

FUTURE FRAMEWORKS / NYC

A Design Research Studio on Infrastructure, Equity and Ecology

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ARCH 5501 Graduate Topical Studio
Fall 2021, M/W/F, 1:00-4:50pm, Architecture Bldg, Room 602
Texas Tech University College of Architecture
Dr. Jeffrey S. Nesbit, H. Deane Pearce Chair

Infrastructure is now the critical subject in urbanism. The potential utility and technological imaginary of infrastructural systems are confronted by its contingencies in culture, the environment, and politics. Perhaps the traditional discourse of “infrastructural urbanization” understood infrastructure as existing in a space between skepticism and positivism. How do environmental and political challenges—and, more importantly—responses to those challenges, present themselves as a design formulation with infrastructure as its central figure? Cultural representation is the means for imagining alternative futures. In other words, the role of infrastructure and the material conditions from which infrastructures emerge are neither politically neutral nor culturally muted. This design research studio focuses on defining relational infrastructure and urban modeling strategies by increasing public access, providing equitable alternatives, and elevating ecologies for better urban futures.



207th MTA Rail Yard, Inwood, New York, NY

“No longer simply what is hidden or beneath another urban structure, many infra-structures are the urban formula, the very parameters of global urbanism.”

- Keller Easterling, 2011
Yale University

ARCH 5501
FUTURE FRAMEWORKS / NYC
A Design Research Studio on Infrastructure, Equity and Ecology

Arch 5501-5503 Topical studio that explores design, theoretical and/or technological issues that affect current architectural thought and practice.

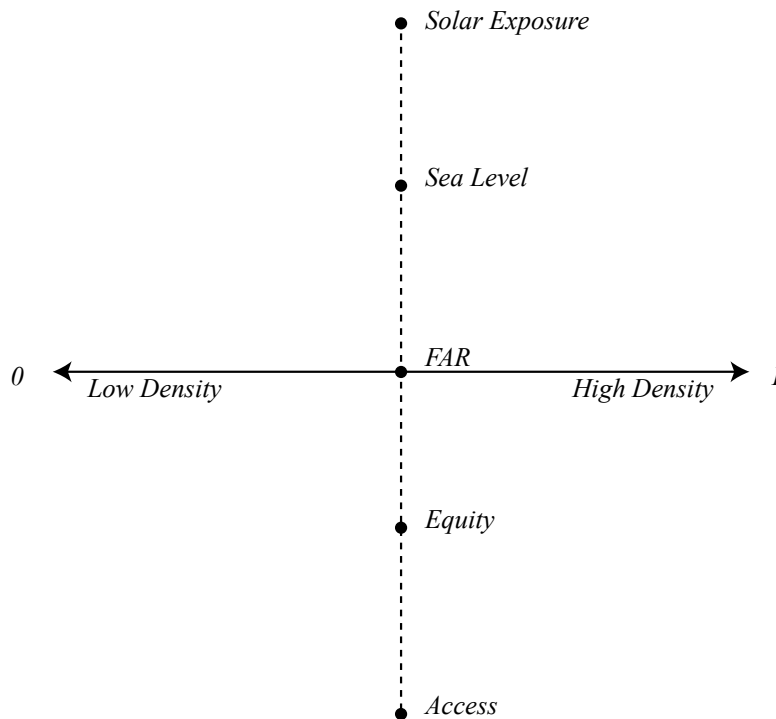
Arch 7000 – Research 1 Semester Credit Hours
Research course in which students will learn and demonstrate the core skills necessary to draft a thesis or generate an alternative research project.

Infrastructure is political. Recently, President Biden’s Bipartisan Infrastructure Framework bill seeks to update and provide new forms of clean and sustainable transportation, water, and energy infrastructures. It becomes the social hegemony of power driven by consequential definitions of infrastructure and the agendas that it supports. While fifteen years ago, landscape urbanist discourse engaged logistics, ecology, and impacts of decentralization, infrastructure now arises as a critical subject. Infrastructure becomes the operational method for producing political and cultural imaginations.

For this studio, we ask critical questions and interrogate the role of the architect, specifically from the lens of landscape urbanism. Such infrastructures can then be understood as political imaginaries for elevating forms of resiliency, ecology, and environmental equity. At the scale of a region, neighborhood, or block, how can design and design research provide alternatives in relational urban modeling, ecological planning, and revisiting redundant and obsolete urban infrastructures to increase public access and equality. This semester, working closely with a New York based developer and local architecture office, we will use the case of Inwood, the northmost neighborhood on Manhattan, to explore strategies across its diverse context, including the Harlem River waterfront, MTA rail yard, and a culturally rich history of working and immigrant families.

The studio, although diverse in specific categorical themes, will follow five fundamental recommendations related to the future of urban infrastructure:

- ⇒ Equity must be made fundamental to urban design and planning;
- ⇒ infrastructure and utility easements should become public space: *active* and *accessible*;
- ⇒ alternative models for housing must be built on innovative forms of infrastructure;
- ⇒ zoning should mitigate questions of density beyond FAR;
- ⇒ “green space” must become more than manicured parks: *porous* and *productive*.



The architectural design project for the semester will provide suitable challenges for students to explore issues stated in the course description and learning goals as described in the NAAB Program and Student Criteria. An overview of the design project is presented during the first studio meeting. Assignment briefs are provided at appropriate intervals during the semester (see schedule) for various phases of the design project including digital documentation requirements. A final Digital Document is required of each student that communicates completion of all phases of the design project.

The studio is organized in seven modules: Survey, Geography, Topography, Typology 1, Resiliency, Adaptability, Typology 2. Each module of the studio will be accompanied by a series of select assignments. It is required that each series of assignments are completed and made available upon the conclusion of each module. Intentionally each segment will build upon the previous exercises to advance the studio project into a comprehensive collection of ideas, propositions, and architectural drawings.

SCHEDULE

- Wk 1 *introductions*
Aug 23 all school meeting – studio lottery
Aug 25 studio overview
Aug 27 studio group meeting
- Wk 2 SURVEY – Design Research
Aug 30 desk crits
Sep 01 desk crits
Sep 03 all studio presentations
- Wk 3 GEOGRAPHY - Political Mapping
Sep 06 *University holiday – no class meetings*
Sep 08 lecture
Sep 10 all studio presentations
- Wk 4 TOPOGRAPHY – Site Earthmoving
Sep 13 lecture
Sep 15 desk crits
Sep 17 all studio presentations
- Wk 5 TYPOLOGY 1 – Relational Logics
Sep 20 lecture
Sep 22 *no class meeting*
Sep 24 all studio presentations
- Wk 6 -
Sep 27 lecture
Sep 29 desk crits
Oct 01 design review I mockup
- Wk 7 -
Oct 04 **Design Review I**
Oct 06 post-review meetings
Oct 08 desk crits
- Wk 8 RESILIENCY - Environmental Systems
Oct 11 lecture
Oct 13 desk crits
Oct 15 all studio presentations
- Wk 9 -
Oct 18 lecture
Oct 20 desk crits
Oct 22 all studio presentations
- Wk 10 ADAPTABILITY - Design Morphology
Oct 25 lecture
Oct 27 desk crits
Oct 29 all studio presentations
- Wk 11 -
Nov 01 lecture
Nov 03 desk crits
Nov 05 all studio - student presentations

Wk 12 TYPOLOGY 2 – Relational Logics (redux)

Nov 08 design review II mockup

Nov 10 desk crits

Nov 12 **Design Review II**

Wk 13 -

Nov 15 desk crits

Nov 17 desk crits

Nov 19 all studio presentations

Wk 14 *revisions*

Nov 22 virtual crits

Nov 24 *University holiday – no class meetings*

Nov 26 *University holiday – no class meetings*

Wk 15 FINAL DOCUMENTATION

Nov 29 virtual meetings

Dec 01 super jury

Dec 03 *no class meeting – all studio work due*

GRAPHICS

Along with the typical rules in architectural drawing, a graphic standards list will be shared with the students by August 27th. You will be given specific instructions on drawings, models, and their pertinent scales at each submittal phase. Intermediate internal reviews will occur often and expect each student to be actively engaged in the discussions as well as being prepared for scheduled virtual pin-ups on Miro and virtual desk critiques. All drawings in the studio must follow these required drawings standards, they are not recommendations. General guidelines include:

- ⇒ no color (and desaturate all images);
- ⇒ no perspectives;
- ⇒ sheet sizes (8.5”x11” and 11”x17”, depending upon the drawing and orientation);
- ⇒ line weights (five different line weights, nothing thicker than 1.2 pt or smaller than .10);
- ⇒ line types (various dash types, including double dash, and dash-dot-dot);
- ⇒ hatch types (5 or 6 types from Illustrator, including one solid with 3 different grayscales);
- ⇒ projection types (only 3 types: 0 degrees frontal, 60 degrees oblique, and 45 degrees military projection);
- ⇒ general scales of drawing (prefer engineering scales, no need to be too concerned with the architectural scale as we will need to make adjustments along the way);
- ⇒ drawing labels, and text/font sizes should be consistent across the studio (Times New Roman: 8pt for captions, 10pt for labels/annotations, and 14pt bold for drawing titles in upper left-hand corner);
- ⇒ signs and symbols – the same graphic scale and north arrow to be used across all drawings;
- ⇒ entourage – should provide the same entourage (in vector format) for plan and elevations (trees, people, cars, should be consistent too).

REFERENCES

- Andrea Branzi, *Weak and Diffuse Modernity: The World of Projects at the Beginning of the 21st century* (Milano: Skira, 2006).
- Antoine Picon, "Urban Infrastructure, Imagination and Politics", in *International Journal of Urban and Regional Research*, vol. 42, n°2, March 2018, pp. 263-275.
- M. Christine Boyer, *CyberCities: Visual Perception in the Age of Electronic Communication* (New York: Princeton Architectural Press, 1996).
- Charles Waldheim, *Landscape as Urbanism* (Princeton: Princeton University Press, 2016).
- Jean Gottmann, *Megalopolis: The Urbanized Northeastern Seaboard of the United States* (New York: Twentieth Century Fund, 1961).
- Keller Easterling, *Extrastatecraft: The Power of Infrastructure Space* (London: Verso, 2014).
- Maria Kaika, and Erik Swyngedouw, "Cities, Natures, and the Political Imaginary", in *AD: Architectural Design*, 82 (3), 2012, 22-27.
- Matthew Gandy, *Concrete and Clay: Reworking Nature in New York City* (Cambridge, Massachusetts: MIT Press, 2002), Chapter 2, "Symbolic Order and the Urban Pastoral," pp. 77-113.
- Michel Desvigne, *Intermediate Natures* (Basel: Birkhauser, 2009).
- Mostafavi, Mohsen and Gareth Dorehty, *Ecological Urbanism* (Cambridge and Baden: Harvard University Graduate School of Design, Lars Müller, 2010).
- Neeraj Bhatia, *New Investigations in Collective Form* (Barcelona: Actar, 2019).
- Nina-Marie Lister and Chris Reed, "Introduction," and "Parallel Genealogies," *Projective Ecologies* (Barcelona: Actar, 2013), 14-39.
- Niall Atkinson, Ann Lui, Mimi Zeiger, *On Dimensions of Citizenship* (Venice Biennale, Inventory Press, 2018).
- Pierre Bélanger, "Metabolic Landscape," *Landscape as Infrastructure* (New York: Routledge, 2017), pp. 334-357.
- Rania Ghosn and El Hadi Jazairy / DESIGN EARTH, *Geostories: Another Architecture for the Environment* (Barcelona: Actar, 2018).
- Stan Allen, "Infrastructural Urbanism", in *Points + Lines: Diagrams and Projects for the City* (Princeton: Princeton Architectural Press, 1999).
- Stephen Graham, Simon Marvin, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition* (London, New York: Routledge, 2001), Chapter 5, "The City as a Sociotechnical Process," pp. 178-216.
- Susan Snyder and Alex Wall, "Emerging Landscapes of Movement and Logistics," *Architectural Design Profile*, no. 134 (1998): 16-21.

RESOURCES

2021 Bipartisan Infrastructure Framework

<https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/24/fact-sheet-president-biden-announces-support-for-the-bipartisan-infrastructure-framework/>

2017 Inwood Action Plan

https://edc.nyc/sites/default/files/filemanager/Projects/Inwood_NYC/InwoodNYCActionPlan_english_digital.pdf

NYCx Challenges

<http://www.nyc.gov/html/nycx/challenges.html>

NYC Rezoning Tracker

<https://morr.maps.arcgis.com/apps/MapSeries/index.html?appid=e53a9d13cad442829c5db6c7bc1b16d8>

History of Sherman Creek

<https://myinwood.net/inwoods-sherman-creek-power-generating-station/>

SOFTWARES

Please note only the following software is allowed in the studio: Rhino, Grasshopper, Adobe Suite (Illustrator, Photoshop, InDesign), and ArcGIS. AutoCAD 3D and Sketchup are not allowed in the studio. It is also important to make sure you have your machines updated regularly, backup files daily, and maintain a clean and healthy workflow throughout the semester.

EVALUATIONS

Evaluation of student performance is based upon daily studio process as well as product. Production and hard work are expected. Improvement and growth are key. The instructor conducts an expert review of overall student performance following major stages of the semester. This is not a quantifiable, exact, or mathematical assessment. It is based on years of experienced judgment of student work. The following general criteria will be considered: (1) strength of idea; (2) articulation and development; (3) technical competency, clarity, and craft; (4) concise verbal/written presentation and the ability to ask relevant questions; (5) passion, commitment, dedication and work ethic. All requirements and deadlines must be completed in a timely manner. Extensions to due dates will not be granted. *Note: Expect a substantial reduction of your grade for late or incomplete work.*

Participation/Contribution	10%
Design Review I	25%
Design Review II	25%
Final Documentation	40%
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	100%

POLICIES (Pandemic Related)

Face Covering Policy: As of May 19, 2021, face coverings are now optional in TTU facilities and classrooms, and all other COVID-19 campus protocols have been lifted. It is HIGHLY recommended that those who have not been vaccinated for COVID-19 wear face coverings to help prevent the spread of the virus.

Seating Charts and Social Distancing: There is no longer a mandated social distancing protocol for classroom seating, but diligence is encouraged when indoors and not wearing masks. A seating chart might be used in the classroom to facilitate attendance, class interactions and other in-class engagement activities.

Illness-related Absences: Instructors of Record may revert to their pre-pandemic absence policies regarding illnesses but take into consideration the variant effects of COVID-19 on people when students report absence due to the virus (e.g., some may need extended days of absences and time to make up missed work).

In-Person Office Hours: It is highly recommended to have office hours remotely on Zoom. Office hours are by appointment only and a link will be provided in advance.

Personal Hygiene: We all should continue to practice frequent hand washing, use hand sanitizers after touching high-touch points (e.g., door handles, shared keyboards, etc.), and cover faces when coughing or sneezing.

Potential Changes: The University will follow CDC, State, and TTU System guidelines in continuing to manage the campus implications of COVID-19. Any changes affecting class policies or delivery modality will be in accordance with those guidelines and announced as soon as possible.

POLICIES

Academic Regulations

For all Matters Consult the Texas Tech University 2021-2022 Undergraduate and Graduate Catalog

Civility in the Classroom

Students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, students are prohibited from engaging in any other form of distraction. Inappropriate behavior in the classroom shall result, minimally, in a request to leave class, resulting in an absence. Statement of Ethical Principles

Academic Integrity Statement

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and a high standard of integrity. The attempt of students to present as their own any work they have not honestly performed is regarded by the faculty and administration as a serious offense and renders the offenders liable to serious consequences, possibly suspension. Academic integrity is taking responsibility for one's own class and/or coursework, being individually accountable, and demonstrating intellectual honesty and ethical behavior. Academic integrity is a personal choice to abide by the standards of intellectual honesty and responsibility. Because education is a shared effort to achieve learning through the exchange of ideas, students, faculty, and staff have the collective responsibility to build mutual trust and respect. Ethical behavior and independent thought are essential for the highest level of academic achievement, which then must be measured. Academic

achievement includes scholarship, teaching, and learning, all of which are shared endeavors. Grades are used to quantify the successful accumulation of knowledge through learning. Adhering to the standards of academic integrity ensures grades are earned honestly. Academic integrity is the foundation upon which students, faculty, and staff build their educational and professional careers. [Texas Tech University Quality Enhancement Plan, Academic Integrity Task Force, 2010] Students must understand the principles of academic integrity and abide by them in all classes and/or coursework. Academic integrity violations are outlined in the Code of Student Conduct, Part X, B3 of the Student Handbook. If there are questions of interpretation of academic integrity policies or about what might constitute an academic integrity violation, students are responsible for seeking guidance from the faculty member teaching the course in question. "Academic dishonesty" includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor(s) or the attempt to commit such an act). TTU Academic Catalog: Academic Integrity

Attendance

Students are allowed up to two unexcused absences during the semester. Arriving late to class, working on anything other than class work and departing early will be considered as absences. Absence due to religious observance: The Texas Tech University Catalog states that a student who is absent from classes for the observance of a religious holy day will be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. Notification must be made in writing and delivered in person no later than the 15th class day of the semester. Absence due to officially approved trips: The Texas Tech University Catalog states that the person responsible for a student missing class due to a trip should notify the instructor of the departure and return schedule in advance of the trip. The student may not be penalized and is responsible for the material missed. Whether an absence is excused or unexcused is determined solely by the instructor except for absences due to religious observance and officially approved trips described above. Students are responsible for attending class.

Religious Holy Day Statement

"Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20. A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. A student who is excused under section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

Disabilities

Students with disabilities will find numerous programs designated to coordinate academic accommodations and promote access to every phase of university life. Such programming is coordinated through Student Disability Services. SDS personnel oversee and coordinate programs to ensure accessibility on an individual basis to students with disabilities. Texas Tech strives to provide all students equal access to a college education and support in adjusting to the college experience. Prospective and current students interested in receiving more information regarding programs for students with disabilities should contact: Student Disability Services, 335 West Hall, 806.742.2405 or visit online at www.studentaffairs.ttu.edu/sds. Email: sds@ttu.edu

Grading

The grades used, including plus and minus, with their interpretations, are A, excellent; B, good; C, average; D, inferior (passing, but not necessarily satisfying degree requirements);

F, failure; I, incomplete; and W, withdrawal (not to be confused with a drop). The letter R designates a course repeated to remove an I. The grade of I is given only when a student's work is satisfactory in quality but, due to reasons beyond his or her control, has not been completed during the regular semester. The studio professor reserves the right to refuse to grade work that is incomplete, extremely late, does not meet requirements, is substantially inferior in quality, or is poorly displayed. Any work submitted after the time and date scheduled will receive a reduction in grade, unless the circumstances-documented illness or death, unusual acts of nature, family crisis-warrant consideration by the faculty and constitute a valid justification. As per University policy, all work submitted to the professor becomes the property of the University.

Reporting Illness and Deaths

In case of an illness that will require absence from class for more than one week, the student should notify his or her academic dean. The dean's office will inform the student's instructors through the departmental office. In case of class absences because of a brief illness, the student should inform the instructor directly. Other information related to illness can be found in the Student Handbook. The Center for Campus Life is responsible for notifying the campus community of student illnesses, immediate family deaths and/or student death.

Discrimination, Harassment, and Sexual Violence

Texas Tech University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from gender and/or sex discrimination of any kind. Sexual assault, discrimination, harassment, and other Title IX violations are not tolerated by the University. Report any incidents to the Office for Student Rights & Resolution, (806)-742-SAFE (7233) or file a report online: <http://www.depts.ttu.edu/titleix/>

LGBTQIA Support Statement

Within the Center for Campus Life, the Office serves the Texas Tech community through facilitation and leadership of programming and advocacy efforts. This work is aimed at strengthening the lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA) community and sustaining an inclusive campus that welcomes people of all sexual orientations, gender identities, and gender expressions. Office of LGBTQIA, Student Union Building Room 201, www.lgbtqia.ttu.edu, 806.742.5433

ADA Statement

Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as possible to make necessary arrangements. Students must present appropriate verification from Student Disability Services during the instructor's office hours. Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services office in 335 West Hall or call 806-742-2405

TTU Statement of Ethical Principles

Texas Tech University is committed to the values of mutual respect; cooperation and communication; creativity and innovation; community service and leadership; pursuit of excellence; public accountability; and diversity:
<http://www.depts.ttu.edu/officialpublications/catalog/EthicalPrinciples.php>

Retention of Work

The college of Architecture reserves the right to retain, exhibit, and reproduce work submitted by students. Work submitted for grade is the property of the college and remains as such until it is returned to the students.