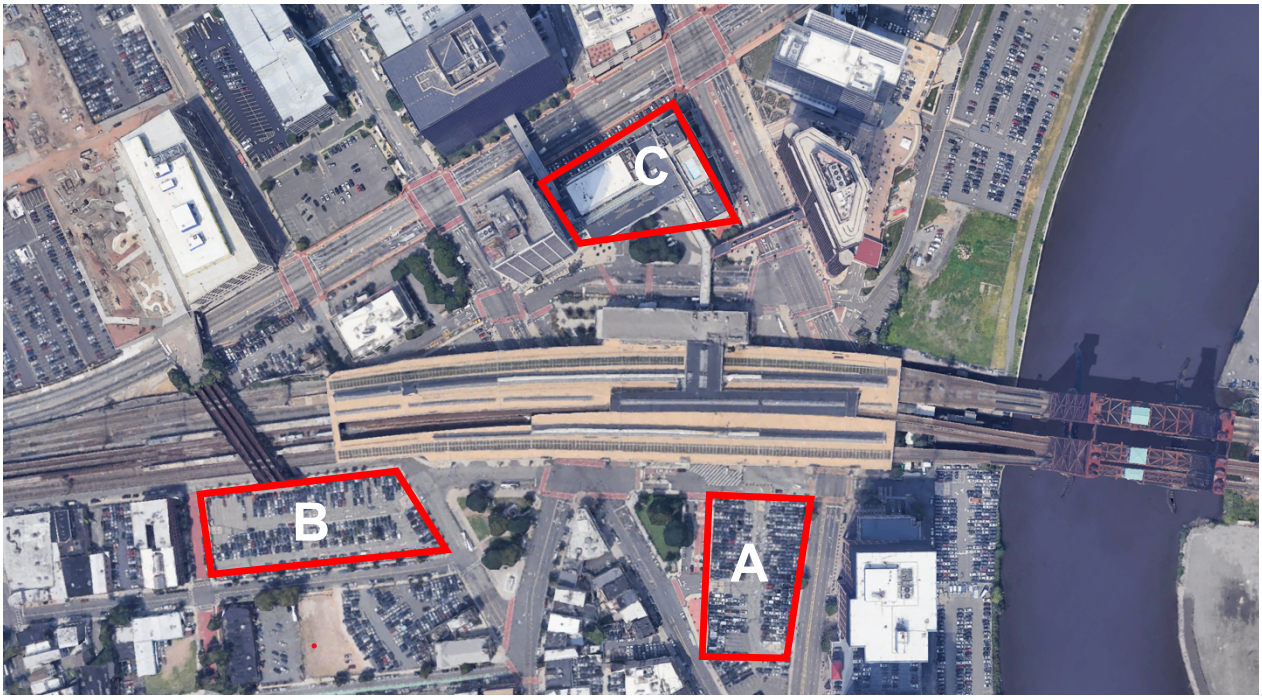


Penn Station Studio

Darius Sollohub

This proposal will conduct a studio that anticipates a $190 million Request for Proposals that will soon be issued for improvements to Newark's Penn Station and its environs. Working with the sponsorship of the design team of WSP | FX Collaborative, the studio will design areas adjacent to the station that will inform future proposals for the sponsor. The studio will have the benefit of drawing on past Penn Station design work sponsored by Edison Properties in the fall of 2017 in a studio taught by Darius Sollohub, and the investigation into redesign of the Gateway Complex in a fall 2020 studio sponsored by Onyx Development and taught by Roger Smith.

The effort will begin with student teams proposing urban design strategies for pedestrian, bicycle, vehicular, bus circulation, outdoor programming, and retail that will take up the first month of the semester. The remainder will focus on designs by individual students for a mixed use building on three parcels adjacent to the station (see above). The program for mixed use will include housing, retail, amenities, institutions, and parking. The final products will be amassed in a package that will inform future strategies for the station.

The studio will work in concert with and seek direction from WSP | FX Collaborative staff, community stakeholders, and other agency and municipal officials. WSP | FX Collaborative team leadership will serve as the liaison to the studio and will convene juries of critics. Student designs will offer a repertoire of strategies that may be used in the final design, which will be completed around 2025. Therefore, student design can potentially have a profound impact on the eventual outcome.

The studio will be the sixth in an annual series of projects in Newark coordinated with various agencies. The studio's methods will include stakeholder outreach using gallery style reviews (if possible, at that time), building upon approaches developed by Professor Sollohub in previous work supported by Audible, Edison Properties, the Prudential Foundation, and NJIT. As in the past, the sponsor will support funding of 2D and 3D printing. This studio, as well as recent efforts, follow the trajectory of the Professor's twenty-plus years conducting urban research supported by funding and independently published.

Option Studio

Fall 2021

How can Newark lead the way toward an equitable post-carbon future?

Justine Shapiro-Kline // jshapirokline@gmail.com

This studio will translate the core goals of the Green New Deal—decarbonization, justice, and jobs—into a roadmap for a more equitable and sustainable city, synthesizing research, community engagement, and architectural design to create proposals for the future of Newark's industrial east side. Once a leader for industry and manufacturing, Newark has an opportunity today to lay the groundwork for a new generation of green industries to the city, investing in renewable energy, logistics, agriculture, and research around Newark Liberty International Airport, while reinventing these former wetlands to adapt to a rapidly changing climate.

Building on the research and findings of Arch 504G, Equitable Newark: A Green New Deal (Spring 2021), the studio will be motivated in part by the premise of the Green New Deal Superstudio, which aimed to advance "a national conversation about how the framework of the Green New Deal can be translated into actual projects and where, as a matter of priority these projects should take place, what will they look like, who will they serve, and how will they roll out."

Design is political, and politics play out in space. The studio will bridge policy and advocacy with spatial planning and technical design; it will connect site-specific decisions with municipal, regional, and national initiatives. The studio will collectively imagine a future Newark that leverages economic, social, and physical transformation to lead carbon emissions reduction, and in so doing move the national conversation forward on concrete methods to transform society and reclaim urban space for health, equity, and access.

Over the course of the semester, students will gain familiarity with design and planning research tools, policy analysis, stakeholder mapping and engagement, and urban design while strengthening their core design skills through the conceptual development of mixed-use building proposals for the future of green industry. The studio will begin with a series of investigations and studies that lead to the development of a post-carbon urban framework for the revitalization of Doremus and progress to site-specific architectural proposals that support environmental justice and create well-paid, sustainable industrial jobs in Newark. The studio will partner with one or more local community organizations to introduce students to a collaborative, iterative, and engaged model of practice with community priorities at the center of the work.

RADICAL ADDENDA

Envisioning a Code for the Climate Crisis

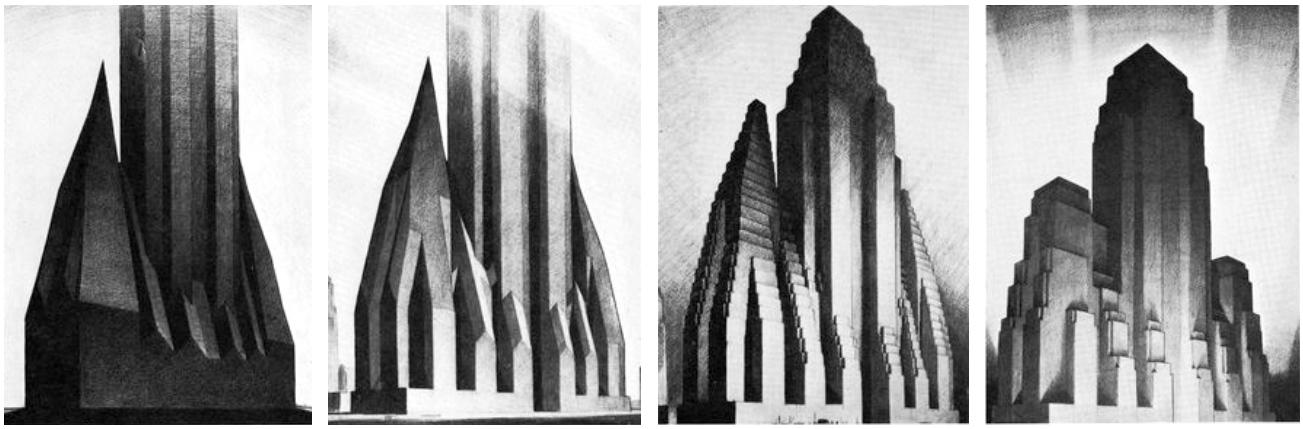
Instructor: Christopher Gardner

Option Studio or ARCH 495

"*The climate crisis is also a crisis of culture, and thus of the imagination.*" - Amitav Ghosh

According to the 2018 report by the United Nations Intergovernmental Panel on Climate Change (IPCC), the world has only 12 years to halt carbon emissions before we face global catastrophe. For architecture, which accounts for 30-40% of carbon emissions, this will require immediate and radical change of our building practices.

The task at hand, to fundamentally redesign our buildings, is certainly monumental, but not without precedent. At the beginning of the 20th century, New York City faced a similarly urgent need to reshape the built environment. In 1915 the Equitable Building finished construction in Lower Manhattan, it's 1.8 million square feet topping out at 528 feet but occupying no more than a single acre. The building cast permanent shadow over its surrounding streets and buildings, prompting fear among the public that buildings would soon blot out the sky. Soon thereafter, the first citywide zoning code in the United States was established: the Zoning Resolution of 1916. In it were new height restrictions and setback requirements for taller buildings, with the goal of preventing new buildings from blocking light and air at street level. While the initial concern had been righted, it wasn't until Hugh Ferriss illustrated it's effects that the underlying potential of these codes would be truly understood. Through these illustrations and similar visionary work by the architect Raymond Hood, the "setback" style soon came to dominate high-rise architecture in New York and beyond for the decades following. It is with this combination of policy and vision, that we can begin to approach the magnitude of change which the climate crisis requires.



Hugh Ferriss, from "The New Architecture," *The New York Times*, March 19, 1922.

More recently, a much more subtle, but nonetheless impactful change has occurred. The "stick-frame-over-podium" building type was first established in the 2009 International Building Code. The code was the first to allow for mid-rise buildings constructed of wood framing on a concrete base. Soon after the revised code became current, developers seized on the new typology, exploiting its higher density and cheaper construction materials and methods. Often called a "5-on-1" "6-on-1" or "5-on-2" this new building type has gradually come to define much of the urban development in US cities within the past decade. These buildings are noticeable by their typically letter-shaped plans (H, O, C, etc.), ground floor parking and flat, unrelenting facades. In this example, the code change came without any clear vision, leaving us with uninspired buildings which we choose to ignore rather than embrace, when they nonetheless represent radical change.

COURSE DESCRIPTION

The goal of this studio is to engage both policy and vision equally, utilizing the building code itself as the mechanism for change and backing it up with compelling visions of its implementation. These "Radical Addenda" will be formulated as hypothetical additions to the upcoming IBC 2021 with the primary goal of addressing the climate crisis and reducing carbon in the atmosphere.

WEEKS 1-4: RESEARCH PHASE

During this phase students will investigate the various codes at work in a given building as well as learn about emerging sustainable construction methods. This will include deep investigations into prevailing codes and standards inlolved in the built environment. This phase will also incorporate a weekly seminar component intended to introduce students to the broader climate debate within architecture through readings and discussion. `

To organize and present their research, students will select a building code "case-study" and demonstrate its impact on building form, materiality, and spatial experience. The goal being to reveal the underlying architectural design of these code texts. This will take the form of highly detailed axonometric and/or perspective drawings.

WEEKS 5-16: DESIGN PHASE

During this phase students will be asked to write an addendum to the upcoming 2021 International Building Code. These "Radical Addenda" will directly target combating the climate crisis. These addenda will need to balance applicability with radicality to create a convincing case while also providing the fundamental change needed.

Along with this code text, students will then demonstrate the implementation and impact of their addenda across multiple scales utilizing varying media:

- A building detail model (1:1)
- A full building (1:100)
- A neighborhood (1:1,000)
- A climate region (1:100,000)
- The planet (1: 10,000,000)

These representations are the primary outcome of this studio and should focus on providing a persuasive and intriguing vision. Students will use these representations to continually test their addenda, accounting for all consequences, no matter how far-reaching. These representations should strive to show not only the resulting architecture but also the impact on labor, equality, and our way of life.

PROVOCATIONS

Adaptation vs. Prevention

Flooding/Resilience

Timber Construction

Equity

Rights of Construction Workers

The Anti-Suburb

The Good Suburb

Symbiosis with Nature

White Roofs / Solar Power

Plastic-Free

Degrowth

Building for Demolition

Zero Waste

Net Zero Carbon

Re-Wilding

Engineered Sinks

Increasing Density

Bio Materials

Local Materials

The Rural / Urban Divide

New Contract Structures

New Project Delivery Systems

New Models of Ownership

Agriculture and Food Production

Option Studio or ARCH 495

Preserving the Future of the James Street Commons Historic District

Kevin Hofmann

01_intro

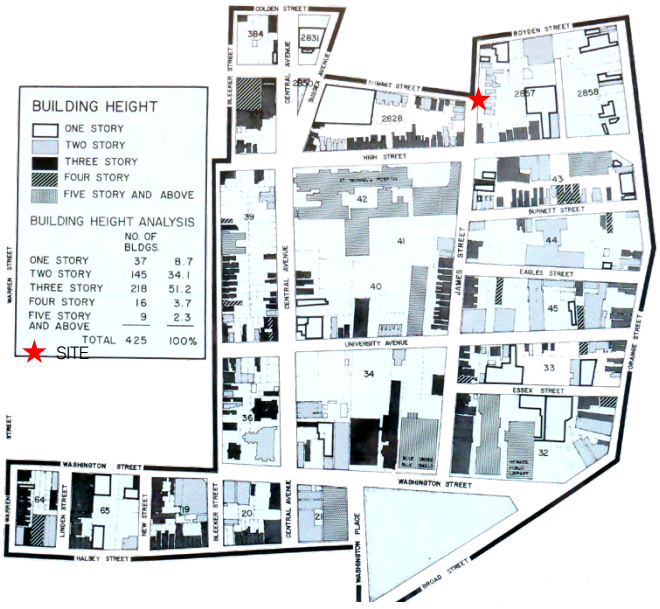
The James Street Commons Historic District is one of Newark's oldest and largest concentrations of brick and masonry townhomes dating back to the late 19th century. In the mid-1970's, this twenty-four-block district was listed on the National Register of Historic Places, and was designated a "Preserve America Community" by the national Advisory Council on Historic Preservation in 2012. Phase 1 of NJIT's Gateway Plan, already underway with the acquisition of several sites within the Commons along MLK Blvd., requires a thorough documentation of existing conditions before any preservation, rehabilitation, or redevelopment can occur. **This options studio uses the initial documentation of MLK Blvd. as a springboard for spatializing the potential impact NJIT's continued expansion has on both proximate and regional scales.**

02_learning content + goals

After building a 3D digital model of the Commons (with particular attention paid to the frontage along MLK Blvd), the remaining semester will be spent considering the future of 249 – 257 MLK Blvd., the northeastern anchor of Phase 1 and a northern threshold to the University Heights neighborhood. This studio offers a unique learning opportunity for students to operate in our local context and grapple with the essential tenants of historic preservation – treatment strategies, the concept of "authenticity," and material conservation. Studio partners would include, but not be limited to, Andrew Christ of the President's Office (who has also offered to fund the creation of the 3D digital model), NJ's State Historic Preservation Office, and the Newark Preservation and Landmarks Commission.

03_deliverables + program

a. develop 3D modeling of the James Street Commons Historic District to be published on multiple platforms including, but not limited to, NJIT's existing webpage about the James Street Commons Historic District (http://dana.njit.edu/items/show/453);
    i. the development of the 3D modeling shall be completed in consultation with the HPO and local constituents and approved by the HPO.
    ii. the development of the 3D modeling and publication of the final product shall be completed within 12 months of demolition of 62-69 Summit Street (Block 372, Lot 1 & 24) and 156 Central Avenue (Block 372, Lot 6 & 22).
    iii. this 3D modeling must be completed and approved by the HPO within 1 year of the demolition.
b. examine the northern anchor of this stretch, 249 – 257 MLK Blvd., as a site for mixed-use development;
    i. ground floor retail/office space for New Jersey Innovation Acceleration Center
    ii. space for HCAD graduate school of design
        + studios
        + review spaces
        + lecture halls
        + breakout rooms
    iii. graduate/visiting scholar housing

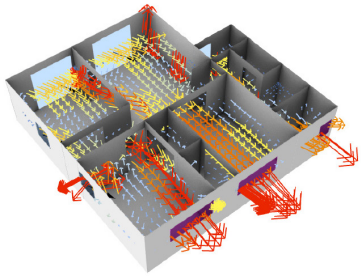


Option Studio or ARCH 495

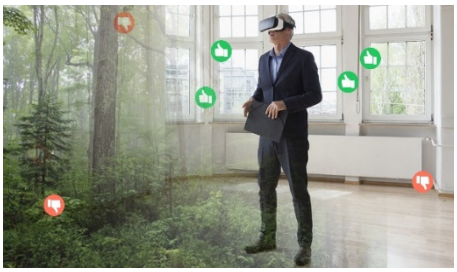
Transformable Places | Seeking Innovative Solutions for Climate Action and Urbanization
Instructor: Taro Narahara

The world is becoming increasingly more urbanized in recent years. According to the data released by the United Nations Department of Economic and Social Affairs, more than half the world's population has been living in cities since 2007, and that is projected to rise to 60% by 2030. Currently, cities and metropolitan areas contribute to 60% of global GDP. However, over 70% of global carbon emissions and 60% of the resource are used by them. Rapid urbanization has started to cause various problems, including inadequate infrastructure and services for water collection, sanitation, and transportation systems, pollution, urban sprawl, food shortage, and the growing number of slum dwellers.

In this studio, students are expected to explore unconventional, creative solutions in architecture and urban design to respond to such problems. Students are encouraged to research innovative ideas that promote sustainability and seek solutions for predicted climate change. Some of the suggested research topics include *integration of energy generation into a building's design; wind turbine technology; a city built around nature; a city without cars and streets; autonomous drone taxies; an aerial rideshare; AI-driven new services; vertical farming; hydroponic farming; a transformable design that respond to various changes in usage patterns and environmental conditions; etc.* We will focus not only on environmental performance but also on social and cultural issues in contemporary cities, such as the exponential increase in populations, diversifying cultural values associated with various conditions in public spaces, and undergoing socio-technological transformations.



While new technologies may help us improve our environmental conditions, our society is expected to encounter radical changes in our lifestyles due to the anticipated technological convergence. New technologies for the next century, such as autonomous cars and drones, cloud computing, wireless energy and communications, and artificial intelligence, could realize a transformative vision for a new kind of living for future generations. For example, autonomous habitable drones would allow us to live, work, and travel anywhere we like by functioning as mobile pods. Under such hypothetical circumstances, we will develop and acquire very different lifestyles, values, ethics, and social structures, and certainly, such changes will also influence our value system for the real estate market.



By nature, the studio is interdisciplinary, and experts in urban design, computer science, and related disciplines will be scheduled to visit virtually and share their thoughts. For the validation and assessment of environmental performance based on, for example, solar exposure, we will utilize Rhinoceros Grasshopper and its various Plugins such as Ladybug tools and some programming in Python (no knowledge in coding is required, but basic knowledge would be helpful), and Head-Mounted Displays (HMD) such as Oculus and Game Engines such as Twinmotion for visualizations. The instructor has promoted the use of VR beyond mere representation of design projects for years. We will further use the technology to evaluate, revise, and test digital models through the lens of VR.

Images (top to bottom): The Yilong Futuristic City Project developed by enzymeApd team in collaboration with TAKENAKA using the Twinmotion software, The OCT Xi'an International Center (OXIC) in Xi'an, China by EID Architecture, Air Flow analysis using Butterfly plugin, Thumbs up signs in VR associated with locations (a concept sketch for evaluations in VR), "Defy Reality", Oculus Rift Head-Mounted Display, Apocalyptic imagery by Tokyo Gensou.

As undergraduate students you may also take advantage of ARCH 601 or ARCH 602. To check if you qualify and to apply for the Dual Degree Program go here. Also complete this approval form and submit it to the registrar before you take the course(s) to ensure that the course(s) will count towards both degrees (As Option Studio for the Undergraduate and as graduate studio towards your MS ARCH or MUD*

The advantage is that you would pay undergraduate tuition for a graduate course and once you graduate from your undergraduate program you could apply up to 12 credits towards your graduate degree if you choose to also graduate from a MS Arch or MUD*

* MUD Master of Urban Design. Previously known as MIP we hope this program will become available this Fall once it is approved.

NJIT FALL 2021
INSTRUCTOR: GEORGEEN THEODORE IN COLLABORATION WITH THE GENERAL SERVICE ADMINSTRATION

ARCH 601/602

NEWARK'S NEW GREEN DISTRICT:

PUBLIC REALM FRAMEWORK AND PRIORITY PUBLIC SPACE PROJECTS

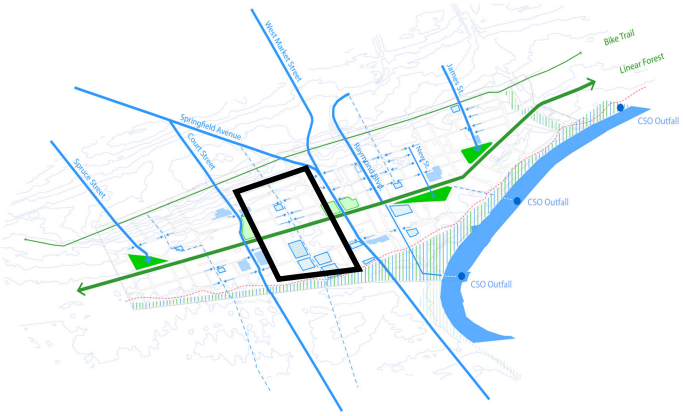


Image Credit: MIP Fall 2019 Studio, Studio site is outlined in black

PROJECT:

Working in collaboration with the United States General Service Administration (GSA), the City of Newark, and local stakeholders, the Fall 2021 Urban Design and Infrastructure Planning studio will develop a district-scaled framework for Newark's Federal core. The district consists of an "urban ensemble" of buildings including the Rodino Federal Building, the Lautenberg Post Office and Courthouse, the MLK Courthouse, Newark City Hall, and two privately-managed housing towers. Studio participants will create implementable schematic designs to improve the public space network of the district, which includes plazas, closed streets, and semi-public social spaces within the buildings.

The studio will build on the award-winning results of the Fall 2019 MIP studio, which include a wealth of base information and a highly detailed 3-d printed model. The GSA's Regional Chief Architect of the Design & Construction Division and his team will participate throughout the semester, which will conclude with a presentation to national leaders. Experts in blue-green infrastructure (in the public realm and at the scale of the building) and universal design will visit the studio throughout the semester and provide technical expertise. Therefore students will have the opportunity to not only build their skills, but also to network with professionals in planning, design, and government throughout the semester.

The studio offers an unprecedented opportunity for graduate students and ambitious undergraduate "options" level students to work with a real client and local stakeholders and to help shape future investments in Newark. This is particularly timely in light of President Biden's proposal for infrastructure investment, which seeks to address racial inequities and prioritizes historically underfunded cities such as Newark.

The studio will follow the three-phase MIP studio curriculum (mapping, frameworks, and demonstration projects) that was awarded Architect Magazine's top Studio Prize and the Sloan Award for sustainability:

The first phase, "Mapping the District" (four weeks) includes urban analysis, site assessment and stakeholder visualization. This first phase is organized around the use of an urban design "tool box," which will introduce students to the analytical methods and drawing techniques of urban design, including public life assessments, thematic mapping, stakeholder and user-focused analysis, and digital modeling. While students develop their urban design skills, they will simultaneously increase their knowledge and understanding of the site and the central issues of the project. The first phase will also include focus group meetings with the client and stakeholder groups, and a series of (socially-distanced) themed walks with experts.

The second phase, "Public Space Frameworks" (four weeks) focuses on the development of framework plans for the public realm of the district, using the principles of sustainability, equity, and inclusion to guide the work. Using the analysis of the first phase as a base, in the second phase, the studio will create an organizational "parti" that identifies the key problems to address and explains how to solve them. Frameworks typically includes organizational diagrams, drawings that explain the framework through different lenses (mobility, use/program, blue/green investments, etc.), visualizations of the overall vision, and phasing and implementation strategies.

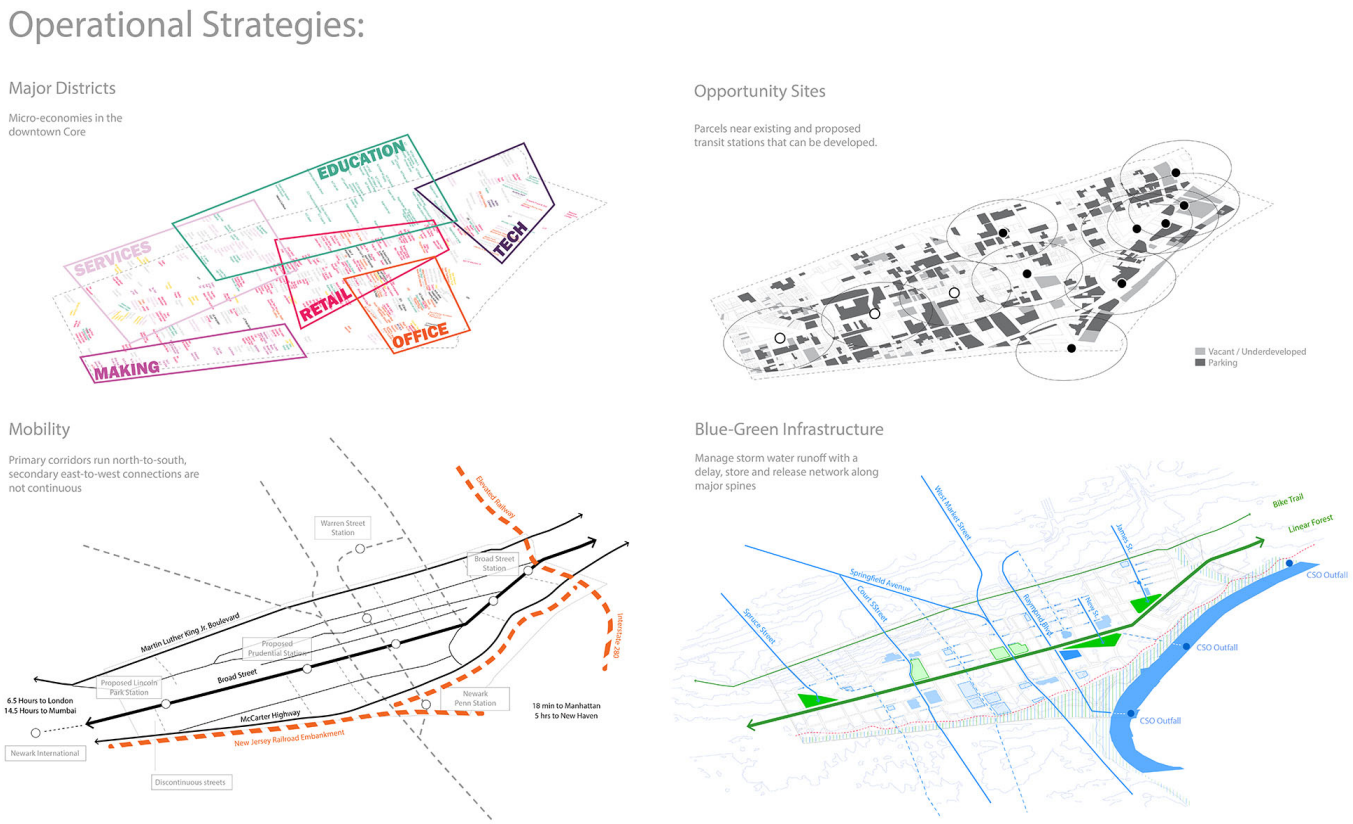


Image Credit: Fall 2019 MIP Studio

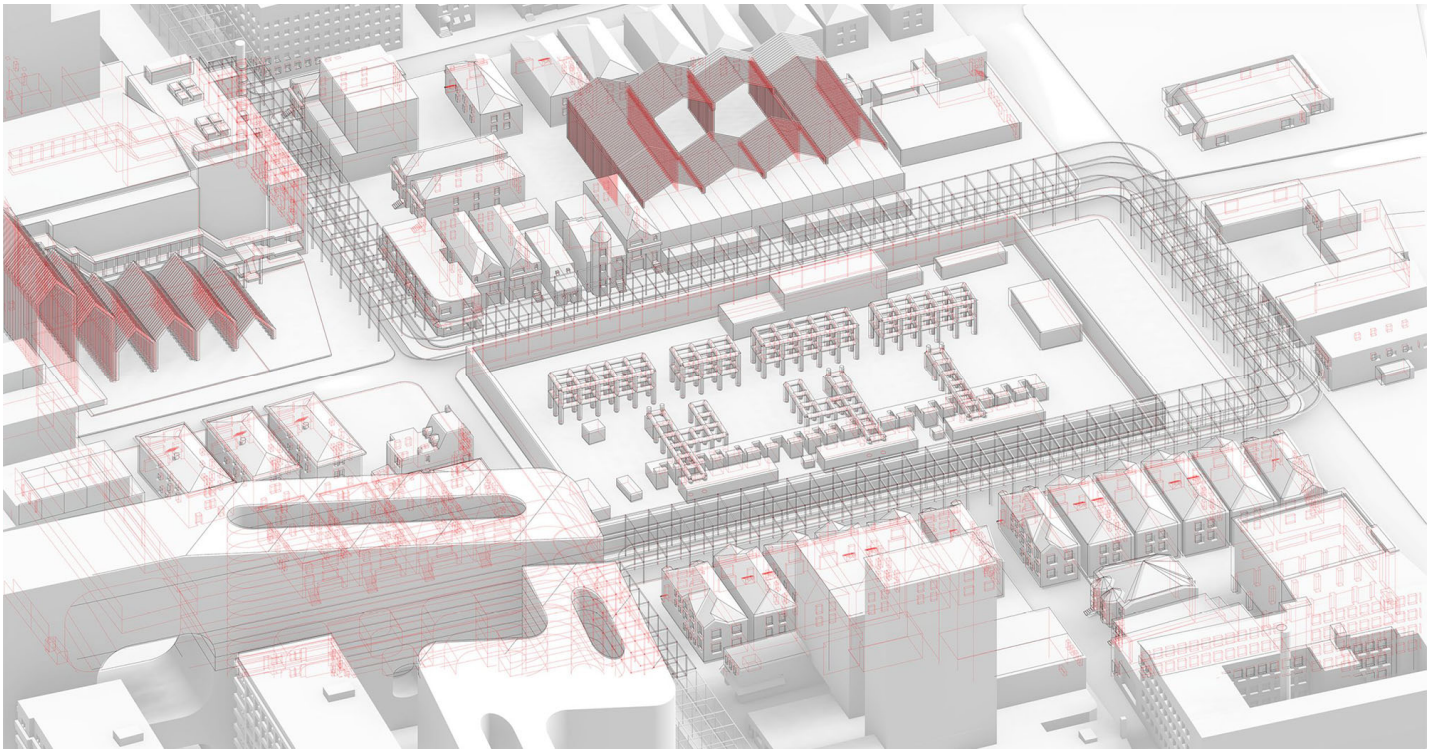


Image Credit: Eka Pramuditha, Fall 2019 MIP Studio

The third phase “Demonstration Projects” (five weeks) centers on the creation of catalytic, near-term projects. Each student will work independently or in a small group to develop a schematic design for the site. Projects should jump-start the urban framework created in the second phase. Projects can range from the design of plazas, pocket parks, community spaces, blue-green infrastructure, transportation improvements, new social spaces within the office buildings (such as cafes, contemplative spaces, active and passive recreational facilities), new development, etc. and will be selected based on student interest and in consultation with the instructor. The schematic designs will be developed to include phasing, governance/management plans, and implementation strategies.

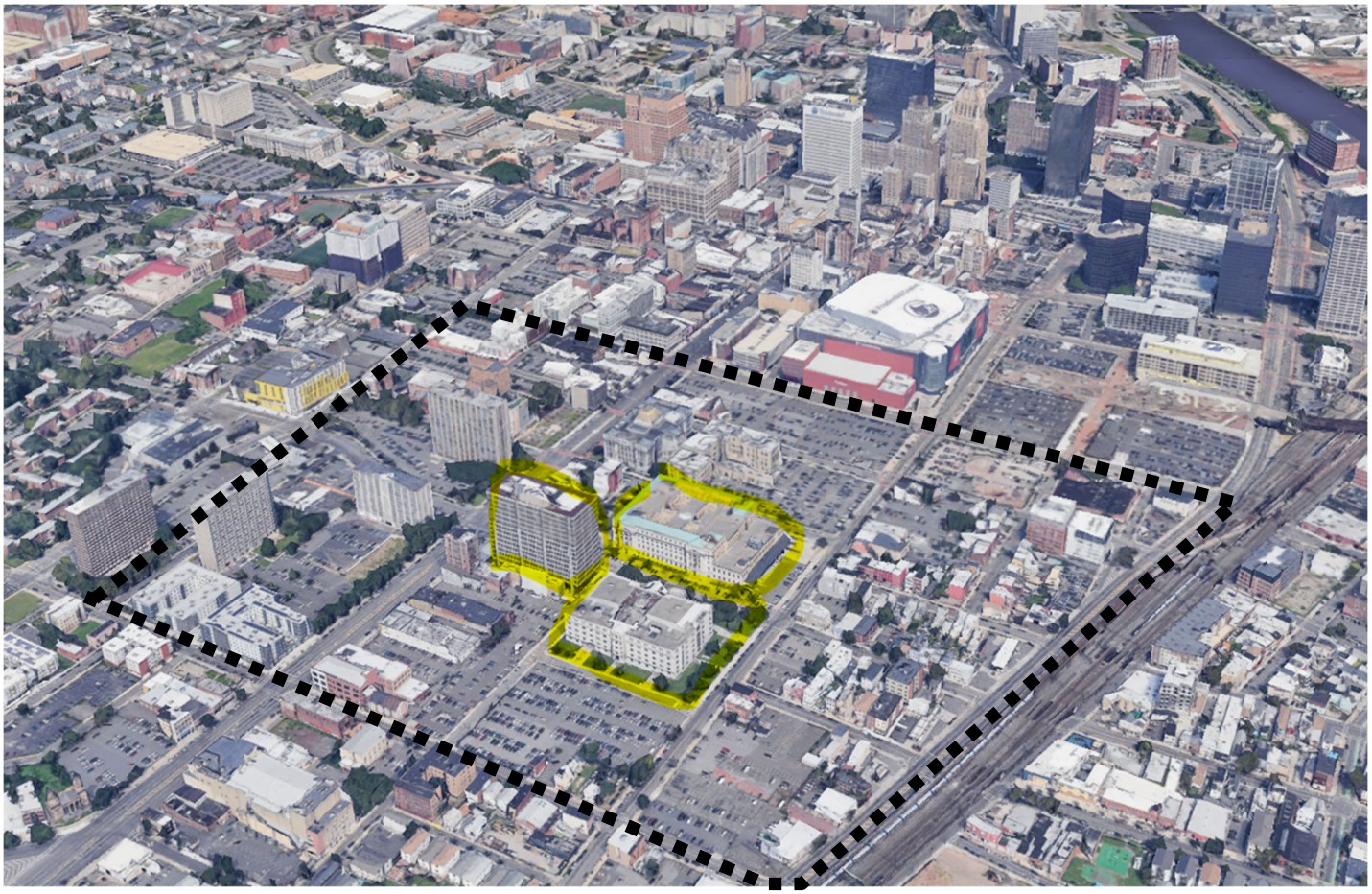


Image Credit: GSA

LEARNING OBJECTIVES:

The goal of this studio is to introduce advanced undergraduates and graduate students to the tools of urban design and planning. Studio members will work at a variety of scales and use a variety of techniques, ranging from small-scale approaches that improve local conditions to large-scale strategic visions. By the completion of the course, participants will have experience in urban analysis and visualization, stakeholder engagement, the development of public realm projects, master planning, and strategic visioning. Principles of sustainability and equity will guide the overall work. The intent is to provide new skills and perspectives to design students that will enhance their ability to design comprehensively and systemically at the urban scale, and to use this ability to improve design outcomes at the scale of the building.

ABOUT THE INSTRUCTOR:

Georgeen Theodore is an architect, urban designer, and Professor at New Jersey Institute of Technology's Hillier College of Architecture and Design, where she is Director of the Master of Infrastructure Planning (MIP) Program. She received a Bachelor of Architecture from Rice University and a Master of Architecture in Urban Design from Harvard University's Graduate School of Design, where she graduated with distinction. Theodore is founding partner and principal of Interboro, a New York City-based architecture and planning research office. Since its founding in 2002, Interboro has worked with a variety of public, private, and not-for-profit clients, and has accumulated many awards for its innovative projects, including the Rice Design Alliance Spotlight Award (2013), the Museum of Modern Art PS1's Young Architects Program (2011), the Architectural League's Emerging Voices Award (2011) and Young

Architects Award (2005), and the AIA New York Chapter's New Practices Award (2006). In addition to New Jersey Institute of Technology, Theodore has taught at University of Pennsylvania, the Bauhaus Kolleg in Dessau, Ohio State University, where she was awarded the 2011-12 Herbert Baumer Visiting Studio Professorship, and Lawrence Technical University, where she and her partners led the 2013 Master Practitioner Studio. In 2013, Theodore was invited to lead the University of Michigan's Networks Studio Expertise Workshop.

Theodore has led several studios at NJIT whose results have been nationally and internationally recognized. Her students' work of the Spring 2013 studio "Better Borough, Resilient Regions" was published in Waterproofing New York (eds. Denise Hoffman Brandt and Catherine Seavitt Nordenson). In Fall 2013 and Spring 2014, students participated directly in the HUD-sponsored Rebuild by Design competition and their studio projects were exhibited at the World Financial Center. In Fall 2014, Theodore's studio participated in the Global Schindler Award competition; the studio's work was selected as one of twelve winning submissions in the international juried competition and the students travelled to Hong Kong and China to receive their award. Subsequently, the submission was awarded first prize in the 2015 student showcase at the American Planning Association's Northeast Conference. In Fall 2017, Theodore and her students partnered with the International Rescue Committee, Church World Service, and Interfaith-RISE to develop strategies for refugee resettlement and community development in New Jersey. In Spring 2018, Theodore and her students worked with the City of Athens, Greece, 100 Resilient Cities, and Rebuild by Design to create stakeholder-driven open space frameworks for Lycabettus Hill. In Fall 2018, Theodore's studio focused on developing strategies for Mumbai's waterfront; the studio's proposal "Hydrohoods of To-morrow" won first honorable mention in the 2019 Global Schindler Award, and students traveled to India to receive their award. In September 2019, Architect Magazine selected Theodore's studio as the winner of the Studio Prize and winner of the Annual Sloan Award, which recognizes a studio that focused on sustainability, specifically water conservation. Most recently, Theodore's students won the 2020 Student Annual Architectural Models and Artifacts competition in the "Urban" category.

Image Credit: Fall 2019 MIP Studio

AD 463 COLLABORATIVE DESIGN STUDIO – Fall 2021
New Jersey Institute of Technology: School of Art + Design and School of Architecture

Studio Team Distribution:

The imbalance of students from each discipline in this cycle means that there will likely be teams that lack a member from a particular discipline. Architecture students, *with permission from the Director of the School of Architecture and subject to space available*, may use one of these studios as a Studio Option and take the place of an Interior Design student in a team.

Studio Selection Process:

The studio selection and assignment process will involve multiple steps and attempt to maximize student choice (think of it as a "happiness algorithm"). Students will be divided in a manner that will have, to the greatest extent possible and where demographics allow, an equal number of students from each participating discipline. First choice will be given to teams containing HCAD students enrolled in the Albert Dorman Honors College. NOTE: It is possible for Honors College students to get his or her second-choice studio selection depending on demand for their first-choice option. While this is unlikely, it has happened in the past. If, after attempting to maximize choice there is still an imbalance in requests for a particular studio section, subsequent assignment will be "lottery-based" (i.e. random).

Students may either create their own teams or be assigned to a team after the studios have been divided. Students may NOT propose a four-person team and no team proposal may include both an Architecture and Interior Design student. Students MAY propose a two-person team with the understanding that the group may be supplemented with an additional student (or broken up if necessary. It is possible that a few teams may have two Digital Design students – but those teams will be assigned a lower priority in the selection process. Architecture students will be assigned interchangeably with Interior Design students. That means an acceptable three-person team will include one Industrial Design student, one Digital Design student and EITHER an Architecture OR Interior Design student.

Registration is ongoing and there are students with pre-requisite issues that could affect the final distribution.

NOTE: There is now ample evidence to confirm that the group dynamics tend to work better when students form their own teams. While we will take individuals, a little effort up front to try to form a team is likely to pay off later in a more satisfying experience.

The *initial* order of assignment/selection will be (1) Honors Teams; Honors Individuals; (2) General Student Population Teams of Three with all three majors being represented; (3) General Student Population Teams of Three with two Digital Design students and General Student Population Individuals. **No placement in any studio is guaranteed and a team with two students from the Digital Design may be broken up if necessary, based on demographic distribution**. Under no circumstances may a team consist of two Industrial Design or two Interior Design students. Note, if there are too many Honors students to accommodate on first choice, priority goes to the teams containing the greater number of HCAD Honors students.

Students must rank ***all*** studios - first choice being ranked #1, second choice #2, and so on. The studios selected are dealing with very different types of projects and different processes. It is hoped the variety is sufficient for everyone in our diverse community.

Every student who wants to work in a self-selected team **must submit a separate selection form**, each one listing the name of the potential team member(s) on their form. NOTE: The submission of separate selection forms serves as a check that all students want to be together on the same team. We have, in the past, had one student "volunteer" another to be on a team while that student didn't want anything to do with the first student. So we require that team proposals be the same, but submitted separately by all participants.

IF THERE IS AN EXCESS OF TWO-PERSON TEAMS, SOME MAY BE BROKEN UP TO APPROPRIATELY FILL THE SECTIONS.

NOTE/WARNING: Late registration and submission of the selection form may result in a loss of choice for selection and assignment will be made where room presents itself.

Teams and selection choices – to be considered "on time" – must be submitted via email to Ms. Sasha Corchado (Corchado@njit.edu) no later than close of business (4:30 PM) **Monday May 31, 2021**.

Collaborative Design Studio Selection Form - FALL 2021 [DEADLINE: May 31, 2021, 4:30pm]

STUDENT'S NAME: _____

EMAIL: _____
(NOTE: provide an email address you will be checking regularly during the summer)

STUDENT'S MAJOR (check one): ☐ Digital Design ☐ Industrial Design ☐ Interior Design ☐ Architecture

Student is applying as (check one): ☐ an individual ☐ a team member

Student is in the Albert Dorman Honors College (enter yes/no)

If applying as a team, list the other two team members AND their majors.
NOTE: EACH STUDENT MUST SUBMIT HIS/HER OWN APPLICATION.

_____

_____

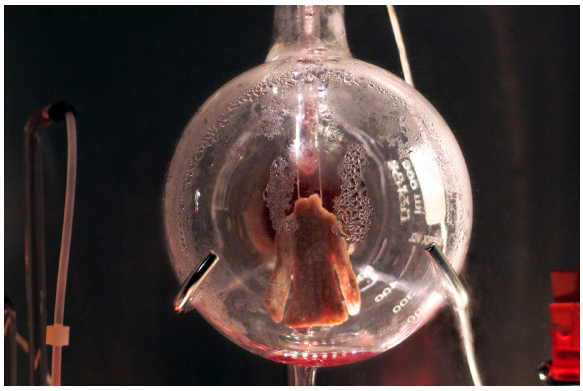
Design Studio History:

Spring 2021	Instructor:_____	Grade:_____
Fall 2020	Instructor:_____	Grade:_____
Spring 2020	Instructor:_____	Grade:_____
Fall 2019	Instructor:_____	Grade:_____

Studio Choice:

Place a rank number (1 to 4, 1 being the first choice) next to *each* studio instructor. You may choose only one section as a first choice. However, if you do not care which of the two studios you are assigned, you may place a "2" next to each studio. ***Note: if applying as a team, EVERY team member must turn in SEPARATE forms with the SAME RANKINGS or the application will be disqualified and students may be assigned to different studios as individuals.***

RANK:	STUDIO:	
_____	**Martina Decker**	**Museums for the 21st Century**
_____	**Ana Peñalba Estebanez**	**The Fun Palace**
_____	**Glenn Goldman**	**The A, B, C, D's of Science Fiction**



Victimless Leather – a "semi living jacket" | by Oron Catts and Ionat Zurr

ARCH 464/463/563 Museums for the 21st-Century | from Could Presentations to Festival Exhibits

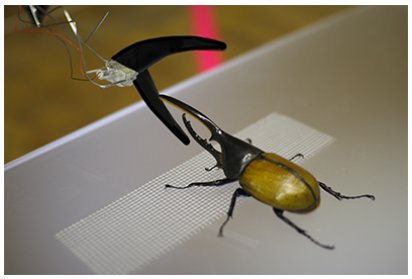
Instructor: Martina Decker, Associate Professor | decker@njit.edu
Fall 2018 | Mondays 12:00pm – 5:45pm, Thursdays 12:00pm – 5:45pm
Class Location: Material Dynamics Lab
Credits: 5

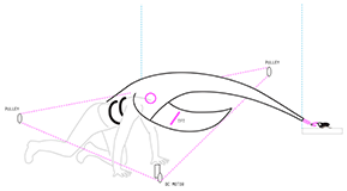
"So, what will museums of the future look like?
While many museums are adapting their physical space and instituting new safety measures to reopen, new museums may see the current moment and take on new forms. Sure, some will maintain current Covid-19 protocols, like timed ticketing and visitor count restrictions, but what else will stick in the long-term? How will people experience museums 10 or 20 years down the road, when proactive design changes to curb the spread of disease have been put in place?"

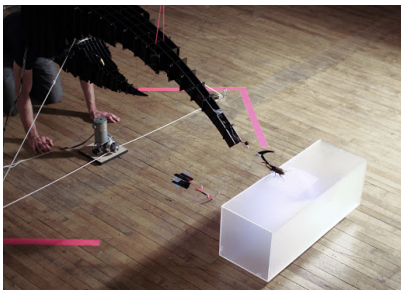
Billock, Jennifer. "How Will Covid-19 Change the Way Museums Are Built?," September 16, 2020. https://www.smithsonianmag.com

The coronavirus pandemic has created enormous pressure on our global societies and has changed how we live, work, socialize and immerse ourselves in culture. The pressures created by this health crises have taken many forms depending on the available data at hand and the progression of the outbreak. With improving treatment options and many citizens already vaccinated, the question has to be posed what our future will look like. Will we go back to more familiar ways of living or will we stick to some of the changes that we had implemented since March 2020?

This studio will examine in particular the future of museums. These institutions have been crucial in the collection and display of artifacts relating to historical, scientific, artistic, or cultural interests. Since the early days of museums, when they might have been called cabinets of curiosities or wonder rooms, these cultural treasures have evolved and morphed with the development of our society. In the studio we will consider what kind of museum might prosper in the 21st-century and what the nature of these institutions might be.







Beetle Wrestler prosthetics by Natalie Jeremijenko & Chris Woebken | www.moma.org

Individual design disciplines have been contemplating with great urgency what the visit of a future public institution might look like. In some examples digital designers have created virtual exhibition spaces entirely located in the cloud[1] and industrial designers have contemplated the development of robotic avatars roaming our existing museums[2]. Interior designers have been charged with the reconfiguration of existing buildings to ensure social distancing and architects have developed plans for future buildings with a better outdoor connection, airflow and improved access.

In the collaborative studio we will consider the future of museums together as a team. Through the collaborative approach we can come up with truly unique and novel design solutions that no single discipline could achieve alone, yet the representatives for each discipline will be in charge of their domain. **Digital Designers** will be responsible for the presence of the museum in the virtual domain and/or for the connection of the visitors to the museum and beyond. **Industrial Designers** will be in charge of products, objects, props or even prosthetics that might be used inside a museum or extend into other environments, such as our homes or other public spaces. **Interior Designers** will focus on interior spaces, weather virtual or physical, and contemplate how displayed artifacts, artworks and knowledge will be introduced to the visitor. **Architects** will envision new buildings that respond not only to our transformed social behaviors but also to the ever-changing landscape of museum design in the 21st-century.

Beam Ambulatory Device, Fine Arts Museums San Francisco I Ohmni® Robot, Avant Gallery. I IGC Museum www.ana-cooljapan.com

COURSE OBJECTIVES

Throughout the term, we will have opportunities to rigorously examine a number of issues individually as well as in teamwork. Students will be expected to execute and present an analysis of existing museum designs or related environments. Furthermore, we will develop convincing design propositions that make use of the earlier findings. The class will be provided information, through presentations, discussions, readings, and reviews, to allow you to focus on these objectives:

- to develop collaborative skills that are highly accomplished
- to gain an appreciation of the nature and value of collaborative practices
- to engage in collaboration, consensus building, and teamwork

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[1] Burke, Verity, Dolly Jørgensen, and Finn Arne Jørgensen. "Museums at home: Digital Initiatives in Response to Covid-19." *Norsk museumstidsskrift* 6, no. 02 (2020): 117-123.

[2] Cascone, Sarah. "R2D2, Museum Docent? Some Art Spaces Are Now Using Robots to Give Locked-Down Visitors Virtual Tours of Their Exhibitions." Artnet News, April 19, 2020. https://news.artnet.com/art-world/visit-shuttered-museums-with-telepresence-robot-1835271.

- to develop and implement an effective research strategy appropriate for your information need
- to develop an awareness and knowledge of museum and exhibition designs throughout history and in the presence: what they are, how they perform, what technologies have been used
- to develop an appreciation of the broad design implications of emerging technologies
- to develop the ability to examine and comprehend the fundamental principles present in relevant precedents, including works by designers that make use of emergent technologies
- to make choices regarding the incorporation of such principles into your own projects
- to contemplate new design applications for novel technologies that might exploit their unique properties and, at the same time, might help us address problems our society currently faces
- to develop design propositions that are reasonable and convincing arguments based on research, analysis and evidence
- to develop innovative design works that elegantly, and appropriately, make use of emergent technologies
- to develop an independent sense of experimentation and scrutiny, yet participate in critical discourse
- to demonstrate effective representation and communication skills that are highly accomplished throughout the semester

SELECTED BIBLIOGRAPHY:

A portion of this course is devoted to the study of relevant literature. Core readings will be taken from the following:

- Gorman, Michael John. *Idea Colliders: The Future of Science Museums*. MIT Press, 2020.
- Vermeeren, Arnold, Licia Calvi, and Amalia Sabiescu. *Museum Experience Design: Crowds, Ecosystems and Novel Technologies*. Cham: Springer International Publishing AG, 2018.
- Chan, Sebastian, and Aaron Cope. “Strategies Against Architecture: Interactive Media and Transformative Technology at the Cooper Hewitt, Smithsonian Design Museum.” *Curator (New York, N.Y.)* 58, no. 3 (2015): 352–368.

The Drive-Thru Museum in Seale, Alabama I Hyundai’s Drive-Thru Outdoor Museum in Los Angeles

School of Art + Design
Fall 2021 / AD 463
COLLABORATIVE DESIGN STUDIO PROPOSAL
Instructor: Ana Peñalba

THE FUN-PALACE

Reprogramming Design Experiences for the invention of our Techno-Future

Pictures during our field trip to Adventure Park Six Flags in Fall 2016
Image by students Nahin Shah (ID), Nathalie Carrasco (DD) and Cathrine Fahmy (INT)

During this studio students will explore the different narratives that compose our way of experiencing "Fun"; we will discuss how technologies are challenging the way we experience the world, not just in terms of its digitalization but in how the sociological, cultural, political, environmental, etc changes are affecting the entertainment field. During the first part of the semester we will discuss the means and challenges of "the production of Fun" throughout history. Students will research the past, present and future of amusement parks and produce "virtual" site visits to different theme parks around the world. Based in these conclusions, students will design ride proposals that focuses in the construction of new experiential realities for The Body, The Mass and, for the Environment. For the last part of the studio, collectively, we will design our own "Fun-Palace", an amusing park of experiences designed to respond to some of the forthcoming social, political and environmental challenges. Interior Designers will produce 3d model diagrams, architectural documents and renders where the experiences will be held. Their challenge will be to identify the form, materials and spatial design of the elements that are necessary to recreate an experience. Industrial Designers will design elements, details and components systems of their proposed attractions. And, Digital Designers will explore the interactive and graphic design associated to the designed experiences. They will be in charge of researching how lighting, audio and digital devices contribute to enact our experiential senses as well as how the graphic design of the attraction stimulates our way to imagine and feel the experiential adventures. I hope all together will imagine how the future of "Fun" will be in our upcoming very technological society!

The A, B, C, D's of Science Fiction
AD 463 – Fall 2021; Professor Glenn Goldman
New Jersey Institute of Technology

INTRODUCTION:
Syd Mead was acknowledged as the first "visual futurist" in the motion picture industry. He embodied, in one person, a collaborative team that contributed to the designs and art direction of major films that include *Blade Runner*, *Blade Runner 2049*, *Tron*, *Aliens*, *Johnny Mnemonic*, *Mission Impossible III*, *Elysium*, *Tomorrowland*, and more. Mead was also the alien conceptual artist for the game *Wing Commander: Prophecy*. He designed custom yachts and furniture. He was an industrial designer by training, an interior designer by profession, and a digital designer before people even knew what that was. He designed vehicles, characters, and the look and feel of the environments that contributed to the success of multiple motion pictures. Syd Mead was the proverbial "unicorn" who, in practice, is not duplicated. As projects and expectations for visual productions became more extensive (and expensive), Mead worked primarily as a consultant to directors and producers who then employed and coordinated many artists. Today, teams of designers who can create products, places, and characters are put together when a new movie or game is considered and developed.

Typically, when a new project is started, a studio secures rights to a story. And then the work begins. Science fiction and fantasy are two genres in the entertainment industry that offer myriad opportunities for creative visuals that do not merely imitate (or faithfully recreate) real conditions – past or present. Science fiction, in particular, is rooted in some sense of reality (and science) and is based on a blend of what is and what may be. As such, it has always been an attractive arena in which designers and architects play. It represents a chance to blend imagination with a vision – good or bad, utopian or dystopian – of the future.

While the art directors have enormous impact on the look and feel of a project, they usually do not create the narrative (any more than an interior designer creates the narrative for a real project that is commissioned by a client). On the contrary, projects with an existing story provide the very structure needed for successful design projects. These stories are the project "briefs" or "programs" that become one factor considered by the designers of the imagined world.

There are innumerable great science fiction writers but four have made an outsized contribution to the library of stories and represent the "A, B, C, D's" of science fiction. In alphabetical order, these great writers are Isaac Asimov, Ray Bradbury, Arthur C. Clarke, and Philip K. Dick. Each of these authors has many books and stories that have been, and continue to be, great sources for films or games that have just enough description to get a designer started, but also enough evocative leeway to give the designers opportunities to infuse any project with a personal style in the creation of spaces/places, characters, and products. In other words, these environments can – in the minds, hearts, and hands of the right design teams – be spectacular in their own right and be an important contributor to the success of any media-based project. And really good ones can influence the architecture, interior design, and product design (as well as production design) in our physical world for years to come.

Successful movies, television series and shows, and video games based on works created by these authors have become part of our shared knowledge and culture. Following is only a partial list of media projects based on these authors:

- **Isaac Asimov**: *Foundation* for Apple TV+ which may be released later this year but was in pre-production in March 2020 when it was halted due to COVID-19. Although Asimov wrote the original "Robot" stories (including I, Robot in 1950), the 2004 movie was an original screenplay by Jeff Vintar titled *Hardwired* which then incorporated some ideas from Asimov and acquired the rights to the title. Because of licensing issues and intellectual property constraints, many of his works have not (yet) been used as original and direct source material for projects.

- **Ray Bradbury**: *It Came from Outer Space* (1953), *Fahrenheit 451* (1966 and HBO version 2018), *I Sing the Body Electric* (1962 – Season 3 episode 35 of the *Twilight Zone*), *The Martian Chronicles* (3-part television series on NBC, 1980).

- **Arthur C. Clarke**: *2001: A Space Odyssey* (1968), *2010: The Year We Make Contact* (1984), *Rama* (video game by Sierra On-Line, 1996).

- **Philip K. Dick**: *Blade Runner* (From *Do Androids Dream of Electric Sheep?* 1982), *Total Recall* (from *We Can Remember it for You Wholesale*, 1990), *Minority Report* (2002), *A Scanner Darkly* (2006), *The Adjustment Bureau* (From *The Adjustment Team*, 2011), *The Man in the High Castle* (Amazon Prime, 2015)

To be fair and more thorough in this introduction, there is another important writer – **Frank Herbert** – who has been omitted from consideration for this studio primarily because his great series, started by his 1965 novel *Dune*, has been the subject of multiple movies and will once again be the source material for a motion picture produced by Legendary Pictures and directed by Denis

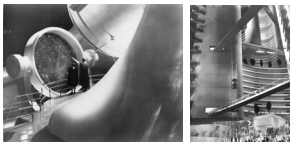
Villeneuve (with a budget of $165 million) that is scheduled for release by Warner Brothers both in theaters and on the streaming service HBO Max in October 2021. There are already sequels and prequels based on the series of books being planned. As such, to avoid inevitable comparisons, it makes sense to avoid this series of novels as source material for the current project.

PROJECT:
The project for the studio will be to take a science fiction story (from a single novel, a series of novels, or a short story) that has descriptions of unusual places, artifacts (from kitchen appliances to transportation systems), and characters (think the bar scene in Star Wars) and design/create a coherent visual environment for a movie or game. While it is recommended that students choose source material from one of the four authors (Asimov, Bradbury, Clarke, Dick) it is not an absolute requirement. But student teams must show the passages in the stories that describe places, products, and characters that will serve as the "directions" for the project. Specific source material must be discussed with, and approved in advance, by the instructor. A premium will be placed on imaginative environments and sets. Selection of source material shall be limited to those stories that do not yet have successful sets and visual environments (like Blade Runner). Student teams that do not have a preference for a story may choose from a selection of source materials provided by the instructor. While no two teams may use the same story as source material, it is permitted to use the same author. (In other words, it is permissible that multiple teams can each select a different story from among the many available and appropriate ones by Asimov.) Students will have to fill in with their own creations what is not included in stories. But even directions in the stories are usually sufficiently general to allow for creativity on the part of the designer.

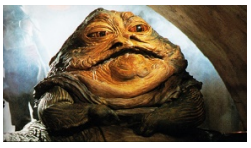
Prior to the design of separate components, team members must agree on a look and feel that fits their vision for a commercial interpretation of the source material. Once that is done, cross-disciplinary collaboration is expected for all components with Interior Designers and/or Architects expected to take the lead on the physical environment, Industrial Designers expected to take the lead on all artifacts from utensils to weapons to transportation systems and all the other "stuff" one has in the imaginary world, and Digital Designers are expected to take the lead on all character design (including apparel). But some stories may be so heavy on one area (e.g. artifacts and include "space elevators" and moving ramps for transportation) that students from other disciplines would be expected to contribute and cross over any preconceived and/or loosely defined boundaries. There is room for design teams to consider expanding scenes in the book to create a more visually compelling product. At the end, there needs to be a cohesive set of designs that add up to a single proposal for visual material based on published written sources. Students are expected to utilize multiple programs and whatever technologies and software applications most appropriate during the design process. Deliverables of final proposals will include a set of high-resolution stills for all designs, technical and orthographic drawings, storyboard, and walkthroughs of (virtual) spaces proposed/created. Individual requirements will be adjusted based on the demographics of the team and demands of the source material as well as the type of intended or targeted final entertainment product.

OBJECTIVES:
- To learn to work collaboratively in teams within a multi-disciplinary environment towards a common goal in support of a single project.
- To broaden students' cultural and historical awareness of science fiction literature and how it can be used as source material for entertainment – and what these stories say about society.
- To provide an opportunity for students to better understand the relationship between program/narrative and designed products.
- To provide opportunity to think creatively and employ formal design principles unencumbered by conventional project or programmatic requirements.
- To explore, in a limited fashion, the role of designers (from all represented disciplines in HCAD) in the entertainment industry.
- To provide continued practice in the employment of a reflective and iterative design process.
- To provide continued practice in effective graphic communication appropriate to the purpose and audience. Students are expected to demonstrate an understanding of what is useful, usable, effective, and desirable with respect to user/audience-centered digitally-based communication, objects, and environments.


Blade Runner (1982)


Things to Come (1936)


Dune (2021)


Return of the Jedi (1983)


Tron (1982)