

ARCH 4101: The Studio @ CTI: Phase III

Fall 2021 José I.s. Gámez + TBA

Premise: In 2014, NASA released research indicating higher than previously predicted global sea level rise due to irreversible climate changes that will raise sea-levels by 2 meters by the year 2100. These changes have contributed to the growing frequency of torrential rainfall, which, in Latin America and the Caribbean, is equal to an annual Hurricane Katrina.



People carried their possessions through what remained of The Mudd area of Great Abaco island on Sept. 5, 2019, five days after Hurricane Dorian struck with Category 5 winds and a powerful storm surge that flattened much of the low-income neighborhood. Credit: Jose Jimenez/Getty Images

Research Context: As an island nation, the Bahamas faces hurricanes, storm surges, and climate related catastrophes with increasing regularity. In a very real sense, Small Island Developing States (SIDS) like the Bahamas are on the front line of climate change. The complex dynamics that shape the Bahamas—including tourist-driven development, sustainable design and development strategies, and resilient economic models—heighten the need to re-evaluate and re-design the built environment. The Studio @ CTI continues our partnership with the NGO One Eleuthera Foundation and its Center of Training and Innovation, the University of the Bahamas Department of Architecture and Technology and its Department of Visual Arts, Florida A&M’s School of Architecture and Engineering Technology (FAMU), and Michael Singer Studio.

Objective: Our work will focus on: design development, construction prototyping, and passive systems details / specifications for off-grid housing prototypes that can serve as both short-term shelters (such as vacation rentals, which enhance local economies) and as emergency housing for local populations (fostering post-disaster island resilience).

Method: This studio will work in partnership with the University of the Bahamas and with Florida A&M University to develop, test and finalize prototype designs for Eleuthera Island. The Studio @ CTI builds upon the University of the Bahamas’ goal to deliver vibrant “living and learning” experiences to its students through meaningful extra-curricular activities and research initiatives. Through an interdisciplinary research, design and fabrication process, students will test and refine ecological, cultural, and technologically issues that will frame a prototyping process aimed at proof-of-concept testing for temporary housing typologies. This will involve working with off the shelf materials, conventional construction techniques, and innovative uses of existing tools and assemblies to develop prototype housing models.

Evaluation:

- Step 1: Weeks 1 – 4 25% Design Development
- Step 2: Weeks 5 – 9 25% Prototyping & Fabrication Studies
- Step 3: Weeks 10 – 13 25% Full-scale testing: details and assemblies
- Step 4: Weeks 13 – 15 25% Final Documentation and File-sharing

Deliverables:

Final Illustrated and Annotated Drawing Set; Prototype Studies, Fabrication Explorations, Models (analog and virtual).