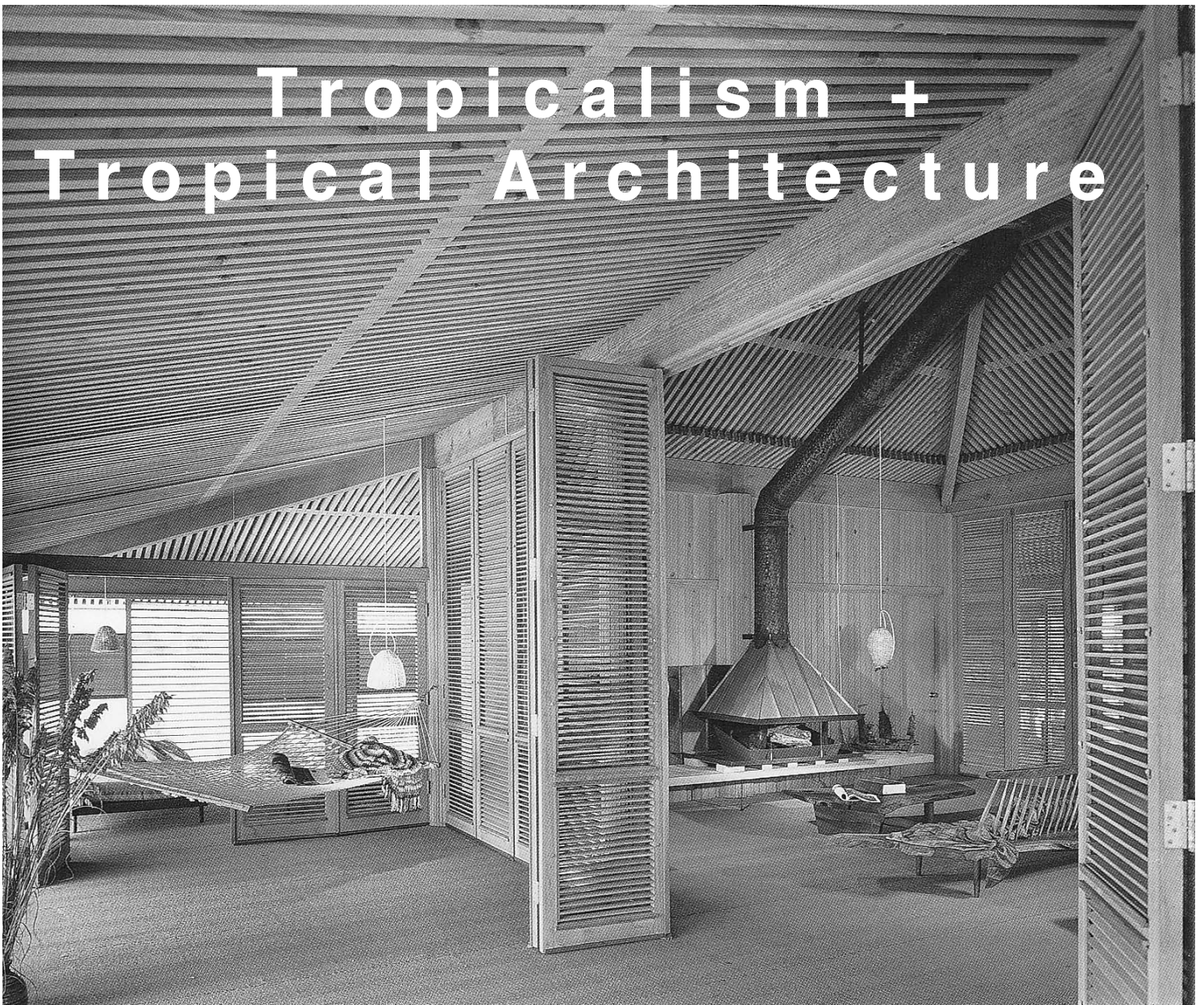
Steven Brooke



UAE PAVILION, DUBAI EXPO 2020  
Santiago Calatrava, Architect

This unique course develops the basic compositional and technical skills necessary to photograph architecture, landscape, and interiors. The emphasis is on composition and the taking of photographs in the field. Classes meet once a week for three hours. The course explores in depth: **(1)** History of the Depiction of Architecture. **(2)** Principles and Systems of Composition. Examples are drawn from artists such as: Caravaggio, Cezanne, Corot, de Chirico, Canaletto, de Hooch, Hopper, Piranesi, Poussin, Saenredam, Turner, Vermeer, Hugh Ferriss, and others. **(3)** Photographic Techniques. **(4)** Software Techniques. The subject matter includes: individual buildings, streetscapes, building complexes, high-rises, landscape, commercial and residential interiors, evening photography, room vignettes, still life, black-and white photography, and architectural models. Students may use either a 35mm digital camera (preferred) or a smart phone. Steven Brooke has been photographing architecture and design for over 40 years. He is a Fellow of the American Academy in Rome and winner of the National AIA Institute Honor Award for Photography. He has photographed over 40 books on architecture and design, ten of which he has also authored. His work may be seen at [www.stevenbrooke.com](http://www.stevenbrooke.com). Questions may be addressed to [steven@stevenbrooke.com](mailto:steven@stevenbrooke.com).

# Tropicalism + Tropical Architecture



R.S. Barrows Residence, Marathon Shores at Vaca Key, Robert Bradford Browne, 1959

Across equatorial lands, architecture has evolved organically in response to climate, landscape, available materials, building typology, regional identity, culture, history, and lifestyle. As a theme, however, tropical architecture came to prominence in the modern era. Tropicalist architects explored tropical architecture through the lens of modernism, while also aspiring to a spirit of authenticity that had deep roots in vernacular traditions and naturalist ideals. These explorations have also, at times, distilled natural facts into exotic and symbolic fantasies. *Tropicalism + Tropical Architecture* surveys the meanings and manifestations of architecture for a hot and humid climate, using locations around the tropical belt as case studies. Students will produce new research and materials to be used in future publications and exhibitions.

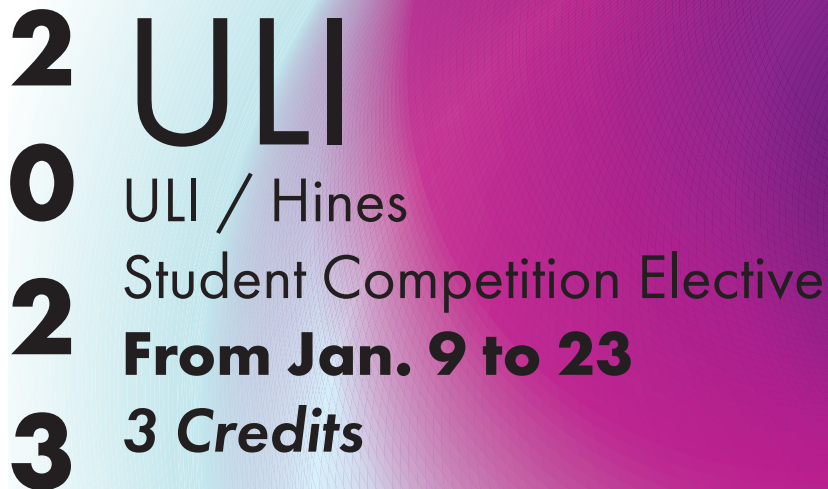
School of Architecture | University of Miami  
Spring 2023

**ULI Competition**

**Faculty: Joanna Lombard & Veruska Vasconez**

**Associated ULI Hines Faculty Team:**

**Architecture & Urban Design, Elizabeth Plater-Zyberk,**



**2023**  
**ULI / Hines**  
**Student Competition Elective**  
**From Jan. 9 to 23**  
**3 Credits**

**Team assembly and Registration by 09 December 2023.**

**Register Oct. 9 – Dec. 09, 2023**

**Competition Jan. 9 – 23, 2023**

The ULI Hines Student Competition Elective is an intensive charrette. Working daily over the course of the two-week competition period, students develop and produce a comprehensive ULI Hines Competition submission for an integrated urban design and development proposal for a large-scale, urban site with representation of design, as well as marketing, and financial projections. The specific project requirements will be released at the competition opening. The requirements of previous years have been: a 72" x 36" presentation board of the design proposal; a development pro forma; a 500-word narrative summarizing the design and development plan; and a 500-word narrative describing the financing plan. The faculty members structure the two-week engagement through a series of information sessions, critiques and reviews with invited experts. The primary goal is for each student to emerge with a significant understanding of the process of originating a development proposal in its entirety, and representing the proposal as a transformative urban project and effective investment opportunity.

Eligibility:

**Graduate Student status and 5th-year B.Arch. students**