New Jersey Institute of Technology - School of Art and Design

AD 463-003: Collaborative Design Studio

Fall 2025 - Mondays 1:00pm – 5:20pm, Thursdays 1:00pm – 5:20pm
Class Location: 740 West
Instructor: Ana Rolim, Assistant Professor | alr52@njit.edu
Prerequisites: DD 364 or FA 364 or ID 364 or INT 364 or ARCH 364 and PHYS 102
Office Hours by appointment only Mondays 11am – 12pm and Thursdays 11am – 12 pm
Credits: 5

COURSE DESCRIPTION
Interdisciplinary and multi-disciplinary design studio where students work both individually and collaboratively on team project(s) that require the integration of different design disciplines.

STUDIO TOPIC
Virtual Reality and Augmented Reality trace their origins to a long history of immersive environments. In the late 18th century, artists like Robert Barker, and later Louis Daguerre and Charles Marie Bouton, created large-scale dioramas, physical installations that immersed viewers in simulated scenes using light, scale, and perspective. This studio draws on that storytelling power to (re)imagine scenes reflecting the past, present, and future through physical representations, engaging interior, architectural, digital, and industrial design. You and your group will reinterpret and expand the traditional diorama by designing immersive, site-specific installations across three blocks in Newark's Four Corners District. Placed on rooftops, sidewalks, vacant lots, storefronts, or other urban voids, these works will blend physical and digital media to create new spatial, experiential, and ecological narratives. Key questions you will explore through projects include: What defines the character or needs of the Four Corners District? What lost elements of its past should be remembered or reimagined? What everyday activities could return as immersive "urban dioramas" that reawaken public memory? How might these installations serve practical urban functions (shade, food, rest, social space)? And how can they support sustainable food systems, climate resilience, and green infrastructure to foster a healthier, more conscious neighborhood?

PROJECT PHASES
Team members will collaborate on a unified, multi-dimensional narrative, with each discipline showing how their input supports the overall concept. Work will progress through three phases: (1) Contextual Analysis, Precedents, and Design Concept; (2) Design Development; and (3) Final Presentation and Documentation. Each phase will have 2 assignments.

EVALUATION:
Projects are initially assessed at submission, with final grades determined at the end of the semester based on your team's full body of work and your individual participation. Grades reflect how well you meet both course and project-specific objectives, as judged by the instructor. Group review sessions are mandatory and valuable learning opportunities, but do not determine final grades. The weight of each assignment in your evaluation is as follows:

Grade Components:

Project Phase 1	Assignment 1a Assignment 1b	5 points 10 points	40% of grade total
Project Phase 2	Assignment 2a	10 points	
	Assignment 2b (Midterm Review)	15 points	
Project Phase 3	Assignment 3	5 points	
	Assignment 3B (Final Presentation)	40 points	45% of grade total

Individual Participation	10 points	10% of grade total
Digital Documentation	5 points	5% of grade total
Grade Total	100 points	100%

Grade System:

A (4.0)	B+ (3.5)	B (3.0)	C+ (2.5)	C (2.0)	D (1.0)	F (0.0)
Superior	Excellent	Very Good	Good	Acceptable	Minimum	Inadequate

COURSE OBJECTIVES

Throughout the term, you will explore key issues through individual and team work. You will analyze the existing site, concepts and precedents of dioramas and interventions in public space to develop design proposals based on your findings. Presentations, discussions, readings, and reviews will support your progress toward these objectives:

- To understand the structures, dynamics and value of teamwork.
- To engage in collaboration and consensus building through teamwork.
- To develop and implement an effective research strategy appropriate for your information needs.
- To build understanding and insight of emerging technologies in various sectors.
- To apply speculative design practices that use emergent technologies in your projects.
- To use design strategies in your projects that exploit the expertise of a multidisciplinary design team.
- To design innovative solutions that respond elegantly and appropriately to emergent technologies.
- To examine, analyse and critically discuss fundamental principles present in relevant precedents, including works by artists and designers.
- To understand and apply spatial analysis tools in your projects.
- To ground your design propositions with well-reasoned, evidence-based research.
- To foster independent inquiry and experimentation, alongside meaningful participation in critique.
- To develop advanced skills in clear and compelling visual and verbal communication.

INSTRUCTIONAL TECHNIQUES

The primary instructional methods for this collaborative studio include studio project reviews, group discussions, lectures, informal desk critiques, and observation of student performance.

TEXTBOOK & MATERIALS

No textbooks are required for this course.

Required Materials

Students should have access to a computer or laptop, along with basic design and drawing supplies, including: sketchbooks and notebooks, tracing paper and presentation paper; drafting tools such pencils, pens, markers, erasers, T-square, triangles and drafting paper. Additional materials may be needed as projects develop.

COURSE STRUCTURE AND SCHEDULE:

Your regular attendance, active work in the studio, and thoughtful participation in discussions all help create a strong, collaborative learning environment—and are essential to this course. Presentations are also an important part of the studio, offering a chance to share ideas, build communication skills, and learn from each other. Project assignments will be assigned and issued on the dates listed in the schedule below. Each project assignment is due at the beginning of class, on its due date, for review. You will also be expected to submit your work in digital form, containing documentation of the entire assignment, at the beginning of each review unless otherwise specified in the assignment description. The semester is arranged as follows, but may be subject to change:

SEPTEMBER		
Week 1 - Phase 1: Contextual Analysis, Precedent and Design Concept		
Thu Sept 4	Student and faculty intros; Syllabus Presentation; Workshop: Downtown Newark and the Four Corners District	Assignment 1a (Preliminary Contextual Analysis) : Assigned
Week 2		
Mon Sept 8	Short Lecture: Dioramas + Site Visit	Desk crits - Assignment 1a
Thu Sept 11	Workshop: Intro to Space Syntax	Assignment 1a: Due/ Pin Up
Week 3		
Mon Sept 15	Lecture 2: Emerging Ecologies; Project Development	Assignment 1a: Due/ Pin Up; Assignment 1b (Contextual, Precedent Analysis and Design Concept): Assigned;
Thu Sept 18	Project Development	Desk crits - Assignment 1b
Week 4		
Mon Sept 22 Thu Sept 25	Project Development	Desk crits - Assignment 1b
Week 5 - SEPT / OCT		
Mon Sept 29	Project Development	Assignment 1b: Due/ Pin Up (including Site Model); Assignment 2a (Evolving Design Narrative): Assigned; Assignment 2b (Detailing Design Narrative): Assigned
Thu Oct 2	No classes - Wellness Day	No classes - Wellness Day
OCTOBER		
Week 6 - Phase 2: Design Refinement and Development		
Mon Oct 6 Thu Oct 29	Project Development	Desk crits - Assignment 2a
Week 7		
Mon Oct 13 Thu Oct 16	Review Assignment 2 Project Development	Assignment 2a: Due/ Pin Up
Week 8		
Mon Oct 20 Thu Oct 23	Project Development	Desk crits - Assignment 2b
Week 9		
Mon Oct 27	Project Development	Desk crits - Assignment 2b
Thu Oct 30	Midterm Review	Assignment 2b: Due/ Pin Up
NOVEMBER		
Week 10 - Phase 3: Final Presentation and Documentation		
Mon Nov 3	Project Development	Assignment 3a (Preliminary Booklet + Physical Models + Prototypes + Animation): Assigned
Thu Nov 6	Workshop: Booklet Strategies	
Week 11		
Mon Nov 10 Thu Nov 13	Project Development	Desk crits - Assignment 3a
Week 12		
Mon Nov 17 Thu Nov 20	Project Development	Desk crits - Assignment 3a
Week 13		
Mon Nov 24	Project Development	Assignment 3a: Due/ Pin Up; Assignment 3b (Final Presentation): Assigned
Thu Nov 27	Thanksgiving Recess	Thanksgiving Recess
DECEMBER		
Week 14		
Mon Dec 1 Thu Dec 4	Project Development	Desk crits - Assignment 3b (Poster design) Desk crits - Assignment 3b (Streamlined animations)
Week 15		
Mon Dec 8 Thu Dec 11	Project Development	Desk crits - Assignment 3b (Booklet + Final Models)
Week 16		
Mon Dec 15 Thu Dec 18	Final Exams	Assignment 3b (Final Presentation): Due/ Pin Up

TECHNICAL REQUIREMENTS

Class will use Canvas as the mandatory Learning Management System (LMS).

Students are required to have access to drawing, modeling, and rendering software, including but not limited to: Adobe Creative Suite (Photoshop, Illustrator, InDesign and After Effects); Rhino; Revit, AutoCAD, Adobe Premiere Pro, SolidWorks, Autodesk Maya, Blender and Autodesk Fusion 360. Students are also required to have access to DepthMapX. Students should be familiar with Google Drive and Google Workspace, and have access to the latest versions of Adobe Acrobat Reader and Adobe Flash Player. Students should also be familiar with interactive collaborative platforms such as Zoom and Miro.

About Canvas:
To ensure Canvas functions properly, use a supported internet browser such as the latest version of Google Chrome or Firefox.

DIGITAL DOCUMENTATION:
Digital documentation of the entire work of the semester will be required of EACH student. The documentation for each assigned project is to be submitted on the day of each review, before the presentations, unless otherwise specified in the assignment description. This documentation will provide the Department with a review of your study, and information contained in the digital files might be used in future electronic or printed media publications, either in whole or in part.nThe instructor will give detailed instructions on how to submit the documentation via Google Drive.

BACKUP YOUR WORK:
Students are required to maintain and complete backups of all their computer-based work. It is the responsibility of each student or team to restore or recreate any work that is lost for any reason (including the failure of University-provided software and/or hardware). All backup files should be stored on two independent external locations (not on local or CoAD networked locations, as they are subject to reformatting without notice). For suggestions on backup processes, please contact the NJIT HelpDesk: (ist.njit.edu/support/index.php).

ATTENDANCE:
Attendance is mandatory for all on-campus/location-based classes in the College of Architecture and Design, and will be recorded each session. After three unexcused absences, students may receive a half-letter grade reduction for each additional absence—for example, a final grade of “A” would become a “B+,” a “B+” would become a “B,” and so on. In cases of illness or other special circumstances, students should notify the Dean of Students as early as possible and prior to the missed class. If a student anticipates missing class due to religious observance, they must inform the Dean of Students at the beginning of the semester. Student-athletes are expected to attend all classes and may only miss sessions when officially representing NJIT in intercollegiate competition. Absences for practice activities are not permitted.

TARDINESS:
Students are expected to arrive on time for class. Arrivals more than 30 minutes late will be considered an absence rather than tardiness.

LATE WORK:
Students are expected to arrive at class on time. Project assignments and digital documentation must be submitted at the start of class on the assigned due dates. Incomplete or late work should be avoided, as late submissions will not be accepted unless supported by documented illness or approved special circumstances.

LAST DAY TO WITHDRAW:
Please note that Wednesday the 10th of November 2025 is the last day to withdraw from this course.

STUDENTS WITH DISABILITIES:
Office of Accessibility and Resources https://www.njit.edu/accessibility/, Students who need academic accommodations in connection with a disability must initiate the request with NJIT Office of Accessibility and Resources (OARS). Students need to register with the Office of Accessibility in order to officially disclose their disability status to the College and to determine eligibility for appropriate reasonable accommodations (including any prior IEPs or 504s). Please contact OARS at the start of the semester (or as soon as possible) to coordinate any accommodation requests: https://www.njit.edu/accessibility/, Room 201 (Kupfrian Hall) or email us at OARS@NJIT.EDU

ACADEMIC INTEGRITY:
Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is the responsibility of each student to protect their educational investment by knowing and following the academic code of integrity policy that is found at: https://www.njit.edu/sites/njit.edu.policies/files/academic-integrity-code.pdf.

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

GENERATIVE AI
The use of AI tools is permitted primarily for researching, organizing, and summarizing information, as well as supporting your study skills. NJIT has adopted the 2025 edition of the student guide *AI-U*, developed by Elon University and the AAC&U, to help guide responsible use. When applicable, specific best practices or guidelines will be provided in individual assignment instructions.

RESOURCES ON MENTAL HEALTH & COVID-19: RESOURCES
Resources on Mental Health & Covid-19 can be found at: https://researchguides.njit.edu/mentalhealth

CELL PHONE POLICY
Cell phone use during class is only allowed in cases of emergency.

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

Al_Sayed et al (2014). *Space Syntax Methodology*. London: Bartlett School of Architecture. Available via Google Drive.

Baudoin, G. (2016). *Interpreting site: perception, representation, and design*. London: Routledge.

Carson, C. and Wagstaffe, M. *Emerging Ecologies: Architecture and the Rise of Environmentalism*. New York: The Museum of Modern Art, 2023.

Christie, I. (Ed.) 'Spaces: Exploring Spatial Experiences of Representation and Reception in Screen Media'. Amsterdam University Press. (2024). Available at: https://www.jstor.org/stable/jj.11895527.6

Difford, R. (2017) 'Infinite horizons: Le Corbusier, the Pavillon de l'Esprit Nouveau dioramas and the science of visual distance', The Journal of Architecture, 22:5, 825-853, DOI: 10.1080/13602365.2017.1351762. Available via Google Drive.

Edwards, S. (2018). 'Sensorial Interior: Museum Diorama as Phenomenal Space'. Interiority, 1 (2), 173-184. https://doi.org/10.7454/in.v1i2.29. Available via Google Drive.

Kallipoliti, L. (2024). *Histories of Ecological Design: An Unfinished Cyclopedia*. New York; Barcelona: Actar Publishers.

NEMESTUDIO (2022). 'Diorama', Log (56), Model Behavior: The Exhibition (Fall 2022), p. 75. New York: Anyone Corporation. Available via Google Drive.

Phillips, P.; Wined, J. (1982). *Highrise of Homes*. New York: Rizzoli.

Tumlir, J. (2010). 'New Topographics: Photographs of a Man-Altered Landscape', X-tra, 12 (4), p.26-37. Los Angeles: Project X Foundation for Art and Criticism. Available via Google Drive.

Turan, N. (2019). *Architecture as Measure*. New York; Barcelona: Actar Publishers.

Velásquez, V. (2014) 'The Drawing of the Diorama of Le Corbusier and Pierre Jeanneret in 1922', EGA: Expresión Gráfica Arquitectónica, 19 (23), p. 104. Valencia: Universitat Politècnica de València (UPV). Available via Google Drive.