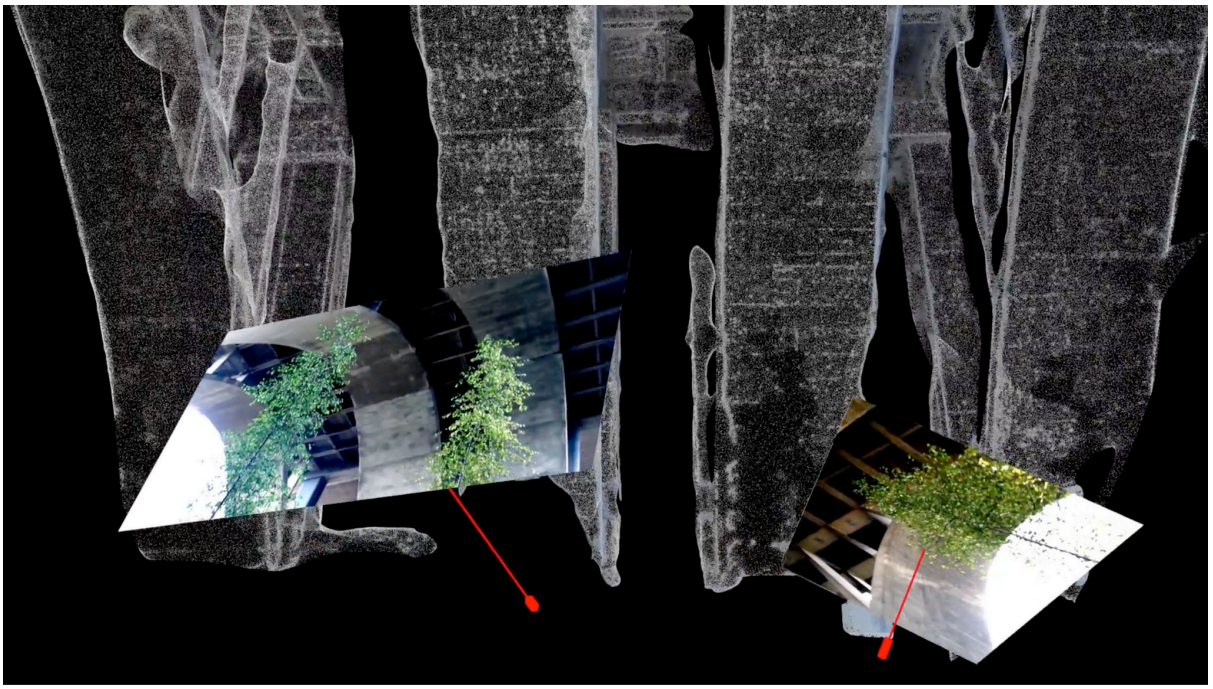
Climate Justice + Digital Reenactments



ARCH A4324
Spring 2025, Mondays 11:00 - 13:00 EST
Location: 300 S BUELL

Catherine Griffiths, Assistant Professor
Computational Design Practices, GSAPP, Columbia University
Email: cg3534@columbia.edu

Office Hours: Wednesdays 08:00 - 09:00 EST online + by appointment.
I am also available to meet briefly in person after class.

Course Description
In the face of escalating climate crises, this course examines the intersection of computational design with climate justice in an urban context. Students will investigate how environmental policies disproportionately affect marginalized communities and how computational design practices can give visibility and contestation to public discourse.

By studying ideas from climate economics, climate activism, environmental policies, and the history of participatory practices in urban space, the course will explore the role of computational tools in visualizing and re-enacting forms of citizenship and design

strategies in urban spaces.

The course will take the form of critical readings, discussions, lectures, learning new computational workflows, and developing a single interactive project throughout the semester. Students will work between the Unity 3D game engine and photogrammetry and scanning workflows to produce models, datasets, animations, and interactive elements that simulate and narrativize concepts of climate justice and the impacts of urban policies in the city.

The course aims to cultivate a deeper understanding of the power dynamics at play in climate governance and the possibilities for design to contribute to a just-climate future. The course is open to all students, and no prior programming experience is required.

Software Methods
- Introduction to Unity3D, a game engine that will serve as the primary visualization and design platform for the course.
- Introduction to C# to program interactive functions
- Working with photogrammetry, lidar, and point clouds to recreate physical sites.
- Building a database of scanned actions.
- Creating camera tracks and interactions for narrative design

Learning Objectives
- To be able to map out key positions in the theoretical terrain of climate justice.
- To establish a foundational working proficiency with the Unity Game Engine as an interactive design environment and photogrammetry to create digital assets.
- To analyse and critique the visual design strategies of artists, designers, and activists to develop a your project.
- To experiment with computational tools as they intersect with socio-political issues.
- Synthesize theoretical insights from readings with practical computational techniques into a visual and critical argument.
- To construct an interactive narrative software application that explores a climate justice topic as it intersects with the urban environment.

Weekly Schedule
All course readings will be provided. The syllabus is subject to minor changes during the semester. You will be notified of any changes.

01/27 - Week 1
Introduction to the course

02/03 - Week 2
No in-person class as Instructor is at a conference
Demos, T. J. (2023) Radical Futurisms: Ecologies of Collapse, Chronopolitics, and Justice-to-Come. Sternberg Press

02/10 - Week 3
Thomas, Leah. (2022) The Intersectional Environmentalist: How to Dismantle Systems of Oppression to Protect People + Planet. Little, Brown and Company.
Launch Main Class Project
Introduction to Unity

02/17 - Week 4
Lefebvre. Henri. (1991) The Production of Space. Blackwell
Introduction to Photogrammetry

02/24 - Week 5
No in-person class as Instructor is at a conference
Malm, Andreas. (2000) How to Blow Up a Pipeline: Learning to Fight in a World on Fire. Verso.
Build an asset library for you project

03/03 - Week 6
Bishop, Claire. (2012) Artificial Hells: Participatory and the Politics of Spectatorship. Verso.
Working with cameras in Unity
Introduction to C#

03/10 - Week 7
Kinne Week
Luksch, Lisa. and Lepik Andres. (2024) Reading Visual Investigations: Between Advocacy, Journalism, and Law. ArchiTangle.

03/17 - Week 8
Spring Break

03/24 - Week 9
De La Cadena, Marisol. Blaser, Mario. (2018) A World of Many Worlds. Duke University Press
Demo Characters and Imported Assets

Explore ontology design in Graphic Commons

03/31 - Week 10
Mazzucato, Mariana. (2021) Mission Economy: A Moonshot Guide to Changing Capitalism. Harper Business
Interface Design

04/07 - Week 11
Jackson, Shannon. (2011) Social Works: Performing Art, Supporting Publics. Routledge.
Adding sound, titles, working on representation

04/14 - Week 12
Latour. Bruno. (2018) Down to Earth: Politics in the New Climatic Regime. Polity Press
Project development

04/21 - Week 13
Final Review

05/02 - Final Submission
All completed work due at 23:59

Submissions + Grading
9 x Reading Responses = 45 points
1 x Final Project = 45 points
In-class participation in reading discussions and project reviews = 10 points
Final review is on Monday, April 21, 11:00 - 13:00, in 300 S Buell
Final submission of all completed work is on Friday, May 2 at 23:59
Students' willingness to participate in class discussions can only help their grades, especially if they are on the limit between grades.
All late reading responses will be deducted 3 points.
Late submission of the final project will be deducted 10 points.
Deadlines are strictly enforced by the timestamp on Courseworks. There are no extensions.
The grading breakdown is: ≥90 high pass, ≥75 pass, >75 low pass.

Course Bibliography
All course readings will be provided on Courseworks.

Demos, T. J. (2023) Radical Futurisms: Ecologies of Collapse, Chronopolitics, and Justice-to-Come. Sternberg Press

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Course Policies

Academic Integrity

The intellectual venture in which we are all engaged requires of faculty and students alike the highest level of personal and academic integrity. As members of an academic community, each one of us bears the responsibility to participate in scholarly discourse and research in a manner characterized by intellectual honesty and scholarly integrity.

Scholarship, by its very nature, is an iterative process, with ideas and insights building one upon the other. Collaborative scholarship requires the study of other scholars' work, the free discussion of such work, and the explicit acknowledgment of those ideas in any work that informs our own. This exchange of ideas relies upon a mutual trust that sources, opinions, facts, and insights will be properly noted and carefully credited.

In practical terms, this means that, as students, you must be responsible for the full citations of others' ideas in all of your research papers and projects; you must be

scrupulously honest when taking your examinations; you must always submit your own work and not that of another student, scholar, or internet agent.

Any breach of this intellectual responsibility is a breach of faith with the rest of our academic community. It undermines our shared intellectual culture, and it cannot be tolerated. Students failing to meet these responsibilities should anticipate being asked to leave Columbia.

For more information on academic integrity at Columbia, students may refer to the Columbia University Undergraduate Guide to Academic Integrity as well as the GSAPP Honor System and Plagiarism Policy.

Generative Artificial Intelligence Tools

GSAPP has always championed the constructive use of emerging technologies and tools to push the boundaries of knowledge. We, therefore, support responsible and critical experimentation with generative Artificial Intelligence (AI). AI software are ubiquitous and relevant to many fields. Whether their usage is considered acceptable or not hinges on the manner in which they are used. It is crucial to recognize that text, audio, or image-based AI applications do not always produce reliable results. AI tools draw upon a vast array of data and opaque machine-driven methods to gather and amalgamate content that is made accessible to a user, resulting in a blend of sometimes accurate and erroneous data. The results may also display biases endemic to the data and might also violate copyright laws.

Community & Accessibility

This is a discussion and collaborative-critique-based course. All students and the instructor must be respectful of others in the classroom. If you ever feel that the classroom environment is discouraging your participation or is problematic in anyway please contact me.

GSAPP is committed to full inclusion of all students. Students needing any form of accommodation due to a disability should check in with Disability Services (DS) and speak with me at the beginning of the semester to provide the accommodation letter from DS. Alternatively, you may ask your advisor to consult with me regarding your accommodations.

Email Policy

Students should not rely on or expect an immediate response to questions sent via email to the instructor. Please begin assignments with enough time to attend office hours or ask a question several days before the assignment is due.

Learning how to troubleshoot technical issues and locate relevant resources is crucial in your long-term success with coding practices. With this in mind emails with technical questions must at a minimum contain the following:

- a clear description of what you are trying to do, and what the problem is
- a summary of the steps you have already taken to address the issue
- screenshots (where applicable) that help to explain the problem
- a link to at least one appropriate website or technical forum that you consulted for assistance before writing the email.

Attendance Policy & Absences

Students must attend all in-person class sessions. Refer to the GSAPP attendance policy. Students are responsible for catching up with any missed content by corresponding with classmates and checking for updates. The instructor cannot repeat missed content or information during office hours or via email due to absence, except for an extended illness. Office hours are meant to advise students on additional questions about the course content beyond what was presented in class, guidance with projects and writing, and any personal issues.

Student Well-Being

Students may experience stressors that can impact both their academic experience and their well-being. These may include academic pressure and challenges associated with relationships, mental health, alcohol or other drugs, identities, finances, etc. If you are experiencing concerns, seeking help is a courageous thing to do for yourself and those who care about you. If the source of your stressors is academic, please contact me so we can find solutions together. For personal concerns, the university offers resources for support.