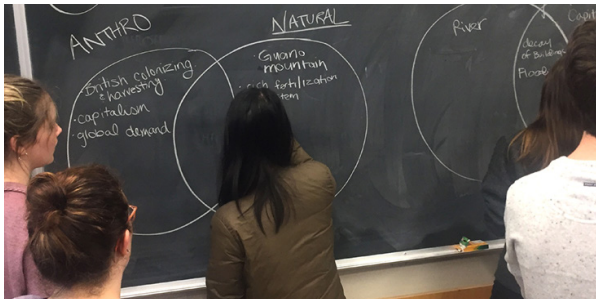# Architecture Climate Change & Society

Buell Center
2020 Course Development Prize

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CHANGING MINDS FOR A CHANGING CLIMATE

Co-taught by a historian, a landscape architect, and a building scientist, this course proposes that design thinking has the potential to reframe the wicked problem of climate change. Weekly structured debates will pose provocations based on a set of historical and contemporary episodes and contested landscapes that position the designer in relation to societal change. Students assignments (Debate, Review, Conceive, and Impact) will analyze case studies in order to reimagine the relationship between design and climate change. Divided into modules that highlight different perspectives, the class will include lectures, workshops, and collective assignments intended to produce a small exhibition.

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Changing Minds for a Changing Climate

Proposal for a graduate course in architecture, landscape architecture, and urban design
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> "If you care about the planet, and about the people and animals who live on it, there are two ways to think about [climate change]. You can keep on hoping that catastrophe is preventable, and feel ever more frustrated or enraged by the world's inaction. Or you can accept that disaster is coming, and begin to rethink what it means to have hope."
> — Jonathan Franzen, "What If We Stopped Pretending?" *New Yorker,* 8 September 2019

Franzen frames the problem of the climate apocalypse by pointing out the misalignment of rhetoric (stop climate change!) and evidence (it's unstoppable!). But what if we see this discord as a problem of design? The International Panel on Climate Change (IPCC), the scientific body of the United Nations, has strongly advocated policy action that effectuates necessary change in culture and public sentiments towards climate action and carbon. Yet, through all the thousands of pages that have been produced by the IPCC, there has never been so much as a whisper that *designers* can be, and have been, critical agents of social and cultural change. Are we lacking, and if so desperately seeking, designers who can create and articulate compelling, hopeful, achievable, and ultimately *envious* futures of buildings, cities, and regions that respond directly to the climate emergency?

This course proposes that design pedagogy has the potential to reframe the wicked problem of climate change. Debating the role of design in the ongoing climate emergency will provide design students with productive ways to imagine their capacities, limits, and responsibilities as future professionals. Weekly themes will pose provocations based on a set of historical and contemporary episodes and contested landscapes that position the designer in relation to societal change. Students will develop their position through a deep analysis of case studies in order to reimagine the relationship between design and climate change. With a critical eye, the course will ask: What if we start pretending, as designers do, that there is a hopeful future ahead of us in the face of climate change?

Course Format:
The course will be co-taught by three faculty, each representing a unique methodological approach to climate change. Sara Stevens, a historian, will challenge contemporary assumptions through historical case studies. Landscape architect Kees Lokman will consider the role of design as it relates to the wider implications of energy production and resource extraction on issues of spatial justice and ecosystem health. Adam Rysanek, an engineer researching low-carbon cities, will explore established and emerging technologies for addressing climate change and the relationship between science, policy, and public engagement on the climate change issue. Divided into modules that highlight different perspectives, the class will include lectures, debates, workshops, and collective assignments intended to produce a small exhibition at the end of the term that creatively analyze a set of case studies connecting design and climate change.

Learning Objectives:
At the end of the semester, students will be able to:

- ❏ Identify and critique different methodological approaches that designers and scholars use to consider questions raised by the climate emergency
- ❏ Critically analyze historical and contemporary case studies
- ❏ Use a variety of methods (rhetorical, graphical, scientific) to interpret case studies
- ❏ Articulate a position that connects the work that designers do in relation to the climate emergency

❏ Gain confidence in establishing one's role as a designer in addressing climate change, between one's responsibilities, opportunities, and limitations as an individual actor

Assignments and Student Work:

In addition to weekly readings and discussions, students will :

❏ **Debate:** In pairs, weekly, students will explore topics and complex issues related to climate change and design from differing perspectives. Student teams will be tasked with preparing and articulating educated, but opposing views on a central topic in order to enhance collaborative learning and critical thinking

❏ **Review:** In an individual study, students will analyze a case study (e.g., net-zero energy construction), policy (e.g., Green New Deal), building design / accreditation scheme (e.g., Living Building Challenge) at two different scales: the commercial recipients of these projects or programs (i.e., land owners / tenants, clients, etc.), and the macroeconomy (i.e. from the view of social benefits and costs); the outputs of student work will be graphical poster reports that are presented in a group review, and on display all term.

❏ **Conceive:** Students will work in small groups to draw and operate on an existing design intervention that has acted as a contributor to or exacerbator of climate change and propose a revision to it that supports climate mitigation and adaptation. The drawings will be analytical, layered, and annotated to describe the condition as it exists and to propose a (speculative) adjustment or change that shifts the designer's role or ideological approach to the climate emergency. Drawings will be poster-sized and prepared for an exhibition of class work at the end of term. A short written analysis will interpret the work of the drawing and connect it to the course discussions and readings.

❏ **Impact:** Students will think speculatively about the problem of climate change, and how design can intervene in its debates. They will be tasked with proposing their intervention as a follow-up graphical poster to compare to their initial Review assignment. Students might create a zine, design community workshops, propose a course, design a direct action campaign, etc.

Module 1: From capitalocene to chthulucene

This module looks critically and historically at different conceptions of environmentalism and sustainability in architecture to understand their relationship to capitalism. What does it mean to look at the climate emergency next to capitalism, in a way that goes beyond Natural Capitalism, Eco-commerce, LEED Platinum, etc.? Students will research historical examples of architectural or urban environmental radicalism to situate a concern for nature aside a self-interest in capital accumulation, and new critiques of these conditions that focus on 'making kin.' In this module, students will **'Debate'**.

Examples of readings:

Jason W. Moore, "Wall Street Is a Way of Organizing Nature," *Upping the Anti*, no. 12 (April 2011): 47–61.

Donna Haraway, "Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin," *Environmental Humanities* 6, no. 1 (2015): 159–65.

Kenneth E. Boulding, "The Economics of the Coming Spaceship Earth," in *Environmental Quality in a Growing Economy*, ed. Henry Jarrett (Baltimore: Published for Resources for the Future, Johns Hopkins Press, 1966), 3–14.

Module 2: Are we instagramming our apocalypse?

This module will introduce and debate two juxtaposing views on the present-day role of design in the development of low-carbon cities: 1) that critically-acclaimed projects showcasing sustainable design have been catalysts of technical, social, economic, and policy change; and 2) that many of these projects were greenwashing and contributing nothing to a future low-carbon economy. The module will challenge students to discover and critically

discuss the nature of aesthetics in discourses around social change, policy, and macroeconomics. The module will facilitate additional discussion on the roles of individual actors and individual projects in catalyzing mass social change. In this module, students will **'Debate'**, and **'Review'.**

> **Examples of readings:**
>
> Manzini, E. (2014). Making things happen: Social innovation and design. *Design Issues*, *30* (1), 57-66.
>
> McKee, Yates. (2007). Art and the Ends of Environmentalism: From Biosphere to the Right for Survival. *Nongovernmental Politics*. New York : Zone Books. 539–61.
>
> Shove, E. (2010). Beyond the ABC: climate change policy and theories of social change. *Environment and planning A*, *42*(6), 1273-1285.

Module 3: Contested energy landscapes and the Green New Deal

Growing energy demands are generating wholly new 'energy landscapes' based on the extraction, processing, and distribution of energy. On the one hand, we can see growth in shale gas and oil sands. On the other, there is an increase in wind farms, solar fields and biofuels. All of this is inherently linked to issues of climate change, environmental degradation, water and food security, social justice, and geopolitical conflicts. This module explores how these emerging energy landscapes function socially, spatially and ecologically. It concludes by examining recent discussions around the role of design in envisioning more sustainable relationships among energy production, spatial justice and ecological health. In this module, students will **'Debate'** and **'Conceive'.**

> **Examples of readings:**
>
> Bridge, G., et al. "Geographies of Energy Transition: Space, Place and the Low-Carbon Economy." *Energy Policy*, vol. 53, 2013, pp. 331-340.
>
> Pasqualetti, Martin J. "Social Barriers to Renewable Energy Landscapes." *Geographical Review*, vol. 101, no. 2, 2011., pp. 201-223.
>
> Fleming, Billy. "Design and the Green New Deal," *Places Journal*, April 2019.

Module 4: The history and uncertain future of energy, climate and form

This module will investigate the architectural response to climate change from the technical standpoint of energy consumption, embodied energy and attributed greenhouse gas emissions. It will introduce the concept of environmental resiliency, and how this has framed policy decisions and architectural responses in different eras. Students will debate whether the intellectual and financial capital required to address carbon emissions at the project scale helps or hinders the role of designers as agents of social change. Should designers push the envelope of technical innovation and performance or promote alternative strategies that more *robustly* convinces those still disaffected by climate action? In this module, students will **'Conceive'** and **'Impact'.**

> **Reading List:**
>
> Kiel Moe, "Energy and Form in the Aftermath of Sustainability," *Journal of Architectural Education* 71:1 (2017), 88-93.
>
> Mirko Zardini et al., eds., *Sorry, out of Gas: Architecture's Response to the 1973 Oil Crisis*, 1st ed (Montréal: Canadian Centre for Architecture, 2007). (selections)
>
> Jabareen, Y. (2013). Planning the resilient city: Concepts and strategies for coping with climate change and environmental risk. *Cities*, *31*, 220-229.