**Type of Course:** **Advanced Studio ARCH 85101 / ARCH 51000 / ARCH 92102**
**Class Meetings:** **M/TH 2:00PM – 5:50PM; Thursday lectures @ 6:30PM**
**Instructor:** **Professor Suzan Wines**
**Location:** **Spitzer, Studio TBD**
**Semester/Year** **Spring 2019**

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## TIMBER IN THE CITY: URBAN HABITAT
### 2018-2019 International Student Design Competition

"I'm not inventing anything new, I'm just using existing material differently."- Shigeru Ban
"Wood is the most significant building material we use today grown by the sun."- Michael Green

**Norwegian Wild Reindeer Center (Tverrfjellhytta), Norway, Snohetta**

**STUDIO OVERVIEW**

Climate change, largely caused by carbon dioxide emissions, is amongst the most urgent problems facing the planet in the 21st century. The construction and maintenance of buildings are currently responsible for almost half of the carbon dioxide emissions in the USA. Architects have a responsibility and the capacity to dramatically impact carbon dioxide emissions by leveraging environmental systems thinking, innovative building technologies and a commitment to leading the industry and the country towards more sustainable and resilient modes of building, living and adapting to the ever-changing environmental conditions that we have created.

This spring, ACSA (Association of Collegiate Schools of Architecture) is sponsoring an International Student Design Competition entitled **TIMBER IN THE CITY: URBAN HABITAT** that challenges students to address the fundamental issues facing our discipline by designing innovative sustainable and affordable mixed used housing for NYC built primarily of renewable heavy timber and wood. This Advanced Studio will generally follow the competition guidelines, including program, site selection and deliverables, with the goal of submitting all projects produced in the studio to the competition in mid-late May.

In addition to site visits, lectures and consultations with experts in the field of timber construction, our studio will participate in the **Interschool Housing Studio: Toward a Shared Pedagogy,** a series of seminars and exchanges with other local architecture schools also working on the **TIMBER IN THE CITY**, thereby offering students across the city the opportunity to share their own research and learn from one another. There will be a kick-off event on Tuesday, February 5 from 1-9pm at **Parsons School of Design** that all students are strongly encouraged to attend.

Students will work in teams of three (3) to research housing precedents, new and old timber construction methods and site conditions. The same teams will continue to conceive and develop projects according to the competition brief while simultaneously addressing the following critical contemporary architectural concerns:

**Urban Development Issues:**

- Leverage data collection technology to become better organized and more efficient in service delivery, problem solving, space making and environmental adaptability
- Link infrastructure improvements to public health
- Increase affordability for municipalities, developers and tenants through economically sustainable building technologies.

**Environmental Issues:**

- Carbon Dioxide reduction in building construction and maintenance though the use of timber as a primary building material.
- Flexible and adaptable structures and systems
- Integrate climate responsive systems and intelligent flood proofing mechanisms

**Innovations in Fabrication and Construction Logistics:**

- Prefabrication methods that improve construction schedules and quality control of components.
- Minimize carbon emissions through delivery and debris removal by water and the use of locally sourced materials.
- Leverage state and federal sponsored economic development programs and incentives for timber related industries

**TIMBER IN THE CITY COMPETITION (Refer to the competition brief for more information)**
http://www.acsa-arch.org/programs-events/competitions/2018-2019-timber-in-the-city

This semester our studio will participate in the **TIMBER IN THE CITY: URBAN HABITATS** student design competition sponsored by The Association of Collegiate Schools of Architecture (ACSA). The Softwood Lumber Council (BSLC) and the School of Constructed Environments (SCE) at Parsons School of Design.

**RESEARCH - THE CHALLENGE**
The competition challenges participants to re-imagine a vacant waterfront site in Queens, New York, as a vibrant and vanguard model of healthy living.

By embracing new structural and ecological possibilities of wood construction, entrants will design a mid-rise, mixed-use complex that includes affordable housing, a large community wellness facility, and an early childhood education center, around a new public space on the waterfront. Projects must employ a variety of wood technologies while optimizing architectural and environmental performance by designing new and innovative models for sustainable urban living.

**WHY TIMBER**
For thousands of years, wood has been used as a building material, especially for housing. Since then, modern timber products and systems have greatly expanded the potential uses of this historic material. Timber is an ideal green building material: it is well suited for a broad range of structural and aesthetic applications, it offers economical construction and high performance characteristics in strength and energy efficiency, and wood is an economic driver to maintain forests and protect jobs in rural communities.

There is a rich legacy of traditional and vernacular wooden building types around the world, from log cabins to Superior Dome in Michigan to the U Bein Bridge in Myanmar, Kizhi Pogost Church in Russia, Beijing's Imperial Palace and Katsura Imperial Villa near Kyoto. Even the compositional elements of classical Greek and Roman architecture built in stone, originally derive from a language of wood construction. All of this history may serve as a rich source of inspiration for your own proposals as you seek to explore and express the design potential of one of the oldest building materials on earth. Trees are fundamentally responsible for the air we breathe, the food we eat, the homes in which we live and the nature we experience. This semester we will explore the as yet untapped architectural potential latent in what is already the world's most versatile and renewable building material.

**PROGRAM**
Students to invited to speculate on a NYC of the future where healthy, sustainable and affordable living and working environments are made possible by buildings made from consistently renewable resources and expedient affordable construction methods that use both new and traditional wood materials.

The program reflects these environmentally, socially and psychologically responsive goals through the spatial and formal interrelationship between housing, early childhood education and climate change.

**PROGRAM DISTRIBUTION SUMMARY: (Refer to the competition brief for more information)**

- **Community Wellness Center** **22,713 Sq. Ft.**
- **Early Childhood Education Center (10 classrooms)** **24,050 Sq. Ft.**
  Serving 135 local kids age: 6 months- 5 years old
- **Residential (100 units total)** **91,428 Sq. Ft.**
  20 - Micro units (325 sq. ft.)
  20 - 1 Bedroom (650 sq. ft.)
  25 - 2 Bedroom (850 sq. ft.)
  35 - 3 Bedroom (1000 sq. ft.)

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**TOTAL Built Square Feet** **145,406 Sq. Ft.**
**Public Park / Outdoor Recreation Space** **25,000 sq. ft. min.**

As defined in the competition brief, the program seeks innovative solutions that integrate biophilic design principles with timber's unique aesthetic, environmental and structural capacities. Projects must address multiple scales, from the urban to the architectural, from unit assembly to material assemblies while demonstrating how they are produced using state-of-the-art modular fabrication and delivery methods.

Programs in this mixed-use development are composed to inspire creative thinking about the choice of building materials, and how the interrelationship of interior space and exterior environments frame long- term consequences for the health of urban environments. Housing is the largest component of the competition program and presents an opportunity to look closely at the way timber construction can be used effectively in creating buildings based on smaller cellular units.

**Community Wellness Center**
The community wellness center is intended to serve on-site residents as well as the local community. A center for physical, mental and emotional health that includes spaces for individual and group exercise with a multifunctional large-span pool and indoor sports facilities to support community- wide events. The Wellness Center provides opportunities for spatial interaction and design between the fitness area, pool, East River, skyline vistas and riverfront park.

**Early Childhood Learning Center**
The healthy long-term development of children in the environment begins at birth, therefor design for young kids must consider the spatial, material and organizational impact these places have on early childhood development. Careful attention needs to be placed on the choice of materials to support the growth of infants and young children whose bodies are susceptible to the influence of their environment, and the interrelationship between interior learning space and exterior playscapes in a city where children have limited access to outdoor learning environments. Classrooms are complemented by playrooms, indoor and exterior play/inquiry area to serve pre-kindergarten aged children (6 weeks – 5 years of age). This part of the project intentionally supports New York City's Universal Pre-K program launched in 2014, where over 70,000 4-year-old New Yorkers who enrolled last year were able to benefit from the program.

**Living**
In envisioning new possibilities for the future of urban living, proposal must consider questions critical to the development of sustainable urban housing in the 21st Century including:

- The relationship between individual dwelling units and their collective aggregation.
- How to inspire a strong sense of community through programming, organization, and form?
- Daylight, views and the relationship between interior and exterior spaces, uses, and vistas.
- Health issues related to the choice of materials
- Architecture's relationship to the natural environment and natural systems and biophilic principles.

Residences in this project are a mix of small units for single or double occupancy and larger family-based units with multiple bedrooms. All occupied rooms must have exposure to natural light and air, as well as meet HPDs minimum size requirements.

**SITE**

The site overlooks the east river, Roosevelt Island and Manhattan. It may be considered amongst one of many new mixed-use waterfront developments stretching from Hunters Point at Queens' southwestern tip northward to Annabel Basin where Amazon's new HQ2 is located up the coast to Hallets Point in Astoria. These new private development approaches to affordable housing stand in contrast to 20th Century's visions of public housing exemplified by NYCHA's 'Tower in the Park' solutions like the Queensbridge Houses immediately to the north of our site. Queensbridge Houses, built in 1939, is one of the largest public housing developments in North America with over 6000 residents in 3142 apartments. Our site has a unique mixed-use zoning designation with ample FAR far beyond the square footage required by the competition program; therefore students are asked to propose a phased development for the site that would ultimately consume the full FAR.

**SITE STATISTICS AND MAPS**

The site is located at **42-02 and 42-16 Vernon Boulevard in Queens, New York**, immediately south of the Ed Koch Queensboro Bridge along the East River and overlooking Roosevelt Island. These two parcels are to be considered together as the total site area that measures **215' by 510' -106,200 square feet total**. The existing historic structure at 42-16 Vernon Boulevard is to be kept and integrated into the design of the project. This building is the only surviving structure from the former New York Architectural Terra-Cotta Works, formerly residing on the site. The Queens waterfront zoning is being transformed from its former industrial use to mixed and public space designations. The competition anticipates a new waterfront park for pedestrians and cyclists will run from Hunter's Point past our site to Socrates Sculpture Park to the north.

**ZONING**

The current zoning designation is flexible and allows for a mixed-use project that encourages waterfront development. This zoning allows for an FAR of 10, and includes residential and commercial designations.

**Block:** 477 **Lot:** 15 **Lot Area:** 106,200 sq. ft.
**Block:** 477 **Lot:** 20 = **Lot Area:** 3,995 sq. ft.
**Zoning:** M1-5/R10 or MX-9
**Max. Allowable Residential FAR:** 10
**Max. Allowable Commercial FAR:** 5
**Max. Allowable Facility FAR:** 10
**Flood Zone:** Zone A


**COMPETITION SCHEDULE AND SUBMISSION REQUIREMENTS (Refer to the competition brief for more information)**

**Competition Schedule:**

| | |
|---|---|
| Competition Announced | May 2018 |
| Conference on Building Timber Cities | October 4 and 5, 2018 |
| Registration Deadline | April 3, 2019 |
| Submission Deadline | May 22, 2019 |
| Jury | May-June 2019 |
| Winners Announced | July 2019 |

**Evaluation Criteria:**

Criteria for the judging of submissions will include: timber/wood as the primary structural material, creative and innovative use of timber/ wood in the design solution, successful response of the design to its surrounding context, the creative and clear

approaches to designing a healthy urban mixed-use environment with timber as a central material, successful response to basic architectural concepts such as human activity needs, structural integrity, and coherence of architectural vocabulary.

Submissions must clearly demonstrate the design solution's response to the following requirements:

- An elegant, expressive understanding of timber
- A strength of the argument and the proposal's ability to support the concept for the design
- An articulate mastery of formal concepts and aesthetic values
- A mature awareness and innovative approach to environmental issues, including energy consumption
- A thorough appreciation of human needs and social responsibilities
- A capability to integrate functional aspects of the problem in an architectural manner
- A capacity to derive a design, using wood, with the maximum innovation and possibility
- A clearly defined approach to materials, with a premium placed on design using healthy and affordable materials

**AWARDS**

The design jury will meet in the summer of 2019 to select winning projects and honorable mentions. Winners and their faculty sponsors will be notified of the competition results directly. A list of winning projects will be posted on the ACSA website (www.acsa-arch.org).

Winning projects will receive cash prizes.

**1st Prize** Student **$10,000**
**2nd Prize** Student **$8,000**
**3rd Prize** Student **$6,000**

**STUDIO SCHEDULE OF DELIVERABLES**

Students must complete each assignment on time and be ready to pin up and discuss their work when it is due. The assignments and deliverables described below are an intrinsic part of your own project's consistent evolution and development.

**PART 1 PRECEDENT STUDIES – 1 WEEK** **MONDAY, FEBRUARY 4**
**PIN UP AND CONFERENCE AT PARSONS** **TUESDAY FEBRUARY 5**

Students will work in teams to research and analyze housing precedents that demonstrate the kind of environmental, social, spatial and technical awareness exemplary of the projects that you will be designing this semester. These precedents incorporate environmental and material innovation into proposals that facilitate and encourage healthy living through their formal, spatial, social and architectural innovations.

Through your analysis, you will uncover how each project develops a strategy to assemble a social collective through architectural, spatial and environmental means by exploiting architecture's capacity to join and divide spaces and people.

**ANALYSIS SUBJECTS**

- Unit Design Strategies
- Unit Assembly Strategies
- Building Design Strategies
- Circulation Strategies
- Structural System
- Environmental Systems
- Building Material Selection
- Building Envelope Design
- Site Design

**ANALYSIS TOPICS**

- Architectural/spatial organizational principles
- Orientation: response to site/solar/climate conditions
- Orientation: response to urban/social infrastructure
- Indoor –outdoor relationships
- Community creation through formal and spatial gestures
- Material and environmental system performance
- Construction methods and delivery
- Life of the project over time and how it is experienced
- Social Impact
- Environmental impact

**Part 1 Deliverables:**

**Four (4) 11x17** boards per team presenting an analysis at four (4) scales - the urban, the project, the unit and the temporal.

| UNIT | PROJECT | SITE | TIME – ASSEMBLY PROCESS |
|---|---|---|---|
| -Unit Plans (2 min.) | -Critical Project Plans (2 min.) | -Site Plan in context (fabric) | -Materials Diagram |
| -Unit Axos s(2 min.) | -Project Axo | -Site Axo(topo, solar) | -Structural Diagram (Axo) |
| -Unit Assembly diagrams | -Critical Project Sections (2 min.) | - Site Circulation Diagram | -Assembly Series Diagrams |
| - Performance diagrams | - Performance diagrams | -Urban/Environmental Impact | -Environmental Performance |

**LIST OF PRECEDENTS**

**BIG, 79 & Park**, Stockholm, Sweden, 2018
https://www.archdaily.com/905534/79-and-park-big

**Arikitektbolaget**, Limnologen, Vaxjo, Sweden, 2008
http://www.forum-holzbau.ch/pdf/ihf09_Serrano.pdf
https://www.youtube.com/watch?v=SvAnWD40IgA

**Rossiprodi Associati, Via Cenni Social Housing,** Milan, 2013
http://www.rossiprodi.it/?project=social-housing-via-cenni-2

**Helen & Hard, Vennesla Library,** Vennesla, Norway, 2011
https://www.archdaily.com/209340/vennesla-library-and-culture-house-helen-hard
http://www.helenhard.no/thinking/vennesla_library

**Shigeru ban, Tamedia Office**, Zurich, 2013
https://www.archdaily.com/478633/tamedia-office-building-shigeru-ban-architects

**Shigeru Ban, Science Park, Shonai Hotel Suiden Terrace,** Tsuruoka City, Yamagata Prefecture, Japan, 2018
http://www.shigerubanarchitects.com/works/2018_suiden/index.html

Rolf Mühlethaler, Architect BSA, ZollfreilagerHouaifn Complex, Zurich, 2015
https://www.i-b.ch/wohnbauten/zollfreilager-albisrieden
https://issuu.com/hochparterre/docs/hochparterre_freilager_zuerich_2016/23

**Hermann Kaufmann Illwerke Zentrum,** Vandans, 2013
https://www.hkarchitekten.at/en/projects/izm-illwerke-zentrum-montafon/
https://www.hkarchitekten.at/en/book/hermann-kaufmann-icm/

**Bruno Mader architecte, Hôtel de Région,** Auvergne, 2006 – 2013
https://www.amc-archi.com/photos/bruno-mader-hotel-de-region-auvergne-clermont-ferrand,1111/hotel-de-region-auvergne.1

**R2k, School in Limeil-Brevannes,** 2013
https://www.archdaily.com/338753/groupe-scolaire-pasteur-r2k-architectes
https://www.floornature.com/r2k-architectes-groupe-scolaire-pasteur-limeil-brevannes-12480/

**SITE VISIT** **THURSDAY, FEBRUARY 7**

**PART 2 PROGRAM, MATERIAL & SITE ANALYSIS – 3 WEEKS** **THURSDAY, FEBRUARY 21**

**SITE ANALYSIS & DESIGN**
Students will continue to work in teams to research and analyze the existing site conditions at 42-02 Vernon Boulevard in Queens. Presentation of this research will address both natural and man-made conditions found in and around the site. Your own site design proposals shall respond to discoveries revealed through these analyses and clearly identify the critical forces shaping your approach to the site.

Natural conditions to be documented and considered in the proposed design may include but are not limited to topography, climate and solar orientation, sun, shadow, natural views, soil, water and flood frequency and exposure to the natural ecology (flora and fauna) on the site.

Man-made conditions include zoning, land use, surrounding urban fabric, site access (vehicular, pedestrian, water-based) traffic, noise, infrastructure (water, sewer, utilities) history (urban development, architectural, social, economic, infrastructural), social ( demographic, economic, public, private), quality of life, health and wellness, biophilic principles, orientation and views.

**CONCEPT DESIGN**

Based on the program in the competition brief, your analysis of the site conditions, precedent studies and previous knowledge and experience with health, wellness and housing in the city, devise a planning and architectural strategy that incorporates environmental and material innovation into proposals that facilitate and encourage healthy living through their formal, spatial, social and architectural innovations. Imagine new possibilities for the future of urban living by addressing questions critical to the development of sustainable urban housing in the 21st Century.

- The relationship between individual dwelling units and their collective aggregation.
- How to inspire a strong sense of community through programming, organization, and form?
- Daylight, views and the relationship between interior and exterior spaces, uses, and vistas.
- Health issues related to the choice of materials
- Architecture's relationship to the natural environment and natural systems and biophilic principles.

**BUILDING SYSTEMS & MATERIAL RESEARCH**

Students are encouraged to use timber based building systems that demonstrate the kind of environmental, social, spatial and technical awareness exemplary of the competitions mandate for healthy living and the use of renewable resources in the building of your proposals.

The diversified program proposes several spatial conditions, span distances, use and environmental criteria in order to elicit a diverse group of architectural compositions and technological solutions that incorporate the use of differing structural, framing, and detail-oriented components. Such conditions may be:

- Vertical mid-rise framing (nail laminated timber, dowel laminated timber and cross laminated timber)
- Interior partitioning (stud framing or modular panelized systems)
- Exterior cladding (modular assemblies)
- Long-span structure (glu-lam beams, mechanically laminated timber, and other composite members)

**SITE DESIGN STRATEGIES**

- Site Design (urban fabric)
- Architectural/spatial organizational principles
- Orientation: response to site/solar/climate conditions
- Orientation: response to urban/social infrastructure
- Indoor –outdoor relationships
- Environmental impact

**ARCHITECTURAL DESIGN STRATEGIES**

- Unit Design Strategies
- Unit Assembly Strategies
- Building Design Strategies
- Circulation Strategies
- Community creation through formal and spatial gestures
- Life of the project over time and how it is experienced
- Social Impact

**MATERIAL SELECTION STRATEGIES**

- Structural System
- Environmental Systems
- Building Material Selection
- Building Envelope Design
- Material and environmental system performance
- Construction methods and delivery

**Part 2 Deliverables:**

**Three (3) 20" x 30" (portrait format)**

| SITE | PROGRAM | TIME – ASSEMBLY PROCESS |
|---|---|---|
| - Site Plan/Section (figure/ground urban fabric) | - Unit Plans (2 min.) | -Materials Diagram |
| - Site Axo (topo, climate, water, soil, solar, views) | - Unit Assembly diagrams | -Structural Diagram (Axo) |

- Site Circulation Diagram (access, traffic)
- Urban/Environmental Impact
- Social Site Axo
  (Zoning, Infrastructure, Social,
- Demographic, Cultural, Economic)

- Project Axo
- Performance diagrams

-Schematic Plan(s)/Sections

-Assembly Diagrams
-Environmental Performance
-Typical Details and specifications

**PART 3 SCHEMATIC DESIGN -6 WEEKS** **THURDAY, APRIL 4**

**REGISTRATION DEADLINE** **WEDNESDAY, APRIL 3**

**Part 3 Deliverables:**

Criteria for the judging of submissions will include: timber/wood as the primary structural material, creative and innovative use of timber/ wood in the design solution, successful response of the design to its surrounding context, the creative and clear approaches to designing a healthy urban mixed-use environment with timber as a central material, successful response to basic architectural concepts such as human activity needs, structural integrity, and coherence of architectural vocabulary.

**Three (3) 20" x 30" (portrait format)** boards to include the following drawings.

- **Site Plan** showing the surrounding buildings, topography, and circulation patterns
- **Floor Plans**
- **Vertical Section** of the whole project indicating site context and major program elements
- **Material Selection Board** primary exterior and interior materials, how they contribute to human health
- **Three-Dimensional Representation(s),** axonometrics, perspectives, and/or model photographs – showing the overall character of the project. At least one view must be of a significant interior space, and one must show building(s)within the neighborhood context
- A design essay or abstract, 300 words maximum

**PART 4 DESIGN DEVELOPMENT – 4 WEEKS** **THURSDAY, MAY 2**

**Four (4) 20" x 30" (portrait format)** boards to include the following drawings.

- Presentation boards should include site plan, building plans and sections, materials, and 3D representations from Schematic Design Review showing much greater level of developments and resolution in addition to the following:
- **Preliminary Detail Drawing(s),** orthographic or three dimensional, showing innovative use of timber at 1"- 1'-0"
- **Three-Dimensional Phasing Diagram**

**FINAL REVIEW** **MONDAY, MAY 13 (TO BE CONFIRMED)**

**Part 4 Deliverables: (Refer to Competition Submission Requirements)**

**Four (4) 20" x 30" (portrait format)** boards to include the following drawings.

- **Site Plan** showing the surrounding buildings, topography, and circulation patterns
- **Detailed Renderings** of the building, clearly showing the timber structural system
- **Floor Plans**
- **Vertical Section** of the whole project indicating site context and major program elements
- **Large Scale Drawing(s),** orthographic or three dimensional, showing innovative use of timber at 1"- 1'-0"
- **Three-Dimensional Representation(s),** axonometrics, perspectives, and/or model photographs – showing the overall character of the project. At least one view must be of a significant interior space, and one must show building(s)within the neighborhood context
- **Material Image Selection Board** demonstrating the primary exterior and interior materials and how they contribute to human health
    - **Large Scale Detail Drawing(s),** orthographic or three dimensional, showing innovative use of timber at 1"- 1'-0"
    - **Three-Dimensional Phasing Diagram**
    - A design essay or abstract, 300 words maximum

**COMPETITION SUBMISSION** **WENESDAY, MAY 22**

**BIBLIOGRAPHY**

**Competition brief** http://www.acsa-arch.org/programs-events/competitions/2018-2019-timber-in-the-city


**Architecture and Precedents**

Bergdoll, Barry and Christensen, Peter. ***Home Delivery: Fabricating the Modern Dwelling.*** New York: Museum of Modern Art, 2008

Bernheimer, Andrew. ***Timber in the City.*** San Francisco: ORO Editions, 2015

Fernández-Galiano, ***AV Monographs 195: Shigeru Ban - Social Beauty***. Madrid Arquitectura Viva, 2017

French, Hillary. ***Key Urban Housing of the Twentieth Century: Plans, Sections and Elevations*.** New York, Norton, 2008

Forster, Wolfgang. ***Housing in the 20th and 21st Centuries*.** Prestel: Munchen, 2006.

Gausa, Manuel. ***Housing: New Alternatives – New Systems*.** Barcelona: Actar, 1998

Green, Michael and Taggart, Jim. ***Tall Wood Buildings: Design, Construction and Performance****.* Boston: Birkhauser, 2017.

The Case For Tall WoodBuildings: Second Edition– Michael Greenhttp://thecasefortallwood.com/

Heckman and Schneider. **Floor Plan Manual: Housing** (4th Edition) Berlin: Birkhauser

Hall, William. ***Wood.*** New York: Phaidon Press, 2017

Jodidio, Philippe, ***Wood Architecture Now! Vol. 2***. Cologne: Taschen, 2013

Kaufmann, Hermann, Krötsch, Stefan and Winter, Stefan. ***Manual of Multistorey Timber Construction***. Munich: Detail, 2018.

https://issuu.com/detail-magazine/docs/978-3-95553-394-6_bk_multi-storey_t?e=8753616/61068649

Leupen, Bernard & Harald Mooij, **Housing Design: A Manual. Rotterdam**, NAi Publishers, 2011.

Mayo, Joseph. ***Solid Wood: Case Studies in Mass Timber Architecture, Technology and Design***. London: Routledge, 2015.

Pryce, Will. ***Architecture in Wood: A World History.*** London: Thames & Hudson, 2016.

Schneider, Friederike, ed., ***Floor Plan Atlas, Housing.*** Boston: Birkhauser Verlag, 1997.

**Health and Urbanism**

**NYC, *Active Design Guidelines*** https://www1.nyc.gov/site/planning/plans/active-design-guidelines/active-design-guidelines.page

**NYC Department of Design & Construction Active Design** www1.nyc.gov/site/ddc/about/active-design.page


**REFERENCES**


**Technical References**

Beemer, Will, **Learn to Timber Frame: Craftsmanship, Simplicity, Timeless Beauty**. North Adams, MA.: Storey Publishing, LLC, 2016.

McLoed Virginia. ***Detail in Contemporary Timber Architecture.*** London: Laurence King Pub., 2010.

McMorrough, Julia. ***The Architecture Reference & Specification Book updated & revised: Everything Architects Need to Know Every Day***. Beverly, MA. Rockport Pub. 2013.

Menges, Achim, Schwinn, Tobias and David, Oliver. ***Advancing Wood Architecture: A Computational Approach.*** London: Routledge, 2016

**Think Wood Research Library** research.thinkwood.com

**WoodProducts Council** www.woodworks.org

**US Forest Products Laboratory - Product & Building Systems Research** www.fpl.fs.fed.us

**FPInnovations - Product & Building Systems Research** fpinnovations.ca/Pages/index.aspx

**American Wood Council - Codes & Standards Support** awc.org

**naturally:wood** www.naturallywood.com

**CLT Handbook** www.rethinkwood.com/masstimber/products/cross-laminated-timber-clt/handbook/modules


**CODE, MAPS AND ZONING INFORMATION**

Competitors are to use the **2021 IBC** code for mass timber construction. 2021 code changes **Construction Type IV** to allow for additional height with reduced percentages of exposed timber. **NYC Building Code** is in the process of adopting a new timber code. Please note that proposal are encouraged to understand the potential of contemporary timber systems, drawing on resources and comparable codes of other jurisdictions as they pertain to new timber and wood systems.

**Codes:**
**HPD Design Guidelines for New Construction** www1.nyc.gov/assets/hpd/downloads/pdf/HPD-Design-Guidelines.pdf
**NYC Department of Buildings** https://www1.nyc.gov/site/buildings/codes/nyc-code.page
**NYC Department of City Planning** www.nyc.gov/html/dcp/home.html
**NYC Department of Housing, Preservation, & Development** www1.nyc.gov/site/hpd/index.page
**ADA Standards 2010** https://www.ada.gov/regs2010/2010ADAStandards/2010ADAStandards.pdf

**Maps**
**NYC Community Data Porta** http://www.nyc.gov/html/dcp/html/neigh_info/nhmap.shtml
**NYC Zoning** http://www.nyc.gov/html/dcp/html/zone/zonedex.shtml
**NYC ZOLA (Zoning and Land Use)** https://www1.nyc.gov/site/planning/zoning/about-zoning.page
**NYCityMap** http://maps.nyc.gov/doitt/nycitymap/
**BYTES of the BIG APPLE (GIS files)** http://www.nyc.gov/html/dcp/html/bytes/applbyte.shtml
**OASIS NYC.net** http://www.oasisnyc.net/
**CUGIR (Cornell University Geospatial Information Repository)** http://cugir.mannlib.cornell.edu/index.jsp
**SocialExplorer.com** http://www.socialexplorer.com/
**Sanborn" Fire Insurance Maps** http://libguides.ccny.cuny.edu/content.php?pid=244663&sid=2978179
**NYC Tax Map**:
http://maps.nyc.gov/taxmap/map.htm?z=10&p=997987,214143&a=DTM&c=dtm&f=CONDO_RANGE,LOT_FACE_SMALL&s=I:QUEENS,477,15,EVERY_BBL

**WEEKLY SCHEDULE**
Note: schedule below is subject to revision through the duration of the semester.

| | |
|---|---|
| **W1** | **INTRODUCTION** |
| Mon 01.28 | First day of class (Lottery and general presentation) |
| Thu 01.31 | Studio |
| Fri 02.01 | Portfolios DUE: M.Arch I and M.Arch II students |
| **W2** | |
| Mon 02.04 | Studio |
| Thu 02.07 | Studio |
| **W3** | |
| Mon 02.11 | Studio |
| Thu 02.14 | Studio |
| | **6:30pm. Lecture: Nandini Bagchee** |
| Fri 02.15 | Portfolios DUE: B.Arch 4th year students |
| **W4** | |
| Mon 02.18 | College Closed / Presidents Day |
| Thu 02.21 | Studio |
| **W5** | |
| Mon 02.25 | Studio |
| Thu 02.28 | Studio |
| | **6:30pm. Lecture: Olalekan Jeyifous** |
| **W6** | |
| Mon 03.04 | Studio |
| Thu 03.07 | Studio |
| | **6:30pm. Lecture: Walter Hood** |
| **W7** | |
| Mon 03.11 | Studio |
| Thu 03.14 | Studio |

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|---|---|
| | **6:30pm. Lecture: Byron Merritt** |
| **W8** | |
| Mon 03.18 | Studio |
| Thu 03.21 | Studio |
| | **6:30pm. Lecture: Ferda Kolatan** |
| **W9** | |
| Mon 03.25 | Studio |
| Thu 03.28 | Studio |
| | **6:30pm. Lecture: Jennifer Newsom** |
| **W10** | |
| Tue 04.01 | Studio |
| Thu 04.04 | Studio |
| | **6:30pm. Lecture: Monica Bertolino** |
| **W11** | |
| Mon 04.08 | Studio |
| Thu 04.11 | Studio |
| | **6:30pm. Lecture: Brian Goldstein** |
| **W12** | |
| Mon 04.15 | Studio |
| Thu 04.18 | Studio |
| 04.19 - 04.28 | S P R I N G R E C E S S |
| **W13** | |
| Mon 04.29 | Studio |
| Thu 05.02 | Studio |
| **W14** | |
| Mon 05.06 | Studio |
| **W15** | |
| TBD | **FINAL REVIEW** |
| **W16** | |
| TBD | Final Studio Materials due for: SSA/CCNY Archive, “Super Jury,” end of semester assessment, Graduation Show, etc. as directed |

## GRADING/ATTENDANCE POLICIES AND STUDIO CULTURE

**Course Expectations:**

- That students will develop a high level of independent thought and rigor and a willingness to go beyond both basic project requirements and their own perceived limits and abilities.
- That students will successfully complete all project requirements. No make-up or postponed project submissions will be accepted except in the case of medical emergencies or other extraordinary circumstances. Excused absences and project delays must be officially cleared by professor in advance in order to be considered valid.

**Methods of Assessment:**

- Attendance and participation in class discussions: 20%
- Project development in response to semester schedule: 50%
- Project presentation, completion and resolution: 30%

*Note: The Research component of the studio will be weighed more heavily in assessment of graduate student work and class performance.*

**Key areas of Grading Assessment:**

- **Studio performance & work habits:** Ability to respond to studio criticism & discourse in a consistent & clear manner throughout the course of the semester as demonstrated in the evolution and development of design work.
- **Clarity of representation & mastery of media:** Ability to utilize both digital and manual drawing and model-making techniques to precisely and creatively represent architectural ideas.
- **Pre-design:** Ability to prepare a comprehensive program for an architectural project that includes such tasks as: an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.
- **Research:** Understanding of the theoretical and applied research methodologies and practices used during the design process.
- **Integrated evaluations and decision-making design process:** Ability to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.
- **Attendance**: Consistent level of preparation and on-time presence for each studio class and scheduled evening lectures.
- **Portfolio**: Completion of portfolio as described below and attendance at all scheduled portfolio related events.

**Portfolio**

- All M.Arch I third year students and all M.Arch II students are required to submit a portfolio on February 1st, 2019. Third year students and M Arch II students may submit either a hard copy portfolio or email a link to a digital portfolio to hborgeson@ccny.cuny.edu. Digital submissions must be a link, not a file attachment.
- All B.Arch 4th year students are required to submit a hard copy portfolio on February 15th, 2019. Submit to the Architecture Program office (there will be a bin for your use).

**Grading Criteria:**

**A (+/-)** Work meets all requirements and exceeds them. Presentations are virtually flawless, complete, and finely detailed. Work exhibits professional, “museum quality” level of craft. Student has developed an individual design process that shows a high level of independent thought and rigor. Work shows evidence of intense struggle to go beyond expectations, and beyond the student’s own perceived limits of their abilities.

**B (+/-)** Work meets all requirements. Presentations are complete and finely detailed. Work exhibits professional level of craft. Student has developed an individual design process that shows a high level of independent thought and rigor.

**C (+/-)** Work meets minimum requirements. While presentations may be complete, student has struggled to develop an individual design process and/or is lacking in craft or design resolution.

**D (+/)** Work is below minimum requirements. Presentations are incomplete, student has struggled to develop an individual design process and/or is lacking in craft or design resolution.

**F** Work is well below minimum requirements. Student does not develop adequate design process, and/or does not finish work on time.

**INC** Grades of “incomplete” are not given under any circumstances unless there is evidence of a medical or personal emergency. In such cases, instructor and student develop a contract to complete work by a specified date, as per CCNY policy. Classes / work missed due to illness must be explained with a physician’s note.

*Notes:*

C is the lowest passing grade for M.Arch I and M.Arch II students. No D grades are given to graduate students. Working in teams does not guarantee the same grade for each team member; grades are based on a range of criteria for each student.

For more information on grading guidelines and other CCNY policies and procedures, consult the current CCNY academic bulletins: https://www.ccny.cuny.edu/registrar/bulletins

**Office Hours:**
Office hours are set by appointment. If a student needs to speak in private with a studio critic they must email in advance to request a meeting time. Students may seek office hour appointments to discuss any matters of concern including personal, private matters and general inquiries about course related work, grading, assessment and content.

**Probation & Dismissal:** for program specific information related to grades, academic standing, probation and dismissal, please see your program academic advisors:
B.Arch: Amy Daniel adaniel@ccny.cuny.edu
M.Arch: Hannah Borgeson hborgeson@ccny.cuny.edu

**Studio Culture:**
Working in the studio is mandatory. Studio culture is an important part of an architectural education. Please see the Spitzer School of Architecture Studio Culture Policy, which can be accessed on the SSA website here: https://ssa.ccny.cuny.edu/about/policies/.

**Absence & Lateness:**
Arriving more than ten minutes late to class will constitute an absence. Two unexcused absences will result in a whole letter grade deduction from a final grade; more than four will result in a failing grade. It is expected that all students will participate in all scheduled working, midterm and final reviews and contribute constructively to the discussion.

**Absences due to Religious Observances:**
Students who will miss any class sessions, exams, presentations, trips, or the like due to a religious observance should notify the instructor at the beginning of the semester so that appropriate adjustments for observance needs can be implemented. This could include an opportunity to make up any examination, study, or work requirement that is missed because of an absence due to a religious observance on any particular day or days.

**Noise Policy:**
The studio environment should be a quiet and respectful place where all students can work and think in peace. At no time may students play music out loud in studio, even at a low volume. If you desire to listen to music, either during class hours or after hours, headphones are a requirement. Conversations must also be kept to a reasonable volume to respect classmates and those students in adjacent studios.

**Readings & Journals:**
Students are expected to keep a journal or sketchbook throughout the duration of studio to document their thought process & take notes of any texts, books, terms or references that are mentioned by either the studio critic or fellow classmates and to selectively follow up on these and any other assigned readings before the next class.

**Academic Integrity:**
As a student you are expected to conduct yourself in a manner that reflects the ethical ideas of the profession of architecture. Any act of academic dishonesty not only raises questions about an individual's fitness to practice architecture, but also demeans the academic environment in which it occurred. Giving or receiving aid in examinations, and plagiarism are a violation of an assumed trust between the school and the student.

Plagiarism, i.e. the presentation as one's own work of words, drawings, ideas and opinions of someone else, is a serious instance of academic dishonesty in the context as cheating on examinations. The submission of any piece of work (written, drawn, built, or photocopied) is assumed by the school to guarantee that the thoughts and expressions in it are literally the student's own, executed by the student. All assignments must be the student's original work. Any copying, even short excerpts, from another book, article, or Internet source, published or

unpublished, without proper attribution will result in automatic failure of the entire course.

The CCNY Academic Integrity Policy: https://www.ccny.cuny.edu/about/integrity
For citations, the Chicago Manual of Style is recommended:
http://www.chicagomanualofstyle.org/tools_citationguide.html

**AccessAbility Center (Student Disability Services):**
The AccessAbility center (AAC) facilitates equal access and coordinates reasonable accommodations, academic adjustments, and support services for City College students with disabilities while preserving the integrity of academic standards. Students who have self-identified with AAC to receive accommodations should inform the instructor at the beginning of the semester. (North Academic Center 1/218; 212-650-5913 or 212-650-6910 for TTY/TTD). https://www.ccny.cuny.edu/accessability

**Library:**
The school's library is a shared resource that is necessary supplement to all research and design work. Please direct questions to the library staff or the Architecture Librarian Nilda Sanchez: nsanchez@ccny.cuny.edu

**NAAB (National Architectural Accrediting Board):**
The National Architectural Accrediting Board (NAAB) is the sole agency authorized to accredit US professional degree programs in architecture. Since most state registration boards in the United States require any applicant for licensure to have graduated from a NAAB-accredited program, obtaining such a degree is an essential aspect of preparing for the professional practice of architecture. While graduation from a NAAB-accredited program does not assure registration, the accrediting process is intended to verify that each accredited program substantially meets those standards that, as a whole, comprise an appropriate education for an architect.

More specifically, the NAAB requires an accredited program to produce graduates who: are competent in a range of intellectual, spatial, technical, and interpersonal skills; understand the historical, socio-cultural, and environmental context of architecture; are able to solve architectural design problems, including the integration of technical systems and health and safety requirements; and comprehend architects' roles and responsibilities in society.

The following student performance criteria from the 2014 NAAB Conditions are addressed in this course:

**Realm B: Building Practices, Technical Skills, And Knowledge.** Graduates from NAAB-accredited programs must be able to comprehend the technical aspects of design, systems, and materials and be able to apply that comprehension to architectural solutions. In addition, the impact of such decisions on the environment must be well considered.

**B.1 Pre-Design:** ability to prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.

**Realm C: Integrated Architectural Solutions.** Graduates from NAAB-accredited programs must be able to demonstrate that they have the ability to synthesize a wide range of variables into an integrated design solution.

**C.1 Research:** understanding of the theoretical and applied research methodologies and practices used during the design process.

**C.2 Integrated Evaluations and Decision-Making Design Process:** ability to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.

*Students should consult the NAAB website www.naab.org for additional information regarding student performance criteria and all other conditions for accreditation.*

**CONTACT INFORMATION:**

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