Four Freedoms Foundation: Roosevelt Island, New York City

Synthesis Seminar: Architecture: 561 & 547G

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I. Introduction:

The Synthesis Seminar is a co-requisite with the Advanced Studio II. Its purpose is address each of the ten Design Criteria established by the National Architectural Registration Board. Each of its ten criteria, sub-categories and questions are addressed through research, analysis and integration / synthesis into your architectural studio project.

The undergraduate Arch 595 Advanced Studio II & Arch 561 Synthesis Seminar, and the graduate Arch 506G Advanced Studio II & Arch 547G Synthesis Seminar, focusses on a sufficiently complex architectural design project to illustrate all criteria required by the NAAB, and constitutes a synthetic and summative "capstone project." The New Jersey School of Architecture developed these courses to address the NAAB student criteria introduced in its 2020 Conditions for Accreditation, to assess students' individual abilities to both "synthesize" and "integrate" an array of discrete conjectural, technical, regulatory, and programmatic elements into a single architectural design project.

The course's NAAB Criteria lists the ten topics and questions to be addressed. The course's Reference list is the primary source of research and design application information for each of the ten criteria. The shared Advanced Studio II and Synthesis Seminar course Google Drive provides an additional library of architectural design and technical documents, and tutorials that are part of this course.

The sequence and timing of the assignments for the studio and seminar courses is orchestrated to interrelate the content and assignments so research is accomplished prior to its implementation in the studio project, and its proof of application is accomplished at the appropriate stage of the design process. For this reason, it is necessary for all studio projects to be developed following the Semester Schedule and specific Presentation Requirements for each Phase of the project.

II. Course Content:

A. Organization:

The Advanced Studio II addresses the ten NAAB Criteria: *Site Conditions, User Requirements, Regulatory Requirements, Accessible Design, Life Safety Systems, Structural Systems, Environmental Control Systems, Building Envelope Systems and Assemblies* and *Building Performance, Measurable Environmental Impact and Measurable Building Performance.*

Previously, the Advanced Studio I researched and applied the NAAB topics and questions of the criteria *Regulatory Requirements, Accessible Design and Life Safety Systems* to a studio project of similar functions and scale. This research and analytical methods for the Advanced Studio I will be also applied to the Advanced Studio II design project.

The first phase of the Seminar will research, evaluate and present the Site Conditions and User Requirements aspects of the design project. The second phase of the Seminar reviews the *Regulatory Requirements, Accessible Design and Life Safety Systems* questions and topics as they apply to the studio project. The third through sixth phases of the Seminar will be address; *Building Performance, Environmental Impact, Structural Systems and Environmental Control Systems* as applied to the Advanced Studio II design project. The final phase of the course addresses the documentation, explanation and proof of the application of all ten NAAB criteria to the studio project.

Although the semester is organized sequentially, in relationship to the Advanced Studio assignments, you are advised to address and document any completed portion of the ten NAAB criteria for the Final Booklet as soon as your design has reached that level of development. Although the last month of the semester is devoted to, finalizing the Final Booklet, and the semester is divided into discrete assignments, the work associated with the Final Booklet is intended to occur through the entire semester.

The Seminar semester schedule is intended to technically develop aspects of your proposed studio project as they advance in the studio. The work of the Synthesis Seminar may have to be corrected, redone or otherwise modified in concert with your architectural design.

B. Course Schedule:

Phase 1. Site Conditions and User Requirements:

18 January – 25 January

A. Site Conditions: Pedestrian and Vehicular Movement, Topographic Conditions including Steep Slopes, Protection of Environmentally Critical Areas, Integration of Surrounding Architectural, Urban and Landscape Contexts, Integration with Functions of Adjoining Neighborhoods, Historical and Cultural Context, Responding to Specific Seasonal Conditions, Diurnal Variation, Variations in Weather, and Solar Access and Control.

Municipal Zoning Regulations: Yard Setbacks, Maximum Impervious Coverage, Maximum Building Coverage, Maximum Floor Area Ratios, Maximum Building Height and Stories, etc., Protection of Wetlands and Water Courses, Land Use and Planning Policy and Historical District Requirements.

a. Does the design comply with zoning and land use policies such as setbacks, maximum height, maximum floor area ratios, maximum lot coverage, maximum impervious coverage, etc.?
b. How does the design respond to the character of the surrounding physical contexts including: relationship to existing buildings architectural characteristics and functions, topography, natural landscape, principal views, scale, pedestrian and vehicular movement systems, etc.?
c. How does the design respond to environmental conditions of the site including solar orientation, seasonal variation, variations in weather, sunlight, exterior temperature and humidity, wind, precipitation, etc.?
d. In what ways does the proposed design respond to differences in orientation, relationship to urban and/or natural landscapes, sunrise-sunset, significant views and panoramas, below grade, at grade, above grade and rooftop activities and characteristics, pedestrian paths and access? And, are the exterior facades of the proposed architectural designed to respond to these differences?
e. Overall, is the proposed design an appropriate and skillful addition to the existing landscape and/or urban context?

B. User Requirements: Appropriate Relationships of Functions, both interior and exterior, Accommodation Building Services, Clarity of Way-Finding, Accomplishing Specific Requirements of Each Functional Type and for the needs of a Diverse Range of Occupants including variation in age, needs for privacy and overall comfort.

a. Does the design accomplish the functional needs of the client, and various groups of users?
b. Are the rooms and spaces designed to include finish materials, interior design elements such as furnishings, and designed for the technical and architectural characteristics for each of the specified functions?
c. Does the design include service spaces, mechanical spaces, service access required for the functioning of the building?
d. Are public areas and the circulation systems logical, clearly understood by the occupants, and overall part of the architectural concept and form?
e. Are the rooms and spaces appropriately sized and proportioned, fitting the needs of the functional program, and overall part of the architectural concept and form?
f. Are the various interior and exterior functions of the building appropriately related, interconnected, or isolated?
Is the design successful in accommodating the needs of various users such as: visitor, employee, owner, neighbor, child, senior citizen, or passersby?

Assignment: Site Condition and User Requirements: *Read, study, analyze and evaluate environmental and site / context data, site visitation notes, and syllabus information pertaining to project site and context, and the specific user requirements of the project.*

Prepare diagrams, analytical photographs, written statements, etc. analyzing and explaining the specific site and its context, and the programmatic conditions which:

1) Are required for the proposed design, by all design proposals.
2) Conditions which suggest alternative design strategies.
3) Possible positive relationships between the specific site and context, and the functional program.

Do not include information that does not directly apply or does not have any application to the studio project. Information that has no architectural design implication should be avoided. Address the information and conclusions of this "report" to your architectural design team working within a prestigious architectural practice.

Due: Thursday, 25 January 2024

Phase 2. Review of Advanced Studio I Regulatory Requirements, Accessible Design, Life Safety Systems

(See Google Drive, *"Fall 2023 Regulatory Accessible Life Safety" for copies of the previous s*tudio section documents.)

25 January – 1 February

2021 Building Codes Illustrated, Francis Ching
http://ebookcentral.proquest.com.libdb.njit.edu:8888/lib/njit/detail.action?docID=6790678

2021 International Building Code Illustrated Handbook: Douglas Thornburg, McGraw Hill.
https://www-accessengineeringlibrary-com.libdb.njit.edu:8443/content/book/9781264270118
See: Google Drive Tutorial Videos

IBC 2021: https://codes.iccsafe.org/content/IBC2021P1
Applying the Building Code: Step-By-Step Guidance for Design and Building Professionals, Geren, Wiley Pub.
http://ebookcentral.proquest.com.libdb.njit.edu:8888/lib/njit/detail.action?docID=6790678

2010 ADA Standards for Accessible Design
ADA In Details: Janis Kent, Wiley
https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/guide-to-the-ada-standards

A. Regulatory Requirements: Occupancy Classification, Mixed Use Requirements, Required Type of Construction, Allowable Maximum Floor Areas, Maximum Building Height and Number of Stories, Site Determined Building Area Modifications, Building Separations, Atrium Requirements, Fire and Smoke Barriers, Prescriptive Fire Ratings of Building Construction, Fire Smoke and Sprinkler System Requirements, Restroom Requirements and Stair Design.

a. Has the design addressed the requirements of various occupancy types, construction types, and limitations to building dimensions, number of stories and floor areas?

b. Do mezzanine spaces meet the requirements of the IBC?
c. Does the design accommodate fire safety, including fire rated materials based upon the function class, maximum floor areas, heights and number of stories of the proposed design?
d. Are the various portions of the building appropriately fireproofed?
e. Are the various exterior elements of the building appropriately thermally insulated, and acoustically designed for sound transmission?
f. Does each room or space have natural light as required by the IBC?
g. Does the daylighting design enhance each functional space under all solar conditions and functional uses?
h. Does each room or space have natural ventilation or fresh air as required, and as is appropriate to each function?

B. Accessible Design: 2010 ADA Standards for Accessible Design: Ramp Slopes and Safety Areas, Wheel Chair Access, Turning Circles and Maneuvering Clearances, Doors and Doorways Requirements, Refuge Area Requirements, Restroom Design, Elevator and Platform Lift Design, Accessible Roots, Equivalency of Design and Accessibility.

a. Does the circulation system (path of travel) within the building meet general ADA requirements including ramps widths, maximum ramp pitches and landings, access to elevators, stair, exit stair, elevator refuge areas, accessible seating and toilet room facilities, wheel chair accessibility?
b. Are restrooms designed to meet the IBC and ADA requirements?
e. Does the design provide the required accessible routes?

C. Life Safety Systems: Exit Access, Exit Access Maximum Travel Distances, Aisle Minimum Widths and Combined Widths (Corridors & Stairs), Min and Max Separation of Exits within a space, Maximum Dead Ended Exit Distances, Number of Required Exits, Maximum Common Exit Path Distances, Means of Egress Minimum Widths and Minimum Widths by Capacity, Corridor Continuity, Horizontal Exits, Exit Discharge, Egress Court and Exit Lobby Restrictions, Required Door Widths and Swing Directions, Direct Exit Paths.

a. Illustrate and prove by measurement in the final proposed design all primary life safety requirements, listed above.
b. Does the building ensure safe egress to exit discharge from all occupied interior and exterior portions of the building?

***Assignment**: Review, correct and revise the Advanced Studio I documents for all the regulatory, accessibility and life safety requirements for as they apply **ONLY** to this studio project.*

The outcome of is assignment to be an edited, notated and digital copy of: 1) the 2021 IBC, and 2) the 2010 ADA Standards including ***only those requirements and pages which pertain*** to this semester's studio project as a notebook for your use during this semester. **It does not require "presentation level graphics" but rather it is a severely edited and marked up reference, with all non-pertaining information excluded or removed, and all important information highlighted.**

Due: Thursday, 1 February 2024

Phase 3. Building Performance Analysis

1 February - 15 February

https://blogs.autodesk.com/revit/2021/07/06/autodesk-insight-webinar-series/
REVIT: https://www.autodesk.com/products/insight/overview

a. Does the proposed Conceptual design illustrate and analytically prove using measurable analysis, design and technical modifications to minimize the energy consumption of the project, while maintain thermal and visual comfort?
b. How does the annual building energy use compare to the average energy use of a similar building functions and locations?
c. Does the design minimize the use of energy consuming systems through the accurate design of solar control devices by orientation, use of natural ventilation, design of day lighting and use of alternative energy sources, as may be appropriate to each building function and in relationship to the design intent and form?
d. Are the non-critical environmentally controlled spaces cooled through natural ventilation?
e. Does the design comply with the ASHRAE 90.1 maximum annual energy use standard?
f. How close to the Architecture 2030 Energy Standard does the design accomplish?
g. Which aspects of the architectural design are most and least efficient in terms of annual energy consumption?
h. What design and technical changes where most influential in accomplishing minimum energy consumption?
i. Does the design provide sufficient levels and uniformity of daylight in the selected portion of the project?
j. Does the design prevent inappropriate levels of visual glare in the selected portion of the project?
k. Compare the preliminary and final energy analysis data, illustrating relative importance of the design and technical changes of the design?

***Assignment:** Calculate using Insight or other analytical software the initial Energy performance of the proposed design at the Conceptual Design level, i.e. detail of building massing and conceptual facades.*

Due: Monday, 12 February 2024

***Assignment: Regulatory Spreadsheet,** Calculate Regulatory Requirements using the Excel Spreadsheet.*

Due: Thursday, 15 February 2024

Synthesis Seminar: 10 Points (18 Jan – 15 Feb)

First Academic Warning 16 February – 18 February

Phase 4. Structural System Analysis and Design

15 February – 29 February

a. Does the structural system serve the design intent and concept?
b. What are the requirement minimum Live, Dead and Wind Loads for the various functions?
c. What are the required maximum deflections of all structural components?
d. Illustrate how the design provides lateral stability for the structure in all directions?
e. Is the choice of the structural form and materials consistent with other characteristics of the architecture?
f. Do structural system elements working logically as a system?
g. Is the structural performance of the building proven through one of the following?
1) calculation of typical elements including foundations,

load bearing walls, columns, girders, beams, slabs, frames while assuring maximum deflection and lateral stability.
2) by detailed comparison to similar structural precedents, explain the logic of your structural systems behavior?
h. Are the structural systems and members appropriately proportioned to all structural forces and spans?
i. Are the structural systems and member design consistent with the performance of the specific materials selected, (wood, steel, concrete, etc.)?
j. Is the structural system integrated with mechanical and other building systems?
k. Does the structural system support and is integrated with the building enclosure system?
l. Are the vertical and lateral structural forces (loads) of the building effectively transferred to foundations and subgrade, through logical load paths?
m. Does the design adequately address lateral foundation forces and subsoil conditions?

Assignment: Structural Notebook: *Read Model Perspectives: Cruvellier, Sandaker Dimcheff excerpts in the studio's Google Drive folder / Technical References / Structural Systems / Model Perspectives, and select the structural form (walls, beams & slabs, etc.) which best relate to your architectural concept, building form and structural needs. Create an annotated notebook that illustrates the relationship between the chosen structural form and your design.*

Due: Monday, 19 February 2024

Assignment: Structural Diagrams: *Diagram in three dimensions all Structural components, foundations, load bearing walls and columns, beams and girders, structural slabs, etc. for your proposed design.*

Due: Thursday, 22 February 2024

Assignment: Structural Analysis: *Calculate using StruCalc, other analytical software, Structural Tables and Charts, or be comparison to architectural precedents of similar structural type, the "worst case" structural conditions of your design; longest span girder and beam, longest span floor or roof slab, tallest column, the lateral stability of your design. Prove the continuity of load paths, minimum slenderness ratios of system members and resistance to wind loads.*

Due: Monday, 26 February 2024

Phase 5. Environmental Control Systems Design

29 February – 21 March

a. In what way does the mechanical systems enhance the design intent and concept?
b. Are all spaces appropriately natural and artificially lit, heated, cooled and ventilated by natural and/or artificial means?
c. Are the selection and general design of the mechanical systems appropriate to the function, architectural concept and form?
d. Are the mechanical systems integral to the design concept including lighting, heating, cooling, and ventilation?
Illustrate the distribution and functioning of the various mechanical systems logical, and integrated into each occupied space.
f. Are design and technology strategies integrated to create a sustainable proposal, including passive and active systems?
Assignment: HVAC System Diagrams: *Diagram in three dimensions all major HVAC components and distribution system for your proposed design.*

Due: Monday, 21 March 2024

Synthesis Seminar: 10 Points (15 Feb – 21 March)

Second Academic Warning 22 March – 24 March

Phase 6. Technical & Environmental Impact Analysis

21 March – 5 April

https://blogs.autodesk.com/revit/2021/07/06/autodesk-insight-webinar-series/
REVIT: https://www.autodesk.com/products/insight/overview

REVIT: Tally for Revit https://kierantimberlake.com/page/tally
https://choosetally.com/download/
https://choosetally.com/tutorials/

a. Does the proposed design demonstrate an understanding of sustainability in its selection and use of materials and systems?
b. Does the design have an overall positive effect on the natural and built environment?
c. Based upon a measurable analysis of the exterior envelope of the design, illustrate and prove: the design and technical improvements to comparable global warning impact, ozone depletion effect, smog formation contribution, non-renewable verses renewable energy demand for the building enclosure systems?

Assignment: Preliminary Technical Documentation: *3D Wall Section Model, Axonometric, One Point Perspective and One Point Perspective of Interior and Exterior Walls, and Three Building Wall Section enlarged Details. (Review of Studio assignment)*

Due: Monday, 25 March

Assignment: Design Development Insight Analysis: *Calculate the final Energy and Daylighting performance of the proposed design at the Design Development level for the entire building at the detail of exterior envelope construction (thermal insulation, color, transparency, shading, daylighting, scheduling, etc.). Graphically compare and evaluate the effectiveness of design and technical changes from the Conceptual to Design Development stage to conserve energy while maintain thermal and visual comfort.*

Due: Thursday, 28 March

Assignment: Sustainability Analysis: Calculate the environmental impact of the proposed design at the design development level for the total exterior façades only using Tally or equal.

Due: Thursday, 4 April

Phase 7. Final Booklet Documentation:

5 April – 7 May

Each Chapter is to address all of the criteria topics listed in bold type and each of the questions listed in "*VIII. Synthesis Seminar: National Architectural Accrediting Board Criteria."*

Through notating drawings, diagraming and labeling, hvac and structural diagrams, energy and structural calculations, sustainalblity analysis, life safety, egress, accessibility calculations, written statements, etc. describe and prove how your design has accomplished each issue and question listed in the ten NAAB Criteria.

Note: In some cases, the topic or question may not apply to your specific design. In that case, explain why your proposed design is not required comply.

Synthesis Seminar Booklet Format:

A single multipage 11 x 17 landscape format PDF file.

Booklet Chapters and Content:

A. Cover Page

Student Name / Teachers Name / Date / Course #

B. Advanced Studio II Final Presentation:

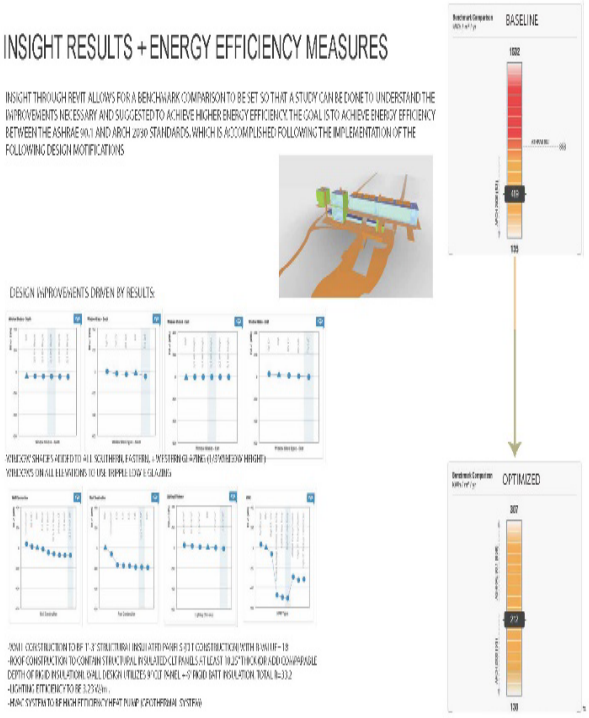
1) Final Record Boards as one "large wall poster" one page.
2) Each Final Record Board (36" x 72") one per page.
3) Architectural Documentation, one or two drawings per page.
4) Technical Documentation, one drawing per page.
5) Comparable Architectural & Building Systems Diagrams, one system drawing per page.
6) Final Presentation Model, 4 to 6 views, one per page.
7) Serial Views, 8 to 12 views, four per page.
8) Contextual Views, 4 to 6 views, on one page.

C. Synthesis Seminar Documentation: (In general, each of the ten criteria is a ten to twenty page chapter of the booklet.)

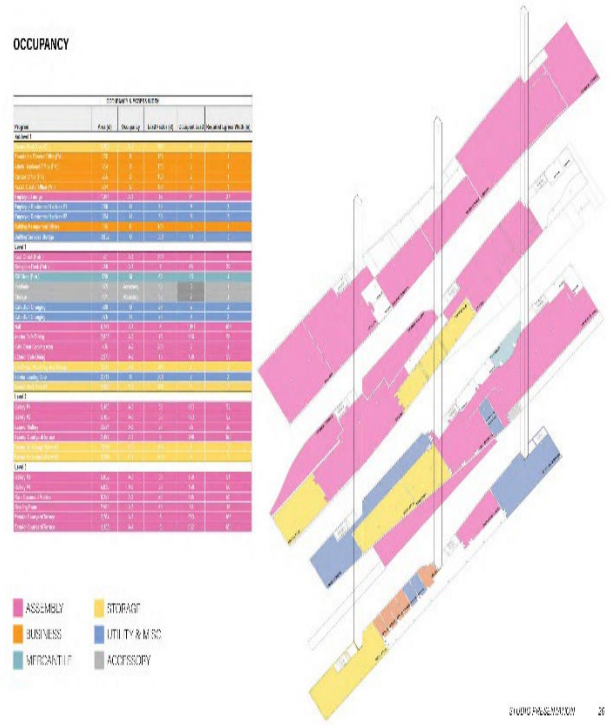
1) Site Conditions
2) Environmental Impact
    a. Tally Analysis of Building Envelope
    b. Summary evaluating effectiveness of design and technical changes of building façade.
3. User Requirements
4. Regulatory Requirements
5. Accessible Design
6. Life Safety Systems
7. Structural Systems
    a. Structural System 3D Drawings
    b. Structural Analysis
8. Environmental Control Systems
    a. HVAC Systems 3D Drawings
9. Building Envelope Systems and Assemblies
10. Building Performance
    a. Conceptual Design Insight Analysis
    b. Design Development Insight Analysis
    c. Graphic Comparison and Evaluation of Insight Analysis
    d. Written summary evaluating effectiveness of design and technical changes.

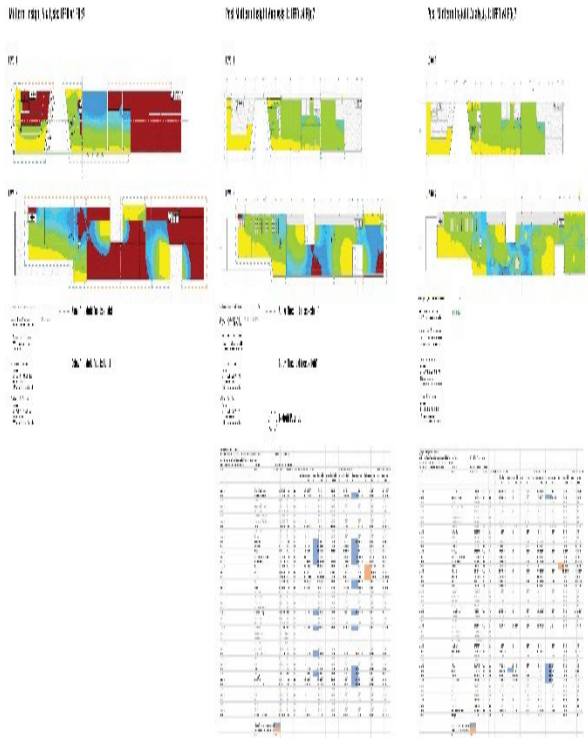
Synthesis Seminar: 80 Points (21 March – 7 May)

D. Booklet Sample Content:

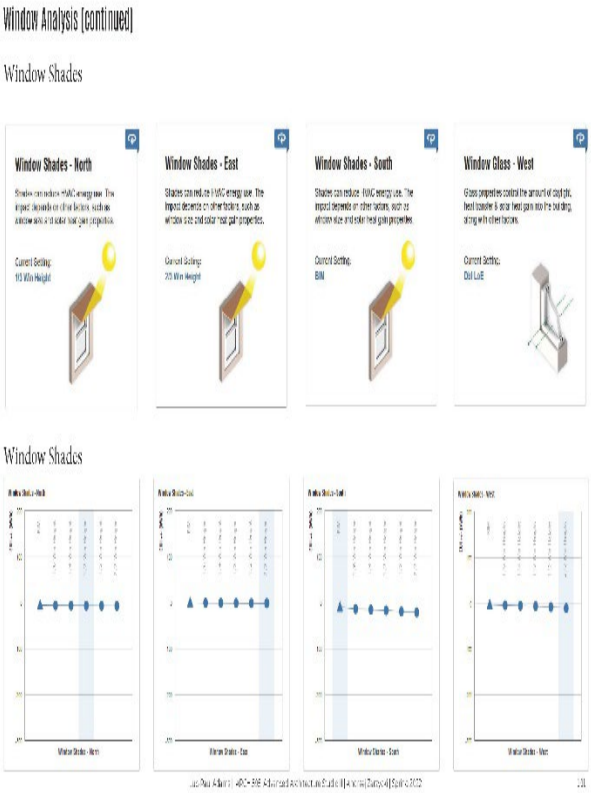


Comparison & explanation of primary verses final Energy Analysis.



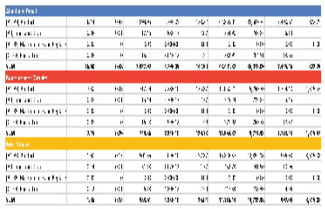


Daylighting Analysis.

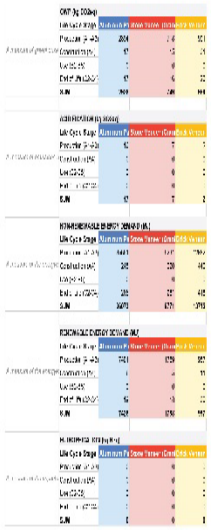


Tally/LCA Materials Comparison: Contextual Materials

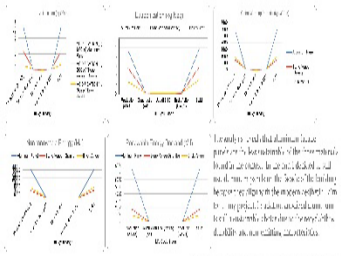
Raw Data



Comparison



Comparison Graphs



Carbon Footprint Analysis

7.5 WIND LOADS; 7.6 DEFLECTION LIMITATIONS & 7.7 SLENDERNESS RATIOS OF STRUCTURAL MEMBERS

7.5 WIND LOADS

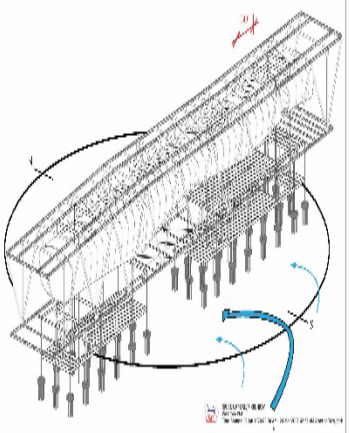
STRUCTURAL MEMBER ON FOUR FREEDOM FOUNDATION MUST BE ANCHORED TO PREVENT FROM OVERTURNING.

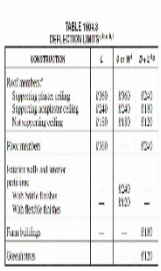
7.6 DEFLECTION LIMITATIONS

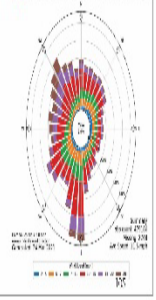
THE LIMIT DEFLECTIONS AND LATERAL DRIFT IS CALCULATED BY THE LENGTH OF THE BEAM DIVIDED BY 360.

7.7 SLENDERNESS RATIOS OF STRUCTURAL MEMBER

THE HIGHEST FLOOR TO CEILING IN THE FOUR FREEDOM FOUNDATION IS 24 FEET. WITH THAT PROVIDED A TRUSS SYSTEM ON THE EXTERIOR OF THE BUILDING TO HOLD THE ROOF. AS THE OUTER TRUSS SYSTEM EXCEEDS THE 24 FEET. I PLACED AN OTHER TRUSS SYSTEM IN THE INTERIOR FOR SLENDERNESS RATIO, WIND LOADS, AND DEFLECTION LIMITATIONS.



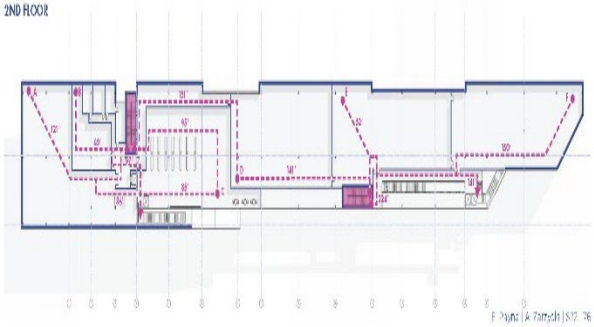




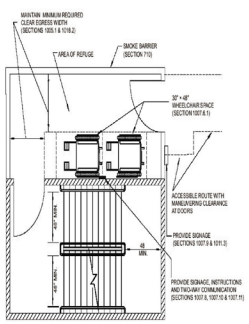
MAXIMUM TRAVEL DISTANCES | 2ND & 3RD FLOORS

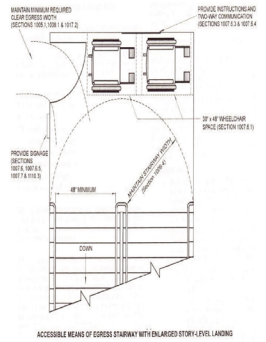
3RD FLOOR

2ND FLOOR



FIRE STAIR DESIGN/AREA OF REFUGE





ACCESSIBLE MEANS OF EGRESS STAIRWAY WITH ENLARGED STORY-LEVEL LANDING

Chapter 10 Means of Egress

Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof. The code specifications of design, construction, and arrangement of fire egress stairs that ensures the safety of a given occupant load.

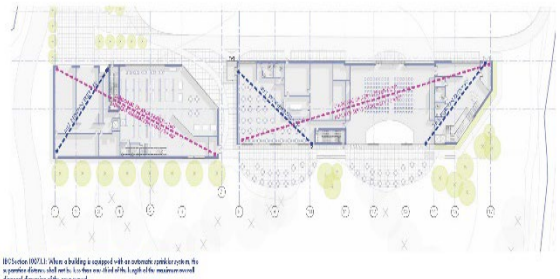
Exceptions:

1. Stairways serving an occupant load of less than 50 shall have a width of not less than 36 inches (914 mm)

2. Spiral stairways as provided for in Section 1011.10

3. Where an incline platform lift or stairway chairlift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. Where the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

EXIT SEPARATION | GROUND FLOOR

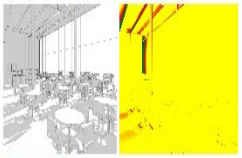


IBC Section 1007.1.1. Where a building is equipped with an automatic sprinkler system, this exception distance shall not be less than one-third of the length of the maximum overall diagonal dimension of the area to be served.

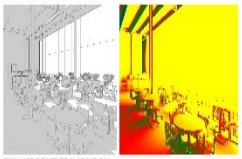
INITIAL DAYLIGHTING STUDIES | INTERIOR

CAFE INTERIOR

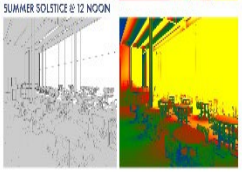
WINTER SOLSTICE @ 12 NOON



SPRING EQUINOX @ 12 NOON

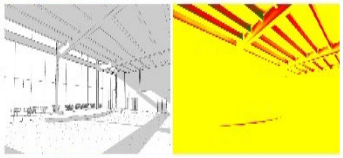


SUMMER SOLSTICE @ 12 NOON

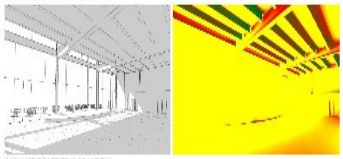


HALL INTERIOR

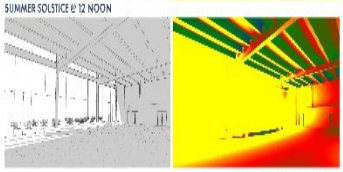
WINTER SOLSTICE @ 12 NOON

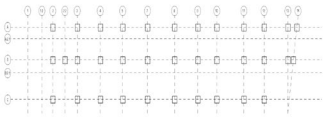


SPRING EQUINOX @ 12 NOON

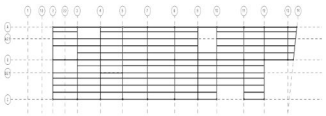


SUMMER SOLSTICE @ 12 NOON

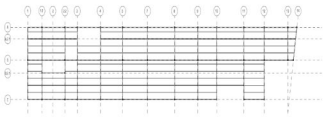




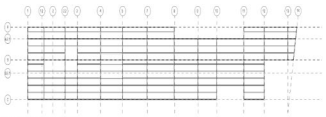
FOUNDATION PLAN



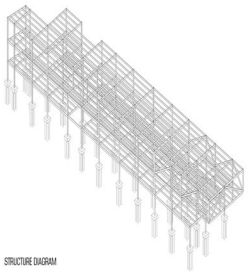
FIRST FLOOR STRUCTURE PLAN



SECOND FLOOR STRUCTURE PLAN



THIRD FLOOR STRUCTURE PLAN



STRUCTURE DIAGRAM

TALLY

IV. Student Final Record:

As per HCAD / NJIT policy, Final Grades will not be issued until your work is completely submitted to both Canvas AND your Studio Section's shared Google Drive, *exactly* complying with all the following requirements:

Due: Synthesis Seminar Final Booklet Submission to the Studio Google and NJIT Canvas at Mi**dnight on Tuesday, 7 May.**

Studio Google Drive: SPRING 2024 Four Freedoms Foundation / STUDENT WORK / "ZZ" Studio / Synthesis Seminar / "Last First Name"

The booklet must exactly follow all the formatting requirements indicated, including titles, order of content, etc.

PDF File Name: "Student Last Name" "Student First Name" Synthesis Seminar S24 .pdf

V. Faculty; Final Grades:

Submitted only after completed Canvas-Kepler and Google Drive uploading of student work.

The NAAB requires that each of the ten of the NAAB Criteria be accurately integrated into the student's design proposal. And, that there is accurate, explained and complete proof of each criteria, which is illustrated by diagram, calculation, description, etc. The Final Synthesis Booklet is the required NAAB accreditation evidence of each graduating student's knowledge, synthesis and integration into their individual studio project of the NAAB's ten criteria.

All ten of the Design Determinants are required to be proven for a passing grade. (Minimum NJIT passing grade: Undergraduate = D, Graduate = C). Proving nine or fewer of the ten NAAB Criteria cannot be issued a passing grade.

Incomplete grades can only be issued when the NJIT Dean of Students has previously received and approved information directly from the student regarding health or family emergency issues.

Final Grade Due Date: at Midnight, Friday, 10 May.

1. NJIT Grade Registrar Submission:

Via the NJIT.edu main page under:

MyNJIT Login
"Faculty Services "
"Final Grades"
Scroll to Find the Course, Section and Term
Select "Grading Status" on Left Side

2. NJSOA Grade Record Submission:

Faculty are also to submit a list of Final Grades organized by student last name.

Send to Professor Zdepski, via email at zdepski@njit.edu.

VI. Faculty; Student Evaluation Rubric:

As part of the grading process, each student's Final Booklet is to be scored by the seminar teacher using the Synthesis Seminar Evaluation Rubric in PDF format. This evaluation is required by the NAAB as part of the self-assessment of the learning objectives and standards for professional architectural accreditation.

Seminar Instructors are to submit each scored Synthesis Seminar Evaluation Rubric in PDF format only, to the Faculty Spring 2024 / Synthesis Seminar / EVALUATION RUBRIC (All Sections) Google Drive folder.

Due Date: at Midnight, Friday, 10 May.

VII. NAAB Accreditation Criteria:

The National Architectural Accrediting Board (NAAB) accredits NJIT's architecture programs. All NAAB criteria must be covered and proven by any architectural curriculum to attain approval for accreditation of the professional architectural degrees.

This course directly addresses the following, as outlined in the 2020 NAAB Conditions for Accreditation:

SC.1 Health, Safety, and Welfare in the Built Environment—How the program ensures that students understand the impact of the built environment on human health, safety, and welfare at multiple scales, from buildings to cities.

SC.3 Regulatory Context—How the program ensures that students understand the fundamental principles of life safety, land use, and current laws and regulations that apply to buildings and sites, and the evaluative process architects use to comply with those laws and regulations as part of a project.

SC.4 Technical Knowledge—How the program ensures that students understand the established and emerging systems, technologies, and assemblies of building construction, and the methods and criteria architects use to assess those technologies against the design and performance objectives of projects.

SC.5 Design Synthesis—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.

SC.6 Building Integration—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.

VIII. Synthesis Seminar: National Architectural Accrediting Board Criteria

4. Site Conditions:

Pedestrian and Vehicular Movement, Topographic Conditions including Steep Slopes, Protection of Environmentally Critical Areas, Integration of Surrounding Architectural, Urban and Landscape Contexts, Integration with Functions of Adjoining Neighborhoods, Historical and Cultural Context, Responding to Specific Seasonal Conditions, Diurnal Variation, Variations in Weather, and Solar Access and Control.

Municipal Zoning Regulations: Yard Setbacks, Maximum Impervious Coverage, Maximum Building Coverage, Maximum Floor Area Ratios, Maximum Building Height and Stories, etc., Protection of Wetlands and Water Courses, Land Use and Planning Policy and Historical District Requirements.

a. Does the design comply with zoning and land use policies such as setbacks, maximum height, maximum floor area ratios, maximum lot coverage, maximum impervious coverage, etc.?
b. How does the design respond to the character of the surrounding physical contexts including: relationship to existing buildings architectural characteristics and functions, topography, natural landscape, principal views, scale, pedestrian and vehicular movement systems, etc.?
c. How does the design respond to environmental conditions of the site including solar orientation, seasonal variation, variations in weather, sunlight, exterior temperature and humidity, wind, precipitation, etc.?
d. In what ways does the proposed design respond to differences in orientation, relationship to urban and/or natural landscapes, sunrise-sunset, significant views and panoramas, below grade, at grade, above grade and rooftop activities and characteristics, pedestrian paths and access? And, are the exterior facades of the proposed architectural designed to respond to these differences?
e. Overall, is the proposed design an appropriate and skillful addition to the existing landscape and/or urban context?

5. Environmental Impact:

Minimum Carbon Footprint, Use of Sustainable Materials, Water Conservation, Application of Renewable Energy Sources.

a. Does the proposed design demonstrate an understanding of sustainability in its selection and use of materials and systems?
b. Does the design have an overall positive effect on the natural and built environment?
c. Based upon a measurable analysis of the exterior envelope of the design, illustrate and prove: the design and technical improvements to comparable global warning impact, ozone depletion effect, smog formation contribution, non-renewable verses renewable energy demand for the building enclosure systems?

6. User Requirements:

Appropriate Relationships of Functions, both interior and exterior, Accommodation Building Services, Clarity of Way-Finding, Accomplishing Specific Requirements of Each Functional Type, and for the needs of a Diverse Range of Occupants including variation in age, needs for privacy and overall comfort.

a. Does the design accomplish the functional needs of the client, and various groups of users?

b. Are the rooms and spaces designed to include finish materials, interior design elements such as furnishings, and designed for the technical and architectural characteristics for each of the specified functions?
c. Does the design include service spaces, mechanical spaces, service access required for the functioning of the building?
d. Are public areas and the circulation systems logical, clearly understood by the occupants, and overall part of the architectural concept and form?
e. Are the rooms and spaces appropriately sized and proportioned, fitting the needs of the functional program, and overall part of the architectural concept and form?
f. Are the various interior and exterior functions of the building appropriately related, interconnected, or isolated?
Is the design successful in accommodating the needs of various users such as: visitor, employee, owner, neighbor, child, senior citizen, or passersby?

7. Regulatory Requirements:

International Building Code 2021: Occupancy Classification, Mixed Use Requirements, Required Type of Construction, Allowable Maximum Floor Areas, Maximum Building Height and Number of Stories, Site Determined Building Area Modifications, Building Separations, Atrium Requirements, Fire and Smoke Barriers, Prescriptive Fire Ratings of Building Construction, Fire Smoke and Sprinkler System Requirements, Restroom Requirements and Stair Design.

a. Has the design addressed the requirements of various occupancy types, construction types, and limitations to building dimensions, number of stories and floor areas?
b. Do mezzanine spaces meet the requirements of the IBC?
c. Does the design accommodate fire safety, including fire rated materials based upon the function class, maximum floor areas, heights and number of stories of the proposed design?
d. Are the various portions of the building appropriately fireproofed?
e. Are the various exterior elements of the building appropriately thermally insulated, and acoustically designed for sound transmission?
f. Does each room or space have natural light as required by the IBC?
g. Does the daylighting design enhance each functional space under all solar conditions and functional uses?
h. Does each room or space have natural ventilation or fresh air as required, and as is appropriate to each function?

8. Accessible Design:

2010 ADA Standards for Accessible Design: Ramp Slopes and Safety Areas, Wheel Chair Access, Turning Circles and Maneuvering Clearances, Doors and Doorways Requirements, Refuge Area Requirements, Restroom Design, Elevator and Platform Lift Design, Accessible Roots, Equivalency of Design and Accessibility.

a. Does the circulation system (path of travel) within the building meet general ADA requirements including ramps widths, maximum ramp pitches and landings, access to elevators, stair, exit stair, elevator refuge areas, accessible seating and toilet room facilities, wheel chair accessibility?
b. Are restrooms designed to meet the IBC and ADA requirements?
e. Does the design provide the required accessible routes?

9. Life Safety Systems:

International Building Code 2021: Exit Access, Exit Access Maximum Travel Distances, Aisle Minimum Widths and Combined Widths (Corridors & Stairs), Min and Max Separation of Exits within a space, Maximum Dead Ended Exit Distances, Number of Required Exits, Maximum Common Exit Path Distances, Means of Egress Minimum Widths and Minimum Widths by Capacity, Corridor Continuity, Horizontal Exits, Exit Discharge, Egress Court and Exit Lobby Restrictions, Required Door Widths and Swing Directions, Direct Exit Paths, Elevator and Escalators

a. Illustrate and prove by measurement in the final proposed design all primary life safety requirements, listed above.
b. Does the building ensure safe egress to exit discharge from all occupied interior and exterior portions of the building?

10. Structural Systems:

Criteria for selection and design of Foundations, Primary and Secondary Structural Systems, Load Bearing Walls and Columns, Girders and Beams, Floor Slab Design, Lateral Stability, Deflection Limitations of Structural Elements, Maximum Slenderness Ratios of Structural Members, Accommodation of Required Live and Dead Loads, Continuity of Load Paths to Subsoil.

a. Does the structural system serve the design intent and concept?
b. What are the requirement minimum Live, Dead and Wind Loads for the various functions?
c. What are the required maximum deflections of all structural components?
d. Illustrate how the design provides lateral stability for the structure in all directions?
e. Is the choice of the structural form and materials consistent with other characteristics of the architecture?
f. Do structural system elements working logically as a system?
g. Is the structural performance of the building proven through one of the following?
1) calculation of typical elements including foundations, load bearing walls, columns, girders, beams, slabs, frames while assuring maximum deflection and lateral stability.
2) by detailed comparison to similar structural precedents, explain the logic of your structural systems behavior?
h. Are the structural systems and members appropriately proportioned to all structural forces and spans?
i. Are the structural systems and member design consistent with the performance of the specific materials selected, (wood, steel, concrete, etc.)?
j. Is the structural system integrated with mechanical and other building systems?
k. Does the structural system support and is integrated with the building enclosure system?
l. Are the vertical and lateral structural forces (loads) of the building effectively transferred to foundations and subgrade, through logical load paths?
m. Does the design adequately address lateral foundation forces and subsoil conditions?

11. Environmental Control Systems:

Criteria for selection and design of Heating, Cooling and Ventilation Systems: System Type and Distribution Systems, Ventilation, Solar Contro.

a. In what way does the mechanical systems enhance the design intent and concept?

b. Are all spaces appropriately natural and artificially lit, heated, cooled and ventilated by natural and/or artificial means?
c. Are the selection and general design of the mechanical systems appropriate to the function, architectural concept and form?
d. Are the mechanical systems integral to the design concept including lighting, heating, cooling, and ventilation?
e. Illustrate the distribution and functioning of the various mechanical systems logical, and integrated into each occupied space.
f. Are design and technology strategies integrated to create a sustainable proposal, including passive and active systems?

12. Building Envelope Systems and Assemblies:

Selection and Design of Building Envelope Systems, Thermal Insulation and Bridging Standards, Material and Product Specification, Fire Rating of Assemblies, Water and Moisture Protection, Sound Transmission and Acoustics, Integration of Mechanical Systems.

a. Does the building envelope illustrate the design concept and form, visually enhancing the design intent?
b. Is the building envelope appropriate to its context, including the surrounding buildings and natural landscape?
c. Is the building envelope appropriate to its climate, seasonal variation, weather conditions, solar access and shading?
d. Is the building envelope system waterproofed, appropriately insulated and fireproofed to meet the basic IBC requirements?
e. Is the building envelope logical, functional and stable?
f. Is building envelope illustrated with specific and appropriate materials, assemblies and systems, at level of detail associated with the scale 1 1/2" = 1'-0", including vertical dimensions, materials specifications, from foundation to sky?
g. Does the building design and detailing illustrate a basic knowledge of the construction assembly process?
h. Does the design illustrate the selection of specific construction materials, products and assemblies that are consistent to and enhance the design's performance, concept and intent?
i. Does the design illustrate a knowledge and suitable development of technical and design precedents?
j. Overall, is the enclosure system sophisticated in concept, function, and relationship to the physical and environmental context, esthetics and construction?

13. Building Performance:

Performance of Energy Consumption, Day-lighting, Solar Protection, Natural Ventilation, Natural Cooling, Building Insulation-Thermal Mass, Building Form and Orientation, Climate, Weather and Diurnal Response, Solar Access, Alternative Energy Sources.

a. Does the proposed design illustrate and analytically prove using measurable analysis, design and technical modifications to minimize the energy consumption of the project, while maintain thermal and visual comfort?
b. How does the annual building energy use compare to the average energy use of a similar building functions and locations?
c. Does the design minimize the use of energy consuming systems through the accurate design of solar

control devices by orientation, use of natural ventilation, design of day lighting and use of alternative energy sources, as may be appropriate to each building function and in relationship to the design intent and form?
d. Are the non-critical environmentally controlled spaces cooled through natural ventilation?
e. Does the design comply with the ASHRAE 90.1 maximum annual energy use standard?
f. How close to the Architecture 2030 Energy Standard does the design accomplish?
g. Which aspects of the architectural design are most and least efficient in terms of annual energy consumption?
h. What design and technical changes where most influential in accomplishing minimum energy consumption?
i. Does the design provide sufficient levels and uniformity of daylight in the selected portion of the project?
j. Does the design prevent inappropriate levels of visual glare in the selected portion of the project?
k. Compare the preliminary and final energy analysis data, illustrating relative importance of the design and technical changes of the design?

Synthesis Seminar References:

Site Conditions:

Design with Nature, Ian McHarg

Site Analysis, Edward T. White, Architectural Media Site Planning; Kevin Lynch, MIT

Urban Design: Street and Square, Architectural Press https://archive.org/details/designwithnature00mcha/mode/2up

Climate Consultant 6 Software https://www.sbse.org/resources/climate-consultant

Sun, Wind & Light, Brown & DeKay

Environmental Impact:

An Environmental Life Cycle Approach to Design; John Cays, Springer. Athena Impact Estimator for Buildings https://calculatelca.com/software/impact-estimator/overview/

RHINO AND REVIT: https://www.cove.tools/education-resources

RHINO: https://www.solemma.com/climatestudio License: EDU_NJIT:1x769y3pwwihixtr

REVIT: Tally for Revit https://kierantimberlake.com/page/tally
https://choosetally.com/download/
https://choosetally.com/tutorials/

https://www.buildingtransparency.org/en/ http://www.buildcarbonneutral.org/

Kaleidoscope **https://www.payette.com/kaleidoscope/**

User Requirements:

Problem Seeking. An Architectural Programming Primer, William M. Pena and Steven A. Parshall (HOK). Wiley, 2012.

Neufert Architects' Data, Ernst and Peter Neufert. Wiley-Blackwell, 2012. ISBN-13: 978- 1405192538
A Pattern Language, Christopher Alexander

Architectural Graphic Standards, AIA, Dennis Gall, Nina M Giglio
https://primo-njit-edu.libdb.njit.edu:8443/discovery/fulldisplay?context=L&vid=01NJIT_INST:NJIT&search_scope=MyInst_and_CI&isFrbr=true&tab=Everything&docid=alma994901881405196

The Architectural Studio Companion, Edward Allen & Joseph Ianohttps://primo-njit-edu.libdb.njit.edu:8443/discovery/fulldisplay?context=L&vid=01NJIT_INST:NJIT&search_scope=MyInstitution&tab=LibraryCatalog&docid=alma995065821405196

Timesaver Standards for Building Types, Joseph De Chiara

Timesaver Standards for Architectural Design Data, Donald Watson

Regulatory Requirements:

IBC 2021: https://codes.iccsafe.org/content/IBC2021P1
Applying the Building Code: Step-By-Step Guidance for Design and Building Professionals, Geren, Wiley Pub.
http://ebookcentral.proquest.com.libdb.njit.edu:8888/lib/njit/detail.action?docID=6790678

2021 Building Codes Illustrated, Francis Ching
http://ebookcentral.proquest.com.libdb.njit.edu:8888/lib/njit/detail.action?docID=6790678

2021 International Building Code Illustrated Handbook: Douglas Thornburg, McGraw Hill.
https://www-accessengineeringlibrary-com.libdb.njit.edu:8443/content/book/9781264270118

Accessible Design:

2010 ADA Standards for Accessible Design
ADA In Details: Janis Kent, Wiley
https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/guide-to-the-ada-standards

2021 Building Codes Illustrated, Francis Ching
http://ebookcentral.proquest.com.libdb.njit.edu:8888/lib/njit/detail.action?docID=6790678

2021 International Building Code Illustrated Handbook: Douglas Thornburg, McGraw Hill.
https://www-accessengineeringlibrary-com.libdb.njit.edu:8443/content/book/9781264270118
See: Google Drive Tutorial Videos

https://www.access-board.gov/ada/guides/

Life Safety Systems:

Revit:Travel Path Tool:
https://blogs.autodesk.com/revit/2020/02/18/revits-path-of-travel-tool-makes-for-quick-and-easy-egress/ IBC 2021;
https://codes.iccsafe.org/content/document/759

2021 Building Codes Illustrated, Francis Ching
http://ebookcentral.proquest.com.libdb.njit.edu:8888/lib/njit/detail.action?docID=6790678

2021 International Building Code Illustrated Handbook: Douglas Thornburg, McGraw Hill.
https://www-accessengineeringlibrary-com.libdb.njit.edu:8443/content/book/9781264270118
See: Google Drive Tutorial Videos

Structural Systems:

Model Perspectives: Cruvellier, Sandaker and Dimcheff

The Architectural Studio Companion, Edward Allen & Joseph Iano
https://primo-njit-du.libdb.njit.edu:8443/discovery/fulldisplay?context=L&vid=01NJIT_INST:NJIT&search_scope=MyInstitution&tab=LibraryCatalog&docid=alma995065821405196

Manual of Structural Design, Eberhard Moller, Edition Detail, 2022.

The Structural Basis of Architecture, Sandaker, Eggen and Cruvellier
https://primo-njit-du.libdb.njit.edu:8443/discovery/fulldisplay?context=L&vid=01NJIT_INST:NJIT&search_scope=MyInst_and_CI&isFrbr

=true&tab=Everything&docid=alma995077961405196

Building Structures Illustrated, Francis Ching https://primo-njit-edu.libdb.njit.edu:8443/discovery/fulldisplay?context=L&vid=01NJIT_INST:NJIT&search_scope=MyInst_and_CI&tab=Everything&docid=alma995066020905196

DartmouthX-The engineering of Structures Around Us
https://www.youtube.com/channel/UCTzQ-ZNy1DrKhchVBmPwU-Q
https://www.masterseries.com/products/powerpad-student-edition#tab-4

STRUCALC https://strucalc.com/
See: Google Drive Tutorial Videos

Environmental Control Systems:

Mechanical and Electrical Equipment for Buildings, Grondzik, Kwok, Stein, Reynolds
https://ebookcentral-proquest-com.libdb.njit.edu:8443/lib/njit/detail.action?docID=468540
https://www.engineeringtoolbox.com/duct-velocity-d_928.html

See: Google Drive Tutorial Videos
Geothermal Heat Pump: https://www.nordicghp.com/commercial-heat-pumps/ (81 ton)

Building Envelope Systems and Assemblies:

Detail Magazine / Detail Inspiration via HCAD Library website/

The Architectural Studio Companion, Edward Allen & Joseph Iano
https://primo-njit-du.libdb.njit.edu:8443/discovery/fulldisplay?context=L&vid=01NJIT_INST:NJIT&search_scope=MyInstitution&tab=LibraryCatalog&docid=alma995065821405196

Constructing Architecture, Deplazes
https://archive.org/details/DeplazesConstructingArchitecture/page/n1/mode/2up

Studies in Tectonic Culture, Kenneth Frampton https://archive.org/details/studiesintectoni0000fram

Modern Construction Case Studies, Andrew Watts
https://primo.njit.edu/discovery/fulldisplay?context=L&vid=01NJIT_INST:NJIT&search_scope=DN_and_CI&isFrbr=true&tab=Everyth ing&docid=alma995070973505196

Modern Construction Handbook, Andrew Watts
https://primo-njit-du.libdb.njit.edu:8443/discovery/fulldisplay?context=PC&vid=01NJIT_INST:NJIT&search_scope=MyInst_and_CI&tab=Everything&docid=pq_ebook_centralEBC1575519

Introducing Architectural Tectonics: Edward Ford

Modern Construction Envelopes, Andrew Watts

https://transmaterial.net/

Building Performance:

https://primo-njit-edu.libdb.njit.edu:8443/discovery/fulldisplay?context=L&vid=01NJIT_INST:NJIT&search_Sustainable

(www.wbdg.org/design-objectives/sustainable)

Autodesk Student Software: https://www.autodesk.com/education/students

Climate Scout: https://www.callisonrtkl.com/climate-scout-intro/

RHINO AND REVIT: https://www.cove.tools/education-resources

Insight / REVIT: https://www.autodesk.com/products/insight/overview

Sketchup or Rhino: http://www.sketchup.com/products/sefaira

https://blogs.autodesk.com/revit/2021/07/06/autodesk-insight-webinar-series/

https://www.sbse.org/resources/climate-consultant

Climate Studio: License Key: *EDU_NJIT1:UAHQU10EIQVU:94*
ClimateStudio v1.9 Installer: https://urldefense.com/v3/__https://solemma.us14.list-manage.com/track/click?u=0bb7072dcf582b174e27a4181&id=dd44b65097&e=74f8f9f642__;!!DLa72PTfQgg!JhHiz7UlxiZowjorTQqoWxmljDJoWNw9xpINithpYAI35bVC_prWAukaW5soq-yyirjZudmyntXIHTSlzu0xj80$

Software Documentation: https://urldefense.com/v3/__https://solemma.us14.list-manage.com/track/click?u=0bb7072dcf582b174e27a4181&id=4ba6cc32d4&e=74f8f9f642__;!!DLa72PTfQgg!JhHiz7UlxiZowjorTQqoWxmljDJoWNw9xpINithpYAI35bVC_prWAukaW5soq-yyirjZudmyntXIHTSlMbfgdfo$

Learn ClimateStudio: https://urldefense.com/v3/__https://solemma.us14.list-manage.com/track/click?u=0bb7072dcf582b174e27a4181&id=1e2bd4ad75&e=74f8f9f642__;!!DLa72PTfQgg!JhHiz7UlxiZowjorTQqoWxmljDJoWNw9xpINithpYAI35bVC_prWAukaW5soq-yyirjZudmyntXIHTSlY5b4vJ0$

For technical support, email support@solemma.com to setup a help ticket.

X. Course Administration:

A. Course Pre-Requisites:

A grade of "D" of higher in Advanced Studio I, Arch 495 or a grade of "C" or higher for Advanced Studio I, Arch. 505G.

For the Bachelor of Architecture degree, a grade of "D" of higher in Structures I & II, Construction I & II, ECS I & II and Landscape and Urbanism.

The Synthesis Seminar, Arch 561 is a Co-Requisite for the Advanced Studio II, Arch 595.
The Synthesis Seminar, Arch 547G is a Co-Requisite for the Advanced Studio II, Arch 506G.
The Synthesis Seminar can be repeated, if necessary, without retaking the Advanced Studio II.

B. Administrative Policies:

The use of cell phones, texting, emailing, etc. during class hours is prohibited. Emergency calls should be taken outside of the classroom environment. Participating in social networking during class hours is also not permitted.

It is the responsibility of each student to seek architectural criticism, references and general guidance throughout the entire semester from their synthesis seminar teacher, studio critic, other members of the NJSOA faculty, guest critics and utilize HCAD library, studio's shared Google Drive resources.

The submissions of late work, non-participation in class discussions, or formal presentations can be the sole basis for not passing the course.

C. NAAB Accreditation Criteria:

The National Architectural Accrediting Board (NAAB) accredits NJIT's architecture programs. The NAAB criteria must be covered and proven by any architectural curriculum to attain their approval. This course directly addresses the following, as outlined in the 2020 NAAB Conditions for Accreditation through the ten NAAB Criteria listed above:

SC.5 Design Synthesis*—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.*

SC.6 Building Integration*—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.*

D. NJIT / HCAD / NJSOA Academic Policies:

1. 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 and to the Code of Student Conduct.

Please note that it is the teacher's professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any illegal software will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu.

Dean of Students: www.njit.edu/doss Code of Academic Integrity:

https://www.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf

Code of Student Conduct: https://www.njit.edu/doss/policies/conductcode/index.ph p

2. Plagiarism:

It is extremely important that students familiarize themselves with a proper way to cite visual and intellectual sources. Plagiarism whether deliberate or inadvertent simply cannot be tolerated. Simply put, plagiarism is the use of visual or intellectual material created by others without proper attribution. Even the use of one's own material for more than one assignment can also be considered plagiarism. Students should not do so without the expressed consent of all instructors involved. The HCAD librarian Maya Gervits has assembled excellent resources on copyright, plagiarism citing, and avoiding plagiarism:

http://researchguides.njit.edu/c.php?g=671665&p=4727 920

3. Students with Disabilities:

It is the school's moral, ethical, and legal obligation to provide appropriate accommodations for all students with physical and/or learning disabilities. If students need an accommodation related to disabilities, all official documentation must be filed with the Dean of Students and the Disability Support Service Office. It is the responsibility of the student to notify the instructor at the beginning of the semester if accommodations are warranted.

Dean of Students: https://www.njit.edu/doss/ Disability Support Service:
http://www.njit.edu/studentsuccess/disability-support- services-0/

4. Students Rights and Responsibilities:

http://catalog.njit.edu/undergraduate/academic-policies- procedures/student-rights-responsibilities/

5. NJIT Undergraduate Grading Definitions:

A	Superb	
B+	Excellent	
B	Very Good	
C+	Good	
C	Acceptable	
D	Minimum	(Meeting all Course Criteria) (Passing all ten of the NAAB Criteria)
F	Failure	
I	Incomplete	(Pre-Approved by Dean of Students)

Historically the average grade for the Undergraduate Synthesis Seminar has been between "C+ and B." (2.75)

6. NJIT Graduate Grading Definitions:

A	Excellent	
B+	Good	
B	Acceptable	
C+	Marginal	
C	Minimum	(Meeting all Course Criteria) (Passing all ten of the NAAB Criteria)
F	Failure	
I	Incomplete	(Pre-Approved by Dean of Students)

Historically the average grades for the Graduate Advanced Architectural Studio I & II, and the Synthesis Seminar have been between "B and B+." (3.25)

7. Faculty Office Hours:

All faculty teaching are available by appointment for either in person, email or online video conferencing. Contact your instructor to make an appointment to meet outside of regularly schedule class times.

8. Course Documentation:

CANVAS: This course will use the learning management system CANVAS and the studio's shared Google Drive, as the repository the course work. All student work must be uploaded in the appropriate assignment folders.

To access CANVAS, you must have a UCID account with NJIT. KEPLER: Students must upload copies of their assignments to the new KEPLER 5 system found under the KEPLER tab in CANVAS "Modules". CANVAS assignments folders are automatically ported to KEPLER, although students need to initiate a separate KEPLER upload.

Any file, regardless of file size, or type can be uploaded, although .pdfs and .jpegs are required ensure view ability. KEPLER no longer has individual student folders. Student work is now available for review in either "List View" organized by student or "Gallery View" with thumbnails of all work in an assignment folder viewable at once.

9. Rights and Conditions:

All student work, both digital and physical, may be retained by the New Jersey School of Architecture, HCAD, NJIT, teacher or faculty member for accreditation purposes, academic reference, design competitions, conferences, papers, institute publications, public display, whether in print and online. NJSoA/HCAD/NJIT retains the right to a copy of all academic material prepared by students in conjunction with all courses and research. Student work includes preliminary and final academic work including physical models, digital images, prints, drawings, and their digital source files.

Only students enrolled in this specific course are to have access to the educational and reference materials provided.

All reference materials provided on-line, via electronic communication or as part of classroom instruction, including but not limited to videos, music, sounds, books, e-book links, journal and magazine articles, online images, links to any other publication, tutorials, images, models, articles, writings, diagrams, drawings are to be used in conjunction with this academic course's assignments only, and cannot be retained, copied, distributed or used for any other purpose or at any other location.

All educational and reference materials are to be deleted completely, including from all storage devices, no later than the end of the last exam day of the semester. They are not to be shared or retained for any other purpose, or in any form, beyond the direct use for academic assignments.

Academic presentations, reviews, discussions, notes, recordings or other materials and references which are part of the course materials and references are not to be transmitted, shared, posted online, made publically accessible, or to be used by any person not enrolled in this course, or other third party without the written permission of the course Coordinator.

All in-class or online discussions, formal and informal reviews which are part of this course are not to be screen captured, recorded, transmitted, shared, posted online, made accessible or made public at any time or in any manner without the express written permission of the instructor and guest critics.

Students, whether on or off campus, attending class, participating in field trips, engaged in model making or any other academic activity are responsible for their own safety and well- being. Faculty, teachers and guest critics accept no responsibility, directly or implied, for the safety, health, actions or inactions of any student or group of students regardless of their age or circumstance.

Registering for the course, accessing any course material or attending any meeting of the course in person or remotely, confirms your acceptance of all the rights and conditions listed above.