



Decolonizing Education to Meet Climate Change Demands

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Abstract

Higher education is rooted in colonial perspectives thus unable to adequately address social and environmental impacts of climate change. The 2017 Solar Decathlon prototype *resilient Adaptive Climate Technology (reACT)* embodies a whole systems design that is inclusive of American Indian epistemologies and Indigenous Knowledge (IK). This utilizes a decolonized educational paradigm that frames nature as living, dignified, intelligent, and deeply connected to humanity—a perspective that is place-based, nature-based, ecologically guided, reflecting patterns of life, natural rhythms of energies, and the spiritual, mental, physical, and emotional needs of human beings. Using reACT as a site for decolonization a new cohort of students have been challenged to think beyond Western epistemologies

Learning Outcomes

- inspire students to rethink their relationship to the world being sensitive to colonial structures that trap them inside, with nature as a distant "other," so that they are aware of their agency to steward & advocate for nature while pursuing sustainable building careers designing innovative high-performance, low-carbon buildings powered by renewable energy and
- Develop skills necessary for the next generation of design teams by challenging students to think beyond colonial structures, zero energy ready buildings and address complex real-world issues—energy insecurity, food systems, waste streams, carbon emissions, inequity, and social inequality through building/site design.

Assesment is deliverable-based: innovative designs for studied systems, specifications for prototype development, materials and equipment.

What Students said:

"I learned to **create connection between land, nature, student and community.**"

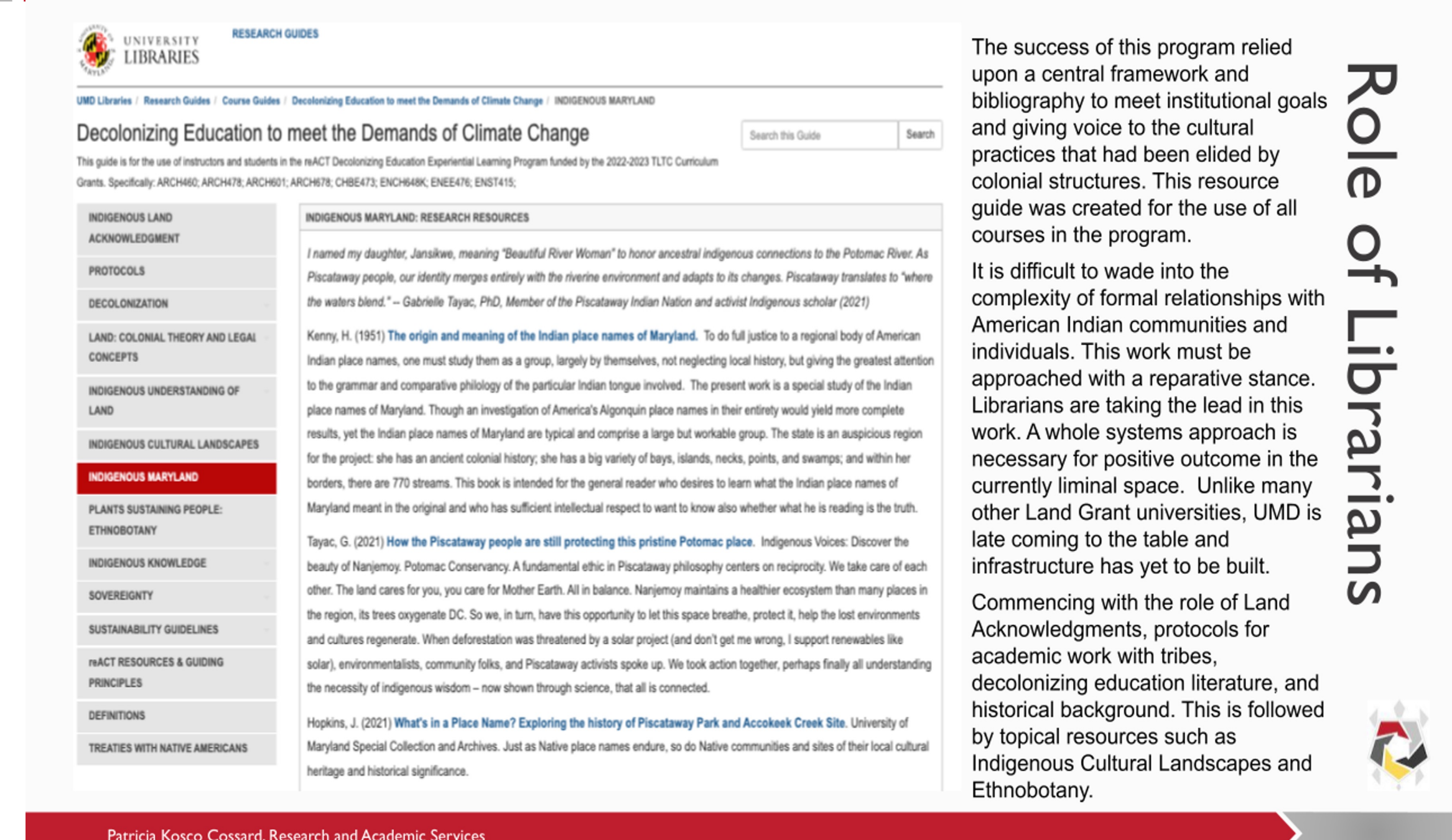
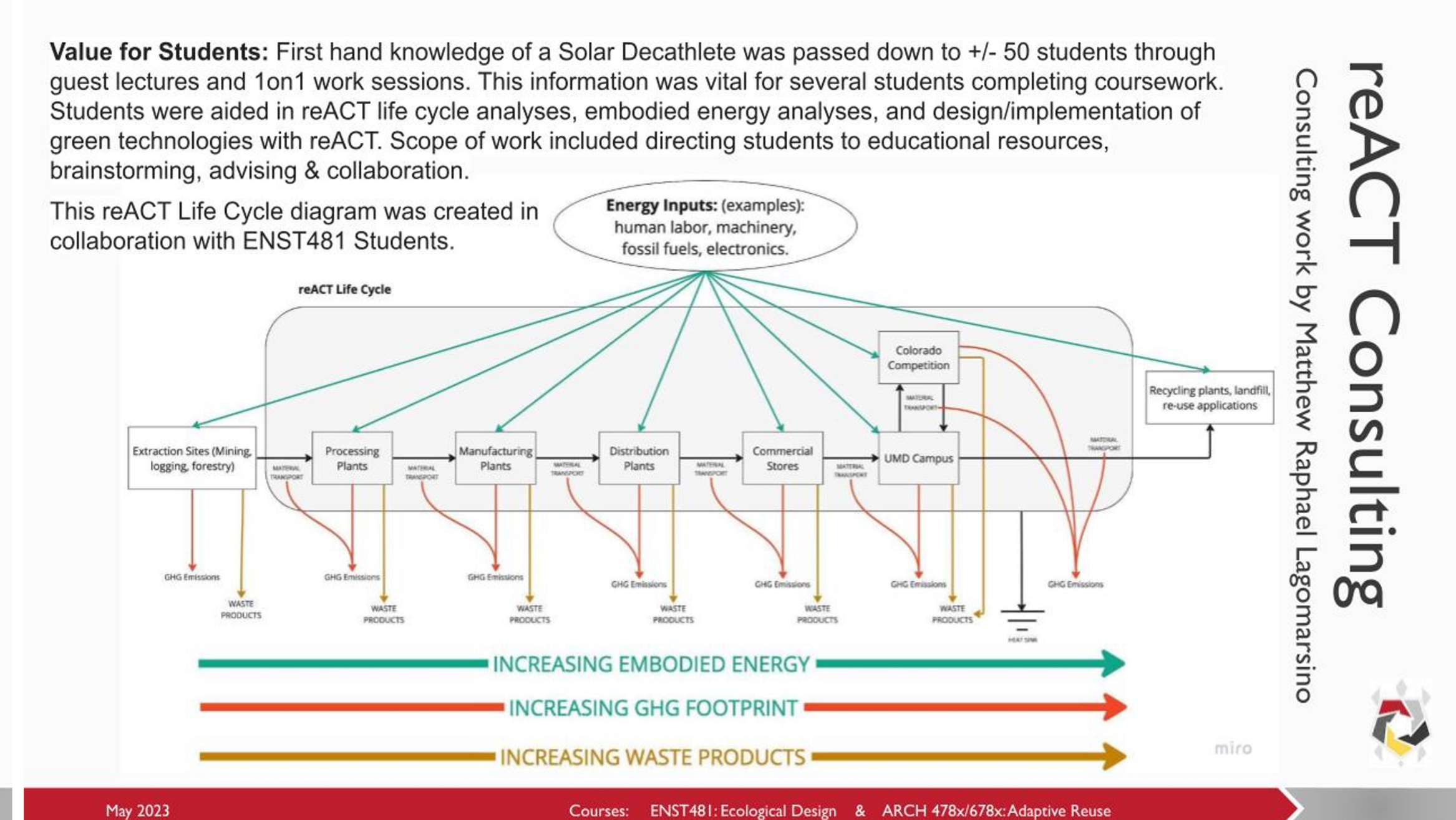
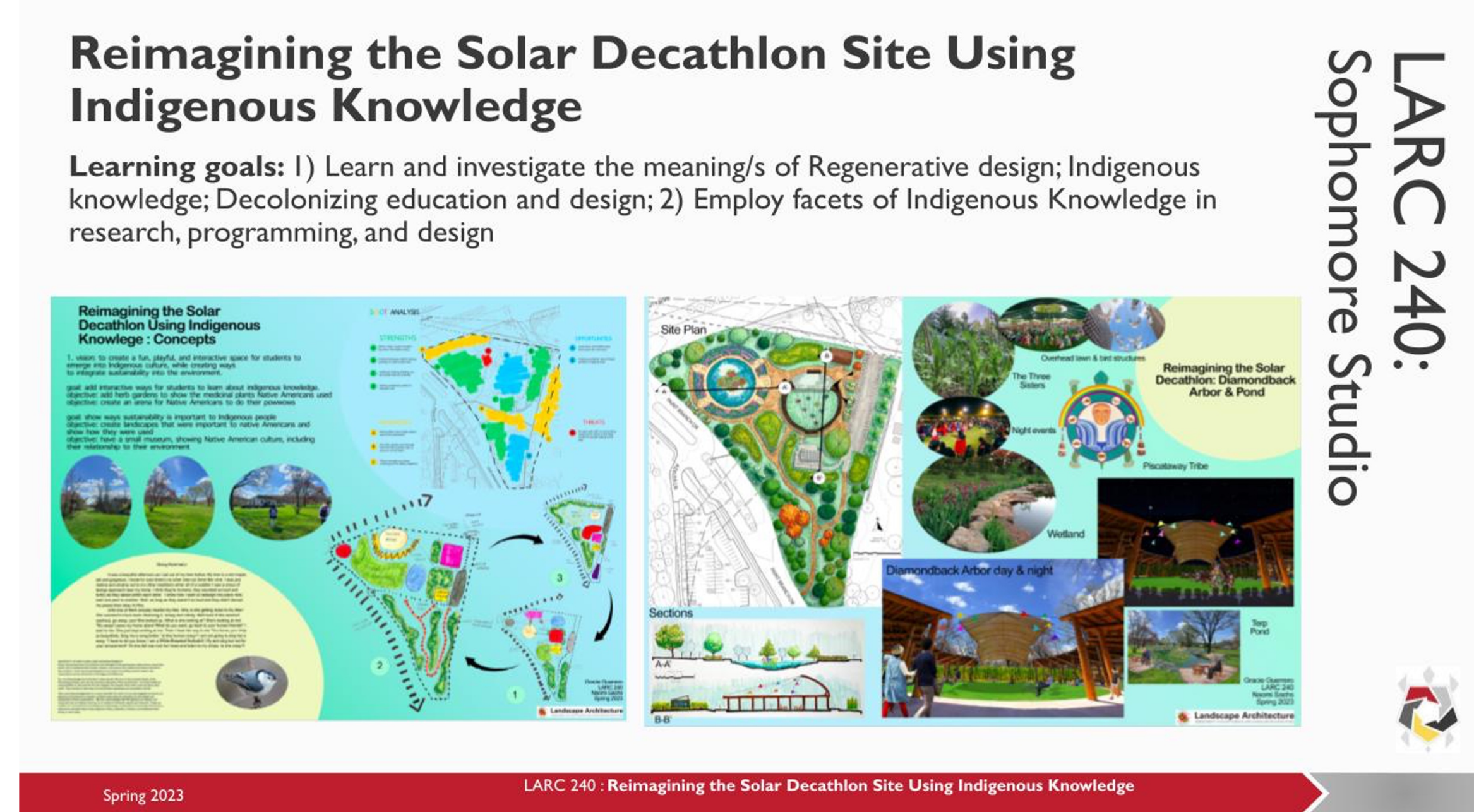
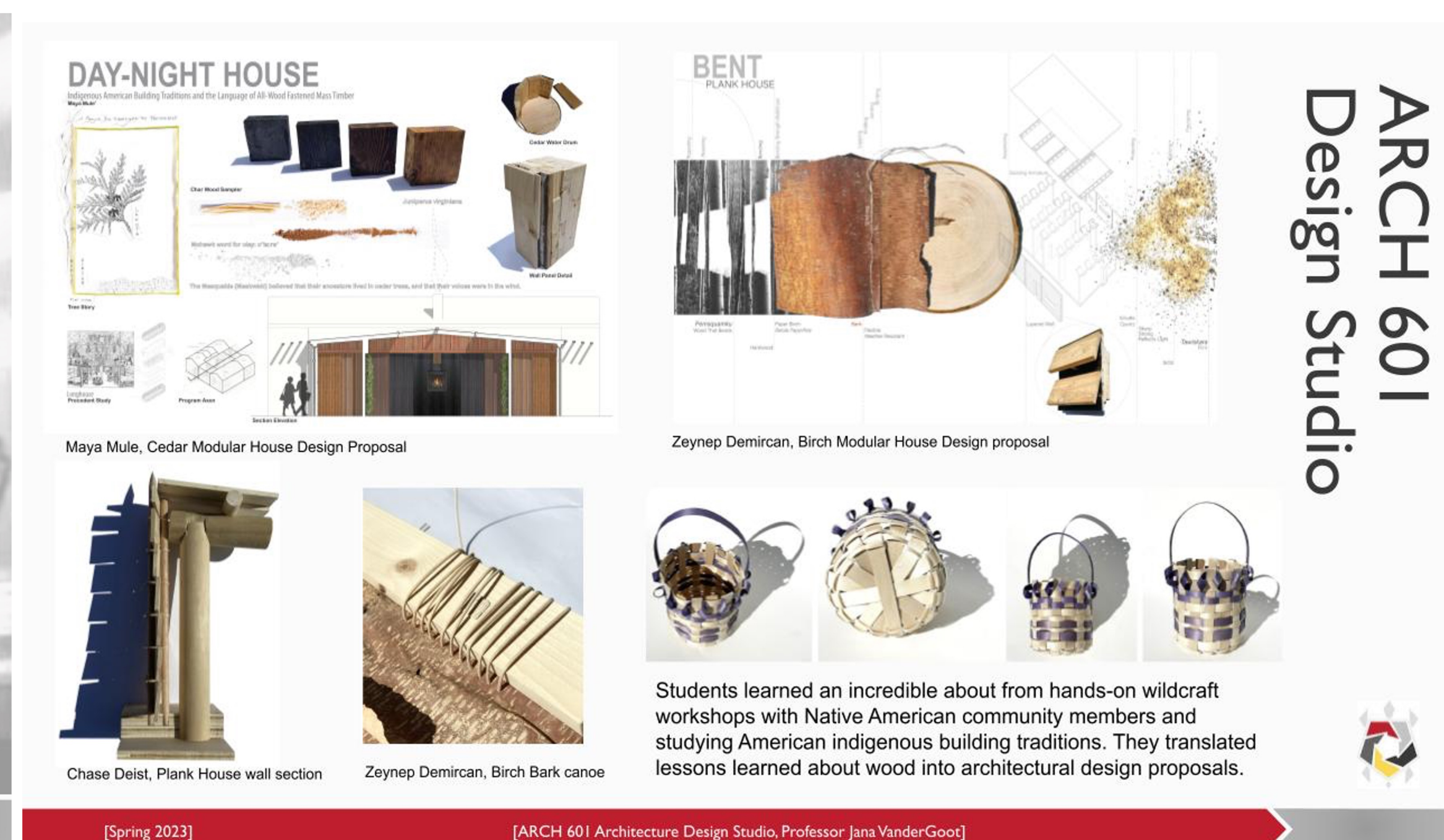
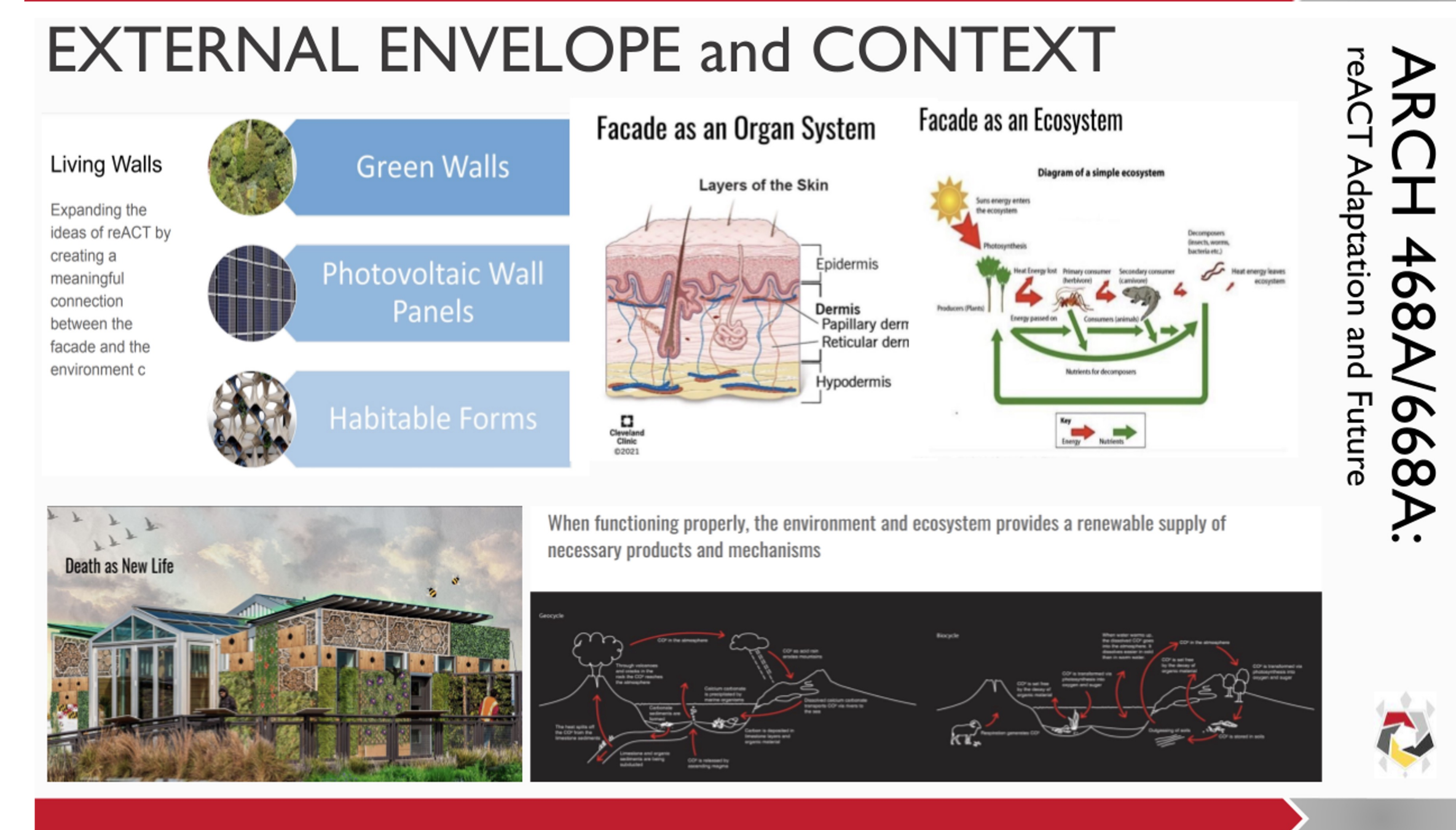
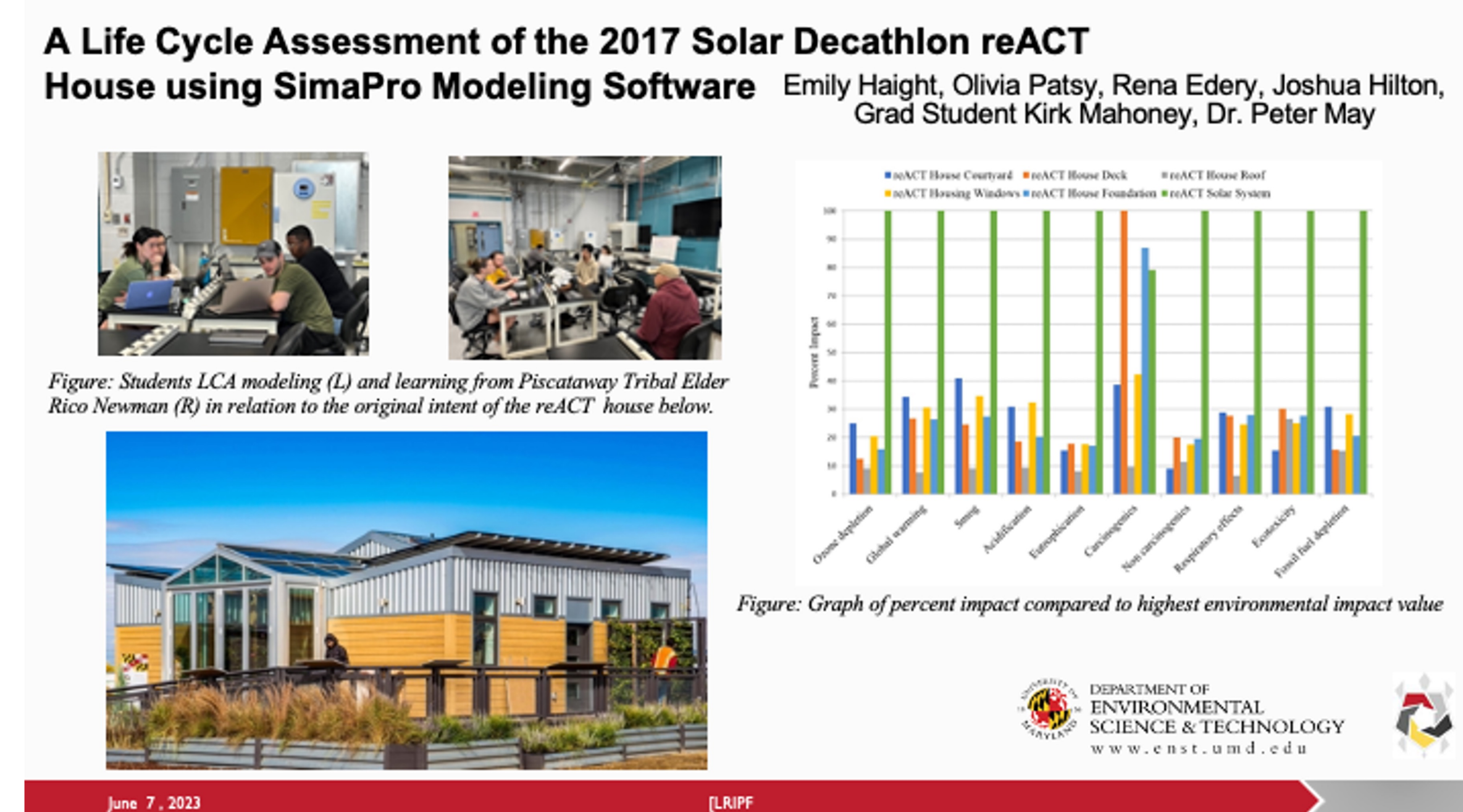
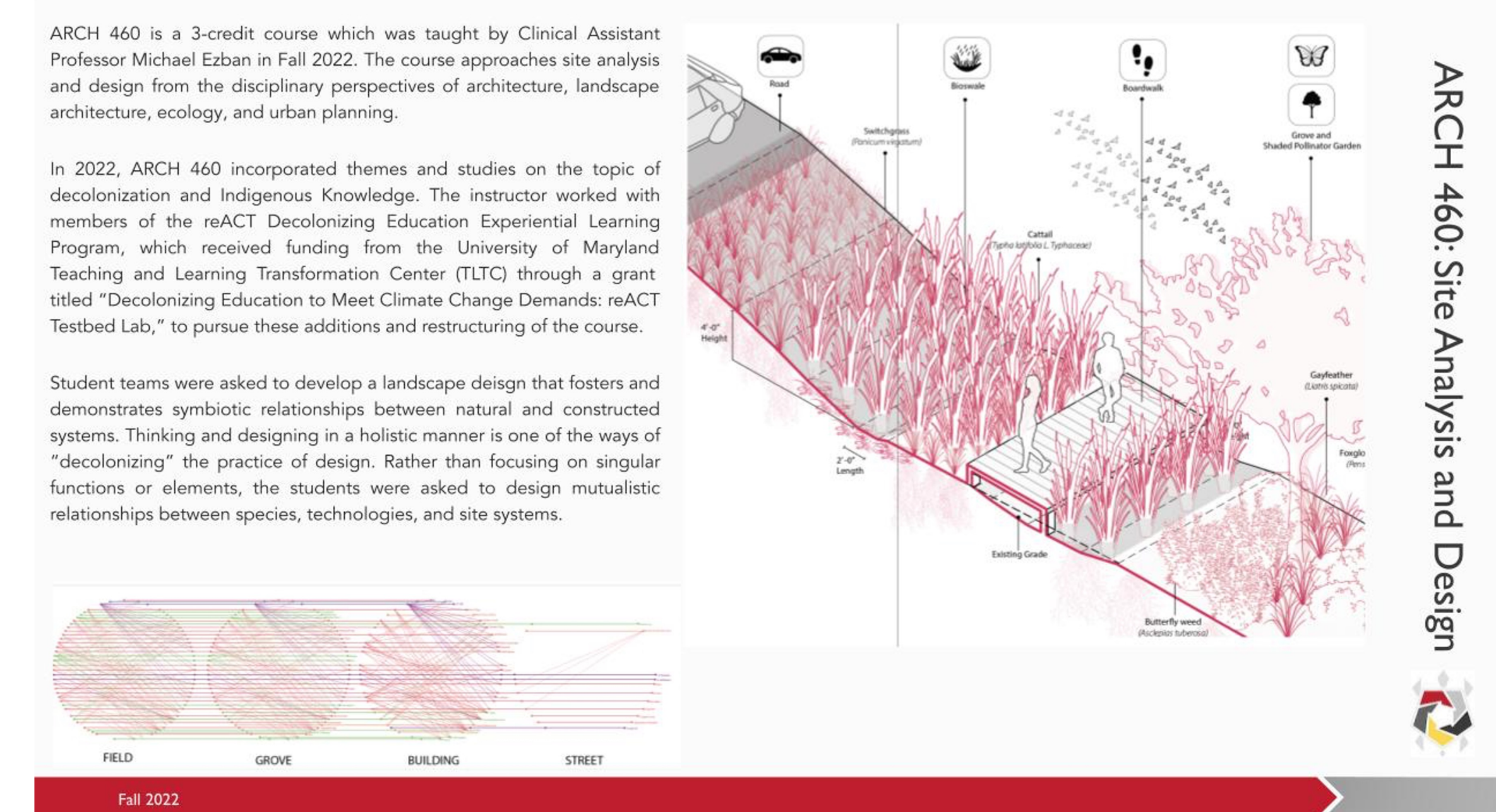
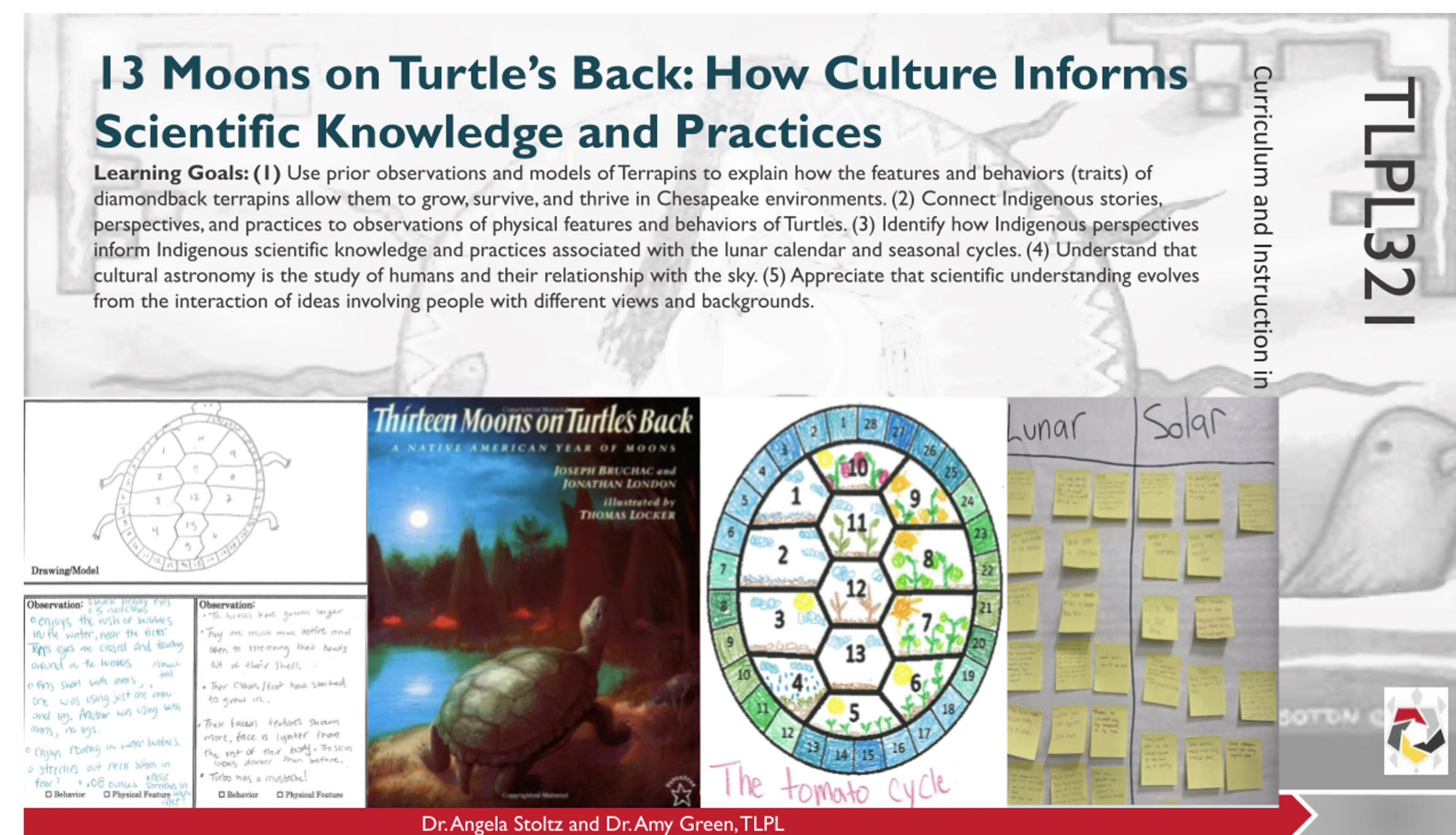
"This course is **incredibly insightful.**"

"Come join this class, you participate in a **real world scenario.**"

"Professor has immense knowledge on the topic leading to **a course that I don't think you can find anywhere else.**"

"**Here, you will learn to change the world.**"

Course Work



Christopher Calott , AIA
Native American Compound Urbanism; Ceremonial Public Space and Ritual; Sustainable Building Practices & Materials; ARCH478/678

Traditional Ecological Knowledge (TEK)

refers to the evolving knowledge acquired by indigenous and local peoples over hundreds or thousands of years through direct contact with the environment. This knowledge is specific to a location and includes the relationships between plants, animals, natural phenomena, landscapes and timing of events that are used for lifeways. **TEK of land stewardship & sustainable practice have been suppressed and erased through processes of cultural and political oppression.**

Courses in this program identified TEK practices that should be explored to find **ways that these various material and cultural practices can be recovered** to inform contemporary design.

Cohabitation: Multiscalar Webs
Ground: Mounds and Other Topographies
Vegetation: Tree Systems
Water: Flows and Watersheds
Sun: Henges and Arrays
Ground: Permeable Surfaces
Vegetation: Native Multi-performative Plants

What Reviewers said:

"I gave students an **Indigenous view of how our natural world exists and how the natural world actually supports each other**, in particular our plant world, and the understanding of the relationship of the **two legged to the natural world (plants, water, air and animals) for balanced co-existence**, and when planning or designing be mindful of the intent and objective of their projects."

"Student work demonstrates how they created innovative modeling for analysis of system-wide interconnectedness. **It's very exciting to see this expanded understanding as a result of incorporating Native American TEK.**"