Options Studios Descriptions
Fall 2022
Hillier College of Architecture & Design
3/30/2022
4/3/2022 Revised

For Fall 2022, eligible architecture students can select from among the following studio offerings in Options, Urban Design, and Collaborative Design Studio to fulfill the Options studio requirements.

ARCH 463/464 Options
There are three studio choices:

- Pipe Dreams: E.Pellegrino & C.Firestone
- Ubiquitous Spaces: A.Zarzycki
- Shaping the Future of Cities: Rethinking the 20-minute Neighborhood through the Lens of Equity: R.Smith

ARCH 601 Urban Design
To register for ARCH 601, students must have a minimum 3.0 CUM GPA and be admitted to the Dual Degree program.

- Tactics & Strategies of Urban Design: G.Theodore

AD 463 Collaborative Design*
All students (architecture, interior design, industrial design and digital design) are encouraged to register for AD 463 studios. Five spots in each studio are available to architecture students. To qualify for AD 463, students must have a 3.0 CUM GPA and enroll in AD 463 section 001. Final section placement is based on a formal studio selection process detailed and linked in the AD 463 summaries on page 7.

There are four studio choices:

- Interspecies Collaboration - Biodiversity in the Age of the Megalopolis: M.Decker
- Entertainment Design: The Science Fiction Studio: G.Goldman
- Tools and Spaces for Mental Wellness: S.Sobers
- Newark Jail Historic Center, Public Park and New Structure: M.Gosser

NOTE: There will be a HCAD Collaborative Mixer for Architecture and Art+Design students to meet each other to discuss similar interests. Date TBD.

PIPE DREAMS

STUDIO AIMS AND OBJECTIVES

As architects we're asked to consider and design all sorts of space – large and small, public and private, sublime and banal. However, no matter the structure, the place, or the purpose there is one modest, much maligned and often neglected space we must include in all our structures. It goes by many names: the toilet, the restroom, the washroom, lavatory, water closet, can, john, privy, latrine… but no matter how we dress it up or down, we cannot escape its necessity.

The advent of indoor plumbing can rightfully be credited with huge advances in society – mitigating disease, filth, and stench – allowing for the blossoming of cities. At the same time, the toilet stands at the crossroads of many of the most pressing, controversial, and important issues throughout history and today. As the most private of public spaces, toilets have always been at the center of current social and cultural battles. Initially, women were often excluded from access to public restrooms, then restrooms became the site of racial segregation, then the fight to include equal access for people with disabilities began, and today the discussion often centers around who can and should have access to restrooms based on gender presentation.

STUDIO OUTPUT

In this studio you will be asked to go where few architects dare to tread. You will investigate bathrooms from a position of access, use, and availability. How do we create more publicly accessible toilets that stay clean and functional for longer? What does accessibility mean? How and for whom are we making restrooms accessible? How do we craft the most perfect bathroom form for ergonomics, cleanliness, light, air, and sound? How can we challenge the role of water and waste in the context of the global systems they exist within? Can the rituals of hygiene be transformed into a transcendent and transformative experience?

This studio is open to explore this issue locally, ergonomically, economically, urbanistically, socially and physically, looking at this issue from multiple vantage points to pose potential futures of how we all use and integrate spaces of elimination and bathing into our lives at all scales.

ARCH 463/464 Erin Pellegrino + Charlie Firestone

Ubiquitous Spaces

OPTIONS STUDIO | ARCH 463 / 464 | Fall 2022
Andrzej Zarzycki | andrzej.zarzycki@njit.edu
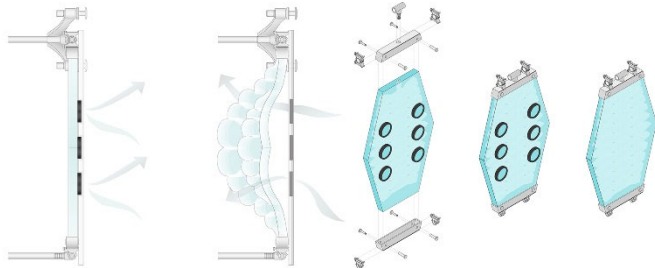
Pneumatic Facades:: Ernessa Francois, Olivia-Szymkowski, and Natalia-Wilk (2019)

It is change, continuing change, inevitable change, that is the dominant factor in society today. No sensible decision can be made any longer without taking into account not only the world as it is, but the world as it will be.

Issac Asimov

STUDIO DESCRIPTION

When Le Corbusier coined the term "machine for living in[1]" he could not have anticipated the full extent of this idea in the context of contemporary culture and technologies. His vision for design was influenced by the spirit of the Machine Age with innovations coming from automobile and airplane industries. Almost the century later, the Machine Age became a much broader array of technologies including material and digital sciences with a computer as the universal machine.

What is a "machine for living in" in the contemporary world with our new expectations towards work and privacy, and renewed relationship with technology? Should built environments exhibit "plug-and-play" behaviors? Can they be self-configuring, self-maintaining, and adaptable; expectations we already have towards computational machines? These and other questions will be investigated by students in the Ubiquitous Spaces design studio.

The Ubiquitous Spaces design studio extends the ideas of the ubiquitous computing (*ubicomp*) into the built environment. It defines physical space as an interface for the human-computer interactions in which computational processing has been integrated into everyday objects and activities. By interacting with objects and spaces, users can reconfigure physical environments and alter their meaning. In the course of ordinary activities, users engaged with ubiquitous environments interact simultaneously with many computational devices and systems, even though, these users may not be aware of the underlying computational framework and built-in intelligent behaviors.

In this Option Studio students will investigate emerging attitudes toward adaptive, autonomous, and media-enhanced buildings and cities. They will survey state-of-the-art practices with in-depth analyses of smart buildings, adaptive designs, networked cities, and mediatectures. Students will apply this knowledge in the development of building systems and components or virtual environments, and connect them into a broader urban ecosystem of autonomous buildings—agents.

The studio will combine advanced building technology and resiliency knowledge with topics associated with smart materials, sensors, actuators, virtual/augmented reality and ubiquitous computing. Students will consider various aspects and scales of smart designs, starting with adaptive building components such as façades systems and progressing to the broader virtually inhabitable environments. Studio will touch on topics of human-computer interactions (HCI), design of User Interface (UI), and User Experience Design (XD) as common denominator for all student projects.

No prior knowledge of sensors, microcontrollers, game engines, and programming is required for this studio course. All necessary knowledge will be covered by the instructor. However, a serious interest in advanced interactive technologies and computational design tools is expected.
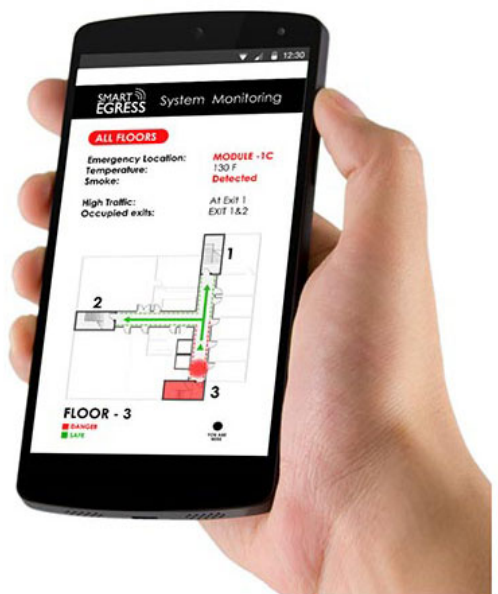
Smart Egress:: Dan Beltran (2016)

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[1] ["The house is a machine for living in. " (*Vers une architecture*, 1923)] [http://en.wikipedia.org/wiki/Le_Corbusier]

NJIT, Hillier College of Architecture and Design, School of Architecture
ARCH 463/464 | OPTIONS STUDIO
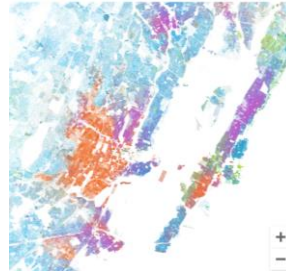Fall 2022_Roger Smith

Shaping the Future of Cities: Rethinking the 20 Minute Neighborhood through the Lens of Equity

Mapping Equity

The 20 Minute Neighborhood

Newark Regional Racial Dot Map

Newark Neighborhoods

There is…a politics to place construction ranging…across material, representational and symbolic activities which find their hallmark in the way individuals invest in places and thereby empower themselves collectively by virtue of that investment.
David Harvey

When you build a thing you cannot merely build that thing in isolation, but must repair the world around it, and within it so that the larger world at that one place becomes more coherent and more whole; and the thing which you make takes its place in the web of nature as you make it.
Christopher Alexander

It is self-evident that if we are to create sustainable urban communities...we have to build to higher densities in order to conserve land and reduce energy use; We must create neighborhoods that combine workplaces with housing, and where transportation connections, schools, parks, and other amenities are all within walking or cycling distance. Most important, we have to create inspirational urban environments where people want to live.
Norman Foster

STUDIO DESCRIPTION

The "Shaping the Future of Cities" studio challenges students to re-imagine the American City and to explore the possibilities for developing 21st century models for building an equitable future. The events of 2020 have highlighted a broad spectrum of persistent racial injustices and inequalities that have long plagued America and its cities. The death of George Floyd by a Minneapolis police officer was one incident, among far too many, that resulted in the deaths of Black Americans at the hands of police. We have reached an inflection point that has presented a unique opportunity to reimagine our cities and neighborhoods.

Students will consider how rethinking the 20 Minute Neighborhood model through the lens of equity can be a catalyst for positive change in Newark. It will require a renewed focus on developing a strong neighborhood retail base, reimagining neighborhoods as employment centers, viewing access the internet as an essential public utility, providing a diversity of affordable and mixed income housing, increasing access to healthcare and wellness, expanding mobility options, enhancing the public ream, and sharing community assets.

Initially working in teams, students will explore how equitable 20 Minute Neighborhood strategies can improve Newark neighborhoods and become a model for positive transformation. Students will focus on one Newark neighborhood and conduct research, data analysis, field investigations, and a series urban mapping studies intended to reveal the complex layering of the invisible structures that influence physical form as well as the social, economic, and cultural functioning of the city and its neighborhoods. Imbedded deeply within the investigation is the lingering presence of inequality and injustice that has tempered present day realities. Students will engage in ongoing conversations with city planning officials, community stakeholders, developers and architects currently working in Newark's neighborhoods to gain insight into how 20 Minute Neighborhood principles can support a more equitable and sustainable future for Newark neighborhoods. Informed by group research, each student will select a critical site within the 20 Minute Neighborhood for further investigation and development. Collectively, the individual student projects will present a new vision for Newark neighborhoods that will speculate on a new urban future base on equity.

TACTICS & STRATEGIES OF URBAN DESIGN

OPTIONS STUDIO* | ARCH 601/602 | Fall 2022 | Professor Georgeen Theodore, AIA

STUDIO OVERVIEW

In order to address the greatest challenges our world faces today—climate change, lack of access to resources and housing, spatial segregation, etc.—responsible designers must equip themselves to work beyond the scale of the individual building and engage with larger environmental, social, and economic forces. Urban design as a discipline is uniquely positioned to confront these systemic and complex issues present in the built environment. The goal of this studio is to introduce advanced architectural undergraduates and graduate students to the methods of urban design. 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, spatial frameworks, and strategic visioning. Principles of sustainability and equity will guide the overall work. **The intent is to provide new skills and perspectives to architecture 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.**

The studio will build on the award-winning results of the previous Fall 2019 and Fall 2021 MIP/MUD studios, which include a wealth of base information and highly detailed 3-d printed models (which you can see on the fifth floor of Weston Hall). **For Fall 2022, the studio will focus on the Passaic River watershed, which will allow students to engage with critical questions of sustainability, water and energy conservation, ecology, public space preservation, remediation, transportation/mobility, and access to housing.** Experts in blue-green infrastructure (in the public realm and at the scale of the building) and resource management will visit the studio during the semester and provide technical expertise. The semester will conclude with a presentation to local and state leaders. **Therefore, students will have the opportunity to not only build their skills, but also to network with professionals in planning, urban design, and architecture throughout the semester.**

The studio offers an excellent opportunity for graduate students and ambitious undergraduate "options" level students to work with a real client and local stakeholders and to help shape the future of Newark and New Jersey.
The studio will follow the <u>three-phase MUD/MIP studio curriculum</u> (mapping, frameworks, and demonstration

projects) that was awarded Architect Magazine's top [Studio Prize](#) and the Sloan Award for sustainability:
<u>The first phase, "Mapping the Site"</u> (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 themed walks with experts.
<u>The second phase, "Public Space Frameworks"</u> (four weeks) focuses on the development of framework plans for the public realm of the site, 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.
<u>The third phase "Demonstration Projects"</u> (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 a specific site along the Passaic River. Projects should jump-start the urban framework created in the second phase. Projects can range from the design of public spaces, blue-green infrastructure, transportation improvements, as well as a potential range of new uses, including housing, live-work, commercial, institutional, and recreational, and will be selected based on student interest and in consultation with the instructor. The schematic designs will be developed to include phasing, and implementation strategies.

*Ambitious, inquisitive, and eligible undergraduates are encouraged to register for this course as an "options" studio by: [one](#), applying to the Dual Degree B.Arch / MS program to take graduate courses as an undergraduate (choose Master of Urban Design in the drop-down menu) and [two](#), by registering for the course. Please reach out to theodore@njit.edu with any questions. I am happy to talk to you, tell you more about this course, and help you register!

ABOUT THE INTRUCTOR

Georgeen Theodore, AIA is an architect, urban designer, and Professor at New Jersey Institute of Technology's Hillier College of Architecture and Design, where she coordinates the Master of Urban Design (formerly 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, Lawrence Technical University, where she and her partners led the 2013 Master Practitioner Studio, and University of Syracuse School of Architecture, New York City Program, where she served as the 2021 Richard Gluckman Visiting Critic.

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. Most recently, Theodore and her students worked in collaboration with the City of Newark and the federal General Service Administration (GSA) to develop a public space framework and priority projects for Newark's downtown civic core.

Image Credit: Eka Pramuditha, Fall 2019 MIP Studio

Theodore (in pink) with students on a field trip
Image Credit: Kyle Reid, Fall 2020 MIP Studio

AD 463 COLLABORATIVE DESIGN STUDIO – Fall 2022
New Jersey Institute of Technology: School of Art + Design and School of Architecture

In the interest of multidisciplinary collaboration across all HCAD majors, this year's selection of AD 463 studios offers room and approval for up to 20 students from the School of Architecture students (5 max per studio section) who may select specific studios and participate on a team. With the addition of Architecture students, we are able to offer up to four different studios for Fall 2022.

Studio Selection Process:

Eligible students* must **register for AD 463, <u>Section 001</u>** and complete the online [Studio Selection Form](shorturl.at/qINS3) (***shorturl.at/qINS3***)***.*** The Selection Form provides students an opportunity to identify their studio placement preferences.

*Architecture students must have a 3.0 GPA to qualify and receive a registration permit to enroll in AD 463-001. Interested students may NOT place themselves on the waitlist for another studio course.

The Studio Selection Form must be completed no later than **4:30pm, May 31ˢᵗ, 2022**.

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.

Students may either create their own three-person teams *or* complete the Selection form as an individual and be assigned to a team after the studios have been divided. Students may NOT propose a two-person team or four-person team, and no team proposal may include both an Architecture and Interior Design student, or two students from the same major. 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.

Every team member who wants to work in a self-selected team **must submit a separate selection form**, 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.

Late registration will result in a loss of choice for studio selection and assignment will be made where room presents itself.

Studio Section Distribution:

The studio distribution 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).

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; and (3) General Student Population Individuals. **No placement in any studio is guaranteed.** 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.

Final studio assignments will be confirmed via email during the summer. Section enrollment in Banner will be changed on your behalf.
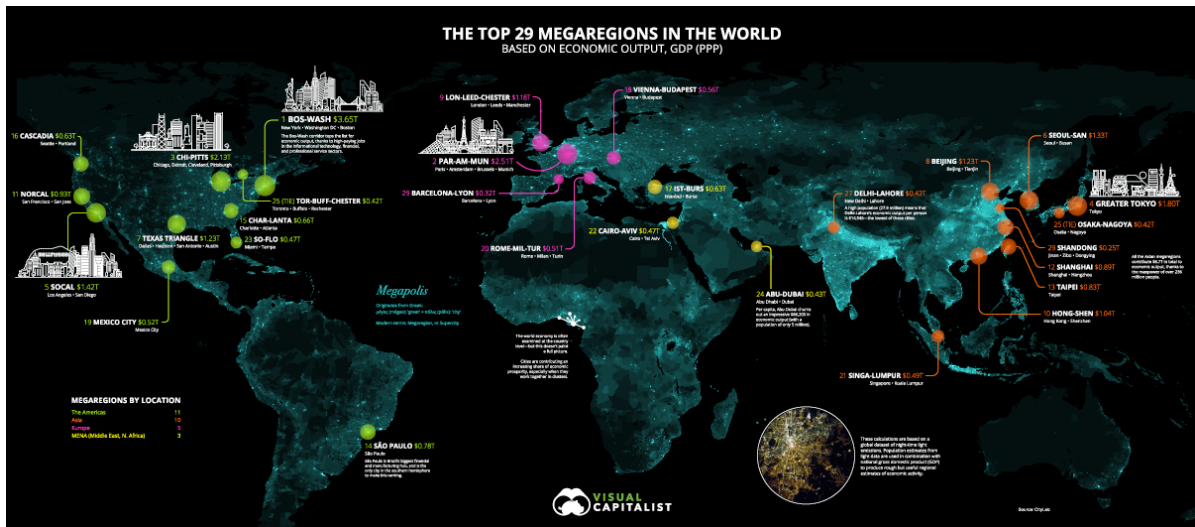
The Top 29 Megaregions (Megapoleis) in the World l Image by Visual Capitalist

AD 463 **Interspecies Collaboration - Biodiversity in the Age of the Megalopolis**

Instructor: Martina Decker, Associate Professor l decker@njit.edu
Fall 2022 l Mondays 12:00pm – 5:45pm, Thursdays 12:00pm – 5:45pm
Class Location: Material Dynamics Lab
Credits: 5

"Look closely at nature. Every species is a masterpiece, explicitly adapted to the particular environment in which it has survived. Who are we to destroy or even diminished biodiversity?"

E.O.Willson

The loss of biodiversity due to displacement or extinction of species can be closely linked to the intensity of human impact on the flora and fauna in the world's megaregions (megalopoli). Some of the major threats include habitat loss and degradation, pollution, and overexploitation. Since humans have been engaging in the engineering of ecosystems to suit human needs primarily, we have lost sight of the importance of the intricate web of life. This web describes a succession of organisms that are linked to each other through the transfer of energy and nutrients, which is crucial not only for biodiversity but also the survival of mankind.

Through a lecture series, discussions and readings, the studio will examine how design can impact biodiversity at many scales and how these interventions are responsible in diminishing biodiversity. Case study examples will include:

- antibacterial material choices of sports equipment, toys or furniture,
- interior designs devoid of any lifeforms except for homo sapiens,
- "pest resistant" low maintenance garden and landscape designs,
- building envelopes that represent a stark boundary and that are only dedicated to the strict separation of our environmentally controlled interiors,
- or the transportation infrastructures that fragment surrounding ecosystems.

Furthermore, we will explore design solutions that can facilitate interspecies collaboration across all kingdoms of life to promote not only human welfare. We will be analyzing design interventions that include:

- material choices such as mycorrhizal plastic substitutes that can biodegrade and give back nutrients to the ecosystem rather than release toxins after their use
- insect hotels that have been designed to give wild bees a home in urban regions,
- the interior and exterior green wall systems that can not only integrate flora and fauna in densely populated regions but that can also boost the diversity of the urban microbiome,
- the urban farming initiatives that feed not only humans but offer nectar to pollinators,
- and infrastructures that do not fragment ecosystems but offer safe passage and habitats.

| Mycorrhizal Plastic Alternative | Bee Bricks - Insect Hotel | Green Wall | Urban Farming | Animal Crossing |

After this initial analysis of the impact of design on our environment we will embark in teams on our own design explorations that will facilitate interkingdom collaborations. **Industrial designers** will work on products that will allow the user to engage directly in the prevention of biodiversity loss and to expand ecosystems in their surroundings. **Interior designers** will contemplate interior spaces that can serve many lifeforms beyond homo sapiens. **Architects** will explore the interface of our buildings with the surrounding ecosystems to connect us rather than separate us from nature. **Digital Designers** will take on the crucial role of educating the public not only on the use of the design interventions but also the importance that biodiversity has on human welfare in general. With graphics, animations, and renderings they will allow the user to dive into the often-unseen worlds that support the web of life.
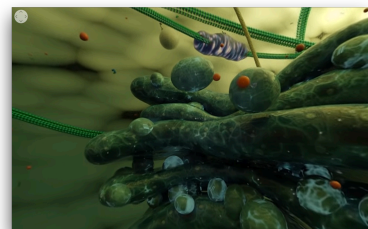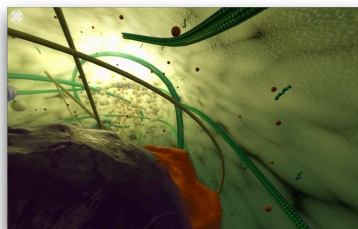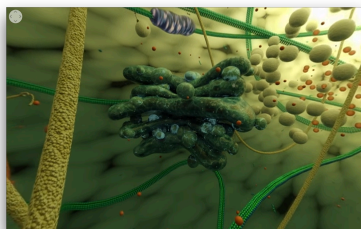
Scenes from: Virtual Reality - Inside a Fungal Cell - Video by Universität für Bodenkultur Wien
Link

INTRODUCTION:

It's hard to predict the future. But science fiction stories, as seen in movies, games, and television, or read in books, does as good a job as anything else in showing us where we, as a species, are going. There are innumerable examples of cultural artifacts, transportation devices, architecture, clothes, and all sorts of things that appeared in science fiction entertainment before they became (omni)present in our lives. From Fritz Lang's *Metropolis* to H.G. Wells' *Things to Come* to Ridley Scott's *Blade Runner* and Gene Roddenberry's *Star Trek*, science fiction in books, movies, and television that have given us clues as to what will happen in our future – and entertained us while doing it.

Science fiction can make us uncomfortable. And yet, it has the power to teach us, to warn us, and to inspire us. It demands that we use our imagination. But unlike pure fantasy, science fiction requires that we combine our creativity with our limited understanding of reality. Used as the source material for entertainment design it allows us to create imaginary worlds as we stretch our skills and creativity.

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 who 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.

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.

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 existing stories often provide the very structures 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.

Posters for a movie of Yoon Ha Lee's *Ninefox Gambit* produced by Okhyun des Lauries (Interior Design), Lemmuel Escalona (Industrial Design), Allison Wong (Digital Design)

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 was released in Fall 2021 but criticism of the production included the complaint that it was not true to the story. 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 – most recently the BAFTA Award-winning and Academy Award-nominated film produced by Legendary Pictures and directed by Denis Villeneuve (with a budget of $165 million), released by Warner Brothers 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 to a universally acclaimed production, 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. While it is suggested that students choose source material from a well-established science fiction author (including those mentioned above: Asimov, Bradbury, Clarke, Dick) it is not an absolute requirement and there is always room for new (or other) authors with excellent and evocative material. 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, characters, and assets (products). Selection of source material shall be limited to those stories that do not yet have successful sets and visual environments (which would exclude books like *Blade Runner* or *Dune*). Student teams that do not have a preference for a story may choose from a selection of source materials provided by the instructor. (Good options, for example, include Clarke's Rama series.) 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 Clarke or 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.

In preparation for the primary design project, preliminary, short design projects that may or may not be used by different designers will be assigned and completed. Prior to the design of separate components in the primary project, 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) as well as contribute to areas of environment and asset design. In some instances, different Digital Design students come with a different set of skills based on the sub-discipline(s) of interest and may "trade" services with Digital Design students of other teams as

necessary to avoid duplication of efforts and to expand the reach of each project. 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 are configured as a "pitch" for a new movie based on the book that will show in detail the look and feel of the proposed motion picture which will include a set of high-resolution stills for all designs, technical and orthographic drawings, storyboard, walkthroughs of (virtual) spaces proposed/created, associated co-marketed products (games, apparel, toys, etc.), movie poster(s), and trailer. 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 push students out of their comfort zone(s) and create opportunities to see and understand the scope of potentials for convergence among different design disciplines.
- 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 narrative and designed products.
- To provide opportunity to think creatively and employ formal design principles unencumbered by conventional project or programmatic requirements.
- To explore 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.
- To comply with relevant CIDA (*Council for Interior Design Accreditation*) and NASAD (National Association of Schools of Art and Design) professional standards as they apply to all majors.
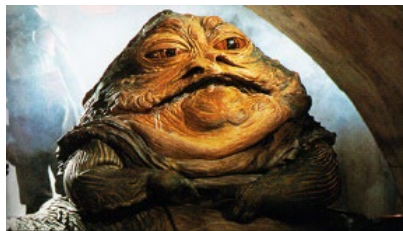

Blade Runner (1982)
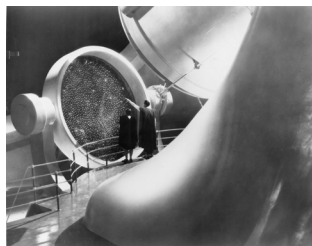
Things to Come (1936)

The Rumpler Tropfenwagen, 1921 (inspiration/model for the automobiles used in *Metropolis*
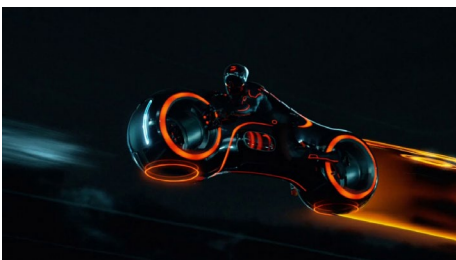

Dune (2021)

Return of the Jedi (1983)

Blade Runner (Concept Art by Syd Mead, 1981)

<u>*Tron*</u> (1982)

The Jetsons (1962)

Alien Covenant (2017)

TOOLS AND SPACES
for
MENTAL WELLNESS

AD 463-01	Collaborative Design Studio
Semester	Fall **2022**
Class Time	M + TH 12PM - 5:50PM

Instructor	Sophia Sobers
Email	sls24@njit.edu
Office Hours	By Appointment

Course Prerequisites	DD 364 or ID 364 or FA 364 or INT 364 or ARCH 364 & PHYS 102

INTERACTIVE TOOLS AND SPACES FOR MENTAL WELLNESS
How can we harness technology to create objects and spaces which meet the needs of a busy society? Interactive Tools and Spaces is a Collaborative Design Studio exploring the creation of digital tools, objects and intelligent spaces for the promotion of mental well being. This studio course will investigate sensory stimulation (touch, smell, taste, sight, and sound) to be incorporated within aspects of lighting design, furniture design, product design, interactive visuals, fabricated spaces, and digital apps to develop and create tools to promote wellness.

This course will focus on creating group projects, with specific focus and emphasis on three aspects: object (Industrial Design), space (Interior Design), and interactive visual / audio (Digital Design) to create a customizable, immersive environment. This project will develop over the course of the semester, with each group of Industrial, Interior/Architecture, and Digital Design students working together towards a thoroughly researched concept in order to create a unified final project.

WHY WELLNESS?
Throughout this semester we will engage in discussions and conversations around the topic of wellness to build an understanding of the term and its use in society. With wellness becoming an increasingly important topic of discussion, and with a whole industry built around wellness, our task as a studio is to understand: 1) what the underlying term of wellness is, 2) what it's trying to resolve, 3) what it's trying to offer as a lifestyle, and 4) how one can go about achieving wellness. Through research, ideation, and design iterations, successful studio projects will center around potent and necessary critical concepts in the creation of compelling design solutions which go beyond a superficial level.

AD 463   COLLABORATIVE DESIGN STUDIO (Wellness)

EXPECTATIONS FROM EACH DISCIPLINE
Industrial Design: the design and development of interactive objects which can promote wellness and relaxation. This can range from handheld devices, custom headwear, to furniture and soft sculptures. The objects which are created by Industrial Design students should be set up to work with design elements from Interior Design as well as be connected with Digital Design (interactive visual / audio) components.

Interior Design / Architecture: the design and development of the overall spatial structure for the project (ie. wellness center, pop-up shop, mobile unit), taking into consideration lighting, fabrication, material & color choices to promote wellness. Interior Designers will collaborate to unite thematic design elements from Industrial Design as well as technological considerations for Digital Design aspects.

Digital Design: the design and development of interactive visuals to be experienced within the space which are either projected, experienced via augmented reality, or by means of virtual reality. UI/UX components can be integrated and developed to create a customizable and interactive system. Digital Designers will work with Interior Design for placement and incorporation of these elements, and with Industrial Design for integrating interactive components within objects and furniture to activate digital components.

EXPECTATIONS AS A COLLABORATIVE STUDIO
It is important to emphasize that, while there are certain expectations from each major, this is a collaborative studio where many aspects of your project will overlap. Do not limit yourself within your group to just working on aspects which fall under your area of study. Many of the tools and techniques which you have developed over the past 3 years can be integrated together. For instance, interactive electronic components (utilizing microprocessors and sensors) is something which can be worked on by all group members to integrate aspects of responsive design into digital, industrial, and interior considerations.

COURSE OBJECTIVES & GOALS
-   Learn about & conduct research on the wellness industry
-   Learn about the multifaceted aspects of wellness
-   Utilize design thinking strategies to develop wellness solutions for a specific user group
-   Conduct user tests and integrate feedback
-   Integrate interactive components across disciplines
-   Develop a brand identity for your group and unified design solutions between disciplines
-   Demonstrate the ability to effectively collaborate with multiple disciplines in developing design solutions
-   Understand the dynamics of team collaboration and the distribution and structure of team responsibilities

Newark Jail Historical Center, Public Park and new structure

Instructor: Matthew Gosser
Open to: Architecture, Digital Design, Industrial Design, and Interior Design Students

COURSE DESCRIPTION

AD 463 is a hands-on studio course incorporating various design disciplines in the adaptive re-use of the historic Essex County Jail which borders NJIT campus. This project has been conceived as a collaborative effort bringing the digital design, industrial design, interior design, and architecture majors together for a shared studio experience. At times, students will work independently on aspects of the project; other times they will work cooperatively on a team project. This is to simulate the integration of design disciplines often found in contemporary work environments. The course is also meant to expand upon the lessons learned in previous digital design, industrial design, interior design, and architecture studios.

PROJECT DESCRIPTION

The Essex County Jail is a historic landmark of substantial cultural value to the city of Newark. For close to 60 years, it has sat vacant as the county, city and institutional neighbors have struggled to propose a viable way to develop the site while still maintaining a significant adherence to the landmark status placed on the historic site. Students in this course will propose designs which 1) preserve a portion of the site as a Newark Jail Historical Center, 2) create public passive and active green spaces, 3) provide meeting and administrative spaces for site and community groups and 4) propose a new, multi-use building to cover 30 % of the site.

The Newark Jail Historical Center's primary purpose is to heighten public awareness of the rich history associated with the people, structure, events and objects associated with the Essex County Jail. Accordingly:

- The first stage of this project will be an individual exercise in researching and presenting a particular aspect of the Jail.

- The second stage of the project will be about documenting and digitizing the structures chosen as museum site (and which portion of the site can be used as a new building site) and will involve the entire class working together.

- The third stage of the project will see the class break into collaborative groups to tackle the comprehensive design of the Historical Center, administration wing and associated public green spaces.

Each group will contain:

- an interior design student (responsible for program planning, partition placement, material selection and lighting layout),

- an industrial design student (responsible for furniture, product, historical exhibition and lighting design),

- a digital design student (responsible for new media, interactive exhibition design and branding/marketing)

- an architecture student (to design a multi-use structure on roughly 30% of the site).

Each four-member group must work together to ensure all aspects of the project are born from a common concept/theme, developed in an integrated way and are then presented in a uniform manner that reinforces the original concept/theme