

Architecture Climate Change & Society

Buell Center
2021 Course Development Prize

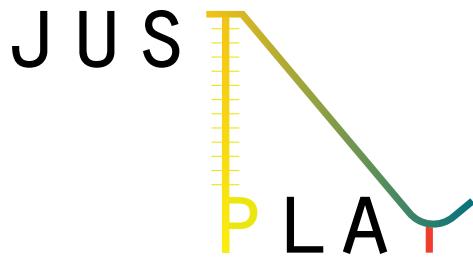
JUST PLAY: EDUCATIONAL GAMES FOR ISLAND RESILIENCE

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Just Play is a set of coordinated courses in Architecture, Landscape Architecture, and Urban and Regional Planning at the University of Hawai'i at Mānoa that will focus on climate change and design justice. The objective is to explore learning through teaching, and teaching through play. Students will conduct research and design place-based, equity-focused educational games for a 5-week course, which will be offered to 12 participating high schools through the Mānoa Academy program, led by the College of Social Sciences. University students will work in partnership with the City & County of Honolulu Office of Climate Change, Sustainability, and Resiliency (OCCSR), to build on their 2020-21 Climate Change Open Houses and talk stories. These open houses gather information that will enable OCCSR to develop equity initiatives for Honolulu's Climate Adaptation Strategy. Students will integrate OCCSR's community input with research to design interactive games that cultivate citizenship skills: empathy, negotiation, decision-making, and collective action to foster resilient island communities. Just Play seeks to engage climate change from an equity standpoint, focusing on social action, empowerment, scenario-planning, systems-understanding, design, and education, reaching beyond technological solutions. It represents a multi-departmental effort to expand our reach as educators and advocates.



J U S T
P L A Y



EDUCATIONAL GAMES FOR ISLAND RESILIENCE

INSTRUCTORS:

University of Hawai'i at Mānoa

- Priyam Das, PhD. Associate Professor and Department Chair, Department of Urban and Regional Planning
- Cathi Ho Schar, AIA. Assistant Professor, School of Architecture, Director, UHCDC
- Karla Sierralta, AIA. Assistant Professor, School of Architecture
- Phoebe White, ASLA. Assistant Professor, School of Architecture

COURSE DESCRIPTION:

'Just Play' partners the university with the recently established City & County of Honolulu Office of Climate Change Sustainability and Resilience amidst unprecedented climate, economic, and public health challenges. The City & County of Honolulu, which encompasses the island of O'ahu and all of its urban, suburban, and rural communities, presents a unique context for resilience. Honolulu has one of the highest costs of living in the world. Today, \$93,300 or less is considered "low income" for a family of four on Oahu, matching San Francisco as one of the most expensive housing markets in the country. Honolulu has the highest per capita homelessness rate in the country, tied with New York City. Almost 90% of the island's food supply and 85% of its energy is imported. Doing nothing about climate change will cost O'ahu at least \$12.9 billion dollars in at-risk coastal real estate and assets. Honolulu is projected to bear 66% of the projected statewide economic loss due to sea level rise, so a resilient Honolulu impacts the wellbeing of the entire state.

This project builds on OCCSR's extensive community outreach to develop the Ola O'ahu Resilience strategy. Residents identified top shocks and stressors, which informed 44 Resilience Actions that fall into four pillars. OCCSR also conducted 4 months of equity focused Kūkākūkās (talk stories), that identified the needs of the island's most vulnerable communities. Building on this momentum, the topic areas and games will foreground these community needs and perspectives. Four courses in this collaboration will engage students in the Bachelor of Environmental Design, Master of Landscape Architecture, and Master of Urban and Regional Planning programs to develop research and games that explore and teach climate citizenship.

At its core, 'Just Play' games seek to fill a gap in accessible and interactive games that connect to the unique cultural and geographic context in which our students live and learn. The partnership with Mānoa Academy will provide 'Just Play' with an existing program infrastructure that offers underserved and aspiring high school students a chance to take university courses each summer. The games will be piloted in the Program, which has 12 partner highschools, including Kamehameha Schools, established to educate Native Hawaiian students.

JUST PLAY - WORKPLAN SUMMER 2022

Meets: 5-week course MWF 3x week/3 hrs/week

Week 1 Moku (region)

Description: A handbook will provide background of the region (O'ahu), project goals, detailed instructions for navigating the game, parameters, and an interactive map to illustrate the team's proposal for realizing community and economic benefits.

Session 1: Distribute handbook + guided reading + review game instructions

Session 2: Facilitate team work to develop scenarios

Session 3: Present preferred scenario highlighting 3-4 drivers for decision making

Week 2 Ahupua'a (watershed)

Description: This module of the Just Play course investigates the history of hydrological cultivation and stewardship in Hawai'i and uses this history to test landscape adaptation scenarios for emergent hydrological risks such as sea level rise, storm surge, tsunami, and flash flood. Students will test landscape infrastructure adaptation strategies using the Just Play Board Game according to different hydrological risk scenarios.

Session 1: History of Water Cultivation in O'ahu.

Introduction to the history of hydrological adaptation and cultivation in Hawai'i and how this history can inform future strategies for adapting to emergent hydrological risks.

Session 2: Water Play. Introduce students to the kit of adaptive landscape infrastructure parts in the Just Play Game; test adaptation strategies using the Just Play Board Game according to different hydrological risk scenarios

Session 3: Group Assessment and Evaluation. Reflect on how the different hydrological risk scenarios altered and impacted the landscape and how landscape infrastructure and cultivation can empower island communities to adapt to hydrological risks.

Week 3 Ili (neighborhood)

Description: This module looks at community health exploring the relationships between different demographic groups: People of Color, Low-Income Households (<50% Area Median Income), People with Disability, Seniors 65 Years and Over, Single Parent Families, Severely Rent-Burdened Households, Low Educational Attainment (less than a bachelor's degree), Low-Income Households (<50% Area Median Income), and incarcerated individuals. Students will play a scenario driven game that examines how different events, programs, and policies can impact and restore equity to these populations.

Session 1: Introduction to equity, diversity, and inclusion, and a history of incarceration. Distribute handbook + review game instructions.

Session 2: Test policy and programmatic scenarios through the Just Play Game.

Session 3: Reflect on how the different scenarios altered and impacted community health and rehabilitation.

Week 4 Kauhale, Hale (block, dwelling)

Description: This module will explore design strategies for walkable, sustainable, and equitable communities on O'ahu, focusing on spaces for dwelling from the basic unit to a typical neighborhood block. A series of architectural artifacts will present a kit of components that will allow students to play with alternative densities, programs, and ways of inhabitation, assessing the impact of design decisions on people, places and the environment.

Session 1: Introduction to walkable, sustainable, equitable concepts, handbook distribution and review of game instructions.

Session 2: Interactive play, creation of iterations utilizing the system of architectural artifacts.

Session 3: Analysis and documentation of scenarios. Discussion of learnings, opportunities, and challenges.

Week 5 Synthesis of Feedback and Learning Outcomes

Reading List:

- Vaughan, Mehana Blaich. 2018. *Kaiaulu: Gathering Tides*. Oregon University Press [selected chapters].
- Levin, Penny. "Learning from the Taro Patch." *Thinking Like an Island: Navigating a Sustainable Future in Hawaii* (Honolulu: University of Hawai'i Press, 2018) 79-124.
- Fisher, Scott. "Hawaiian Culture and Its Foundation in Sustainability." *Thinking Like an Island: Navigating a Sustainable Future in Hawaii* (Honolulu: University of Hawai'i Press, 2018) 7-27.
- McNair, Tia Brown, "We Hold These Truths: Dismantling Racial Hierarchies, Building Equitable Communities" Truth Racial Healing & Transformation Association of American Colleges and Universities (Washington DC: Association of American Colleges and Universities, 2020)
- H.C.R 85 Task Force on Prison Reform, "Creating Better Outcomes, Safer Communities," (State of Hawai'i, 2019)

JUST PLAY - WORKPLAN DIAGRAM

Summer 2021

- Alignment of priorities and research interests with the Office of Climate Change, Sustainability and Resiliency (OCCSR).
- High School Teachers Working Group with Mānoa Academy
- Internal curricular alignment of courses

University of Hawai'i at Mānoa Courses

Fall 2021

Moku

Priyam Das
PLAN 751
Planning
Practicum
-
6 credits MURP
Developing 'scenarios' that allow for a rich understanding of the land-water-food nexus

Ahupua'a

Phoebe White
ARCH 652
Community, Ecology, Design Studio
-
6 credits MLA
Testing hydrological adaptation scenarios at the watershed scale

Ili

Cathi Ho Schar
ARCH 415
Concentration Design Studio
-
6 credits BEnvD
Devising strategies to rehabilitate individuals and eliminate incarceration

Spring 2022

Kauhale , Hale

Karla Sierralta
ARCH 342
Intermediate Design Studio
-
4 credits BEnvD
Exploring housing for walkable, sustainable, and equitable communities

High School Outreach Course

Summer 2022

Just Play

Mānoa Academy Course Pilot
Partner Program with Twelve High Schools across Hawai'i
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Fall 2022 / Spring 2023

- Game refinement
- Final implementation
- Development of web content for OCCSR educational portal