



# Projects for the Future City

## urban climate-responsive design

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Climate change already adversely impacts food and water security, human health, and economies, generating significant losses and damages to communities, cities, and countries. However, the effects are primarily disproportionate in non-privileged, marginalized, and vulnerable groups, who have historically contributed the least to the current situation. (IPCC, 2023). Climate vulnerability increases in areas with low-income populations and limited access to public services and infrastructure. As indicated by the IPCC (2023), regions and people with developmental constraints are highly vulnerable to climatic hazards. Increasing extreme weather and climate events have exposed millions to food insecurity and reduced water security, especially in locations and communities in the Global South. Furthermore, according to the IPCC (2023), approximately 3.3 to 3.6 billion people worldwide live in highly vulnerable contexts to climate change. Between 2010 and 2020, human mortality from floods, droughts, and storms was 15 times higher in highly vulnerable regions than very low vulnerability.

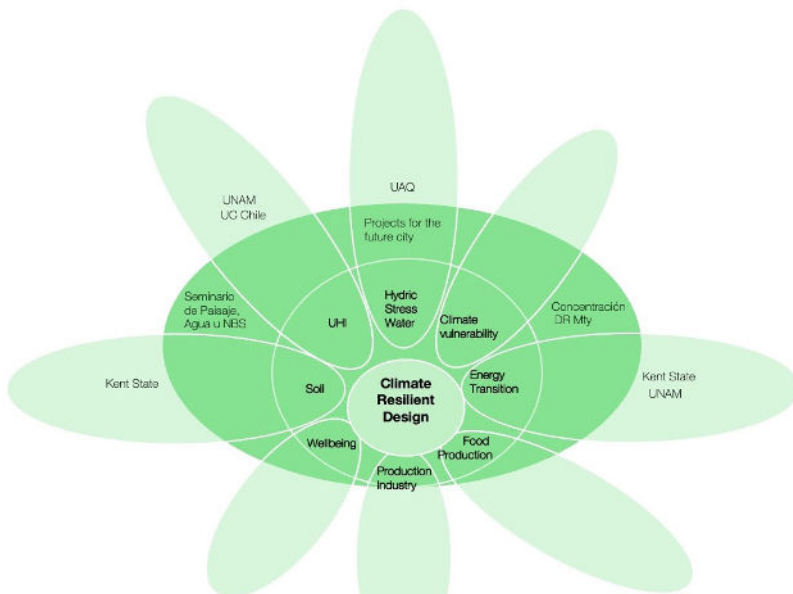
### COURSE DESCRIPTION

**Projects for the Future City** is an effort to address climate justice by exploring the sociocultural and ecopolitical dimensions of the climate crisis in the Mexican context. For the last two years, the studio has investigated four topics: hydric stress, energy transition, urban heat island, and soil degradation. Exploring these climate design themes led us to define a new set of issues that will be addressed for the next two years to complete the climate justice mosaic, outlining the desirable possibilities of addressing multiple facets within the local challenges.

The opportunities rely on designing actions that address the scale and impact of climate change challenges regarding food and water security, especially in the Global South.

Our discipline's question is how to shift from a "spectator role" to understanding and acting on climate justice. This question leads us to guide the design studio: **Can urban climate-responsive design interventions engage different faces of climate injustice?**

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Climate design themes framework.

**Querétaro as a project.** Querétaro, located in central Mexico, has experienced rapid land transformation and anthropization of the natural environment, causing socioeconomic and environmental damage. Querétaro is one of many cities that have undergone industrial expansion and generated economic growth while causing ecological harm. In recent years, urban and peri-urban areas have developed exponentially. Rapid urbanization, over-extraction of natural resources,

environmental deterioration (water and air pollution), resource shortages, and droughts due to the imbalance in the urban hydrologic cycle represent the scenario that Querétaro and many Mexican cities are facing (González-Sosa et al. 2010). Assuming the role of an educational institution and the responsibility of our discipline, we focus on our city as the **Project for the Future City**.

This course enriches the field of architecture by incorporating urbanism and landscape architecture as tools for exploring new themes, programs, approaches, and narratives to face climate challenges through transdisciplinary dialogues, collaboration with local communities, and critical thinking. Moreover, we are training designers to be more climate-sensitive and reinforce their critical and systems thinking.

## METHODOLOGY

Using the “research by design” methodology, the studio (1) identifies local challenges resulting from the climate design challenges, (2) explores possible paths and creates spaces of possibility where desirable futures can be imagined, (3) proposes an agenda that allows new projects and new programs to be designed with a critical perspective, and (4) design alternative narratives to a local practice dominated by short term thinking.

The project lasts two years and is divided into four semesters (15 weeks each). Each semester will focus on a specific climate design topic and research question. This methodology is divided into the agenda, territorialization, and future and spatial interventions.

*Agenda.* The faculty declares the climate design topic, with a research question as a general framework. The studio then looks for a specific research problem selected and defined as the conceptual framework.

*Territorialization.* In this phase, the students use primary and secondary data to study the local phenomena resulting from the chosen problem. In this sense, specific questions are generated to understand how the existing urban dynamics in the territory contribute to the problem. Through mapping, critical zones or polygons are defined where these problems have the most significant impact or, in any case, a vital opportunity to be addressed.

*Future.* This stage aims to define a strategic framework that will serve as a reference for project development. To this end, it is essential to formulate a goal for the desired future that will allow the problems identified to be addressed systematically. Although this framework is not intended to provide concrete ideas, it makes it possible to define desirable conditions for base strategies. In other words, it establishes a goal through strategy and implementation. It also outlines a series of strategies to guide the actions to be developed in the projects, defining the type of strategy, its periodicity, and its systemic impact.

Based on the location and mapping of the strategies, a list of architectural and urban programs is defined. This list, in turn, leads us to relate it to the critical polygons, strategies, and programs, which are finally translated into a collection of projects with different approaches but aiming at the same objective.

*Spatial Interventions (Design Actions)* In this phase, the project will be developed based on selecting one of the projects that addresses the spatial strategies and responds to the declared desirable vision.

Based on the site's specificities, project strategies, and architectural programs are established to materialize the plan. These are then used to develop architectural projects that consider landscape, construction, structural, and facility criteria.

## RESULTS

The course has been running for two years and has partnered with Kent State University, Universidad Central in Chile, and UNAM in Mexico City in recent years. It has produced over 50 projects addressing climate resilience issues such as water scarcity, soil regeneration, urban heat islands, and energy transition, compiled in a digital catalog (ISSUU).

The studio's resulting projects are characterized by (1) the aspiration to resolve multiple topics (housing, green infrastructure, water landscape); therefore, they dealt with climate crisis issues while solving the provision of basic services. (2) Evidence of the spatial consequences of a city based on a resource extractive model (water, soil, energy) that is deeply embedded in its urban policies and actions. (3) Powerful climate-based interventions when they successfully communicate their multi-scales and systems, generating new questions and thus provoking other narratives. (4) Turning projects into a means for agency.

The studio has been involved in discussions that consider international venues,

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## TOOLS System

atic analysis of literature review and analogous cases (architectural and urban projects).  
Experts' lectures.

Geographic Information Systems to map the natural and built environment, plus the creation of thematic layers (layering)  
Site visiting and on-site mapping  
Interviews  
Experts' lecture

Visioning (dystopian or the desirable vision) and manifesto.  
AI images that support the visioning.  
Experts' lecture

GIS mapping for specific site analysis  
Ethnographic mapping  
Project communication includes digital books, physical and digital models, and architectural and technical drawings.

<https://issuu.com/projectsforthefuturecity/stacks>

such as Conferencia Internacional Ciudades Resilientes desde el Sur Global in Santiago de Chile (2023) and the International ACSA Meeting celebrated in the summer of 2024 with two different papers and presentations.

In the next couple of years, the design studio will also collaborate with international universities on the climate resilience agenda, focusing on food production, collective well-being, industry, and climate vulnerability. The future expected outcomes of this collaboration are a publication and an exhibition.

- (1) Projects for the future city: hydric Stress Spring 2023  
Project Sitopia by Camilo Antón Estevez, Javier Macías Valenti & Alfredo Ramírez Moreno
- (2) Projects for the future city: UHI Autumn 2023  
Project Cities of Care by Ana G. Suárez & Denisse Huerta
- (3) Projects for the future city: Energy Transition Spring 2024  
Project Punto by Alesia Armas, Valeria Márquez & Diego Ramírez



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