Student Perspectives on Incorporating Indigenous Knowledges and Anti-colonial Approaches to an Undergraduate Biology Course

Central Themes

Goal: To discuss each of these concepts in every unit to affirm their importance throughout the course.

Inclusivity: Emphasizing the value of inclusive science practices and benefits of inclusive and collaborative work. Teaching anti-colonial approaches to science, including Indigenous knowledges and perspectives, and centering IBPOC, queer, and disabled scholars.

Biodiversity Conservation & Climate Change: Avoiding climate anxiety and discussing how the two are connected and represented in each unit. Documenting the climate crisis, value of long term data sets, NHCs supporting modern climate research.

The People Behind the Work: Highlighting the humanity in science, and acknowledging historically marginalized groups who were excluded from it. Emphasizing the value of all skills and work that go into NHCs and biodiversity science.

Unit 1: Intro to the Beaty Biodiversity Museum

Goal: To provide students with an understanding of how the Beaty came to be, how it works, who makes it work, and how it is unique.

Content:
-The museum positions and how crucial their roles are; from volunteers to director.
-Comparing and contrasting the BRC & BBM.
-2 museum tours; front and back of house. Includes collection organization and understanding of research & office space.
-Beaty's approach to Indigenization, science communication, and conservation.
-Defining terms used for the semester; conservation, collections, Indigenization, etc.

Format and Assessment:
-Tours, lectures, small assignments, short readings/videos/podcasts.

Unit 2: Introduction to Natural History Collections

Goal: For students to understand the history and nature of NHCs, their place in today's society, how they work individually and as a network.

Content:

-Modes of collection, curation, preservation, organization, ethics, types.

-Colonial & social history of NHCs, and how they've evolved over time.

-Databases, public access, research access, museum networks & exchanges.

-Science communication in Natural History Museums.

-NHCs different approaches to decolonizing & Indigenizing.

-Collections in the context of climate change.

Format and Assessment:

-Time in the collections, lectures, guest lectures, small assignments, short readings/videos/podcasts, maybe curation/collection/exhibition focused assignment.

Unit 3: Introduction to Biodiversity Science

Goal: To educate students on the various branches of biodiversity science, and how it can be approached in an anti-colonial way.

Content:

-General ecology, genetics, & biology required to understand the selected case studies at the level of an introductory science course; terms, taxonomy, etc.

-Case studies of historically marginalized & exemplary biodiversity scientists.

-Anti-colonial science & science communication.

-Indigenous traditional ecological knowledge & practices (with consent to share).

-Benefits of diverse scientists to the field of biodiversity science.

Format and Assessment:

-Lectures, in-lecture case studies supplemented with various media types, small assignments, short readings/videos/podcasts, guest lectures.

Unit 4: Biodiversity Science and NHCs

Goal: Provide students with an understanding of how NHCs are used in biodiversity science, how the two go hand-in-hand, and what their stengths & limitations are.

Content:

-Case studies of NHCs being used to perform biodiversity science, and how biodiveristy scientists contribute to collections.

-How NHCs can inform government and international policy.

-Valuing Indigenous and Western knowledges and ideas of success when discussing NHCs and biodiversity science.

-Digitizing NHCs for broader access and research.

Format and Assessment:

-Lectures, discussions, large final project wherein students have many options to choose their focus within the context of the course.

Explore Phase & Getting Settled

April - October 2023

Exploring:
Course development resources, biodiversity publications, our roles, and the museum.

Adjusting:
From a summer of working to being full time students, and changing the way we approach consultations.

Connecting:
With project partners and students in focus groups & events.

Reflecting:
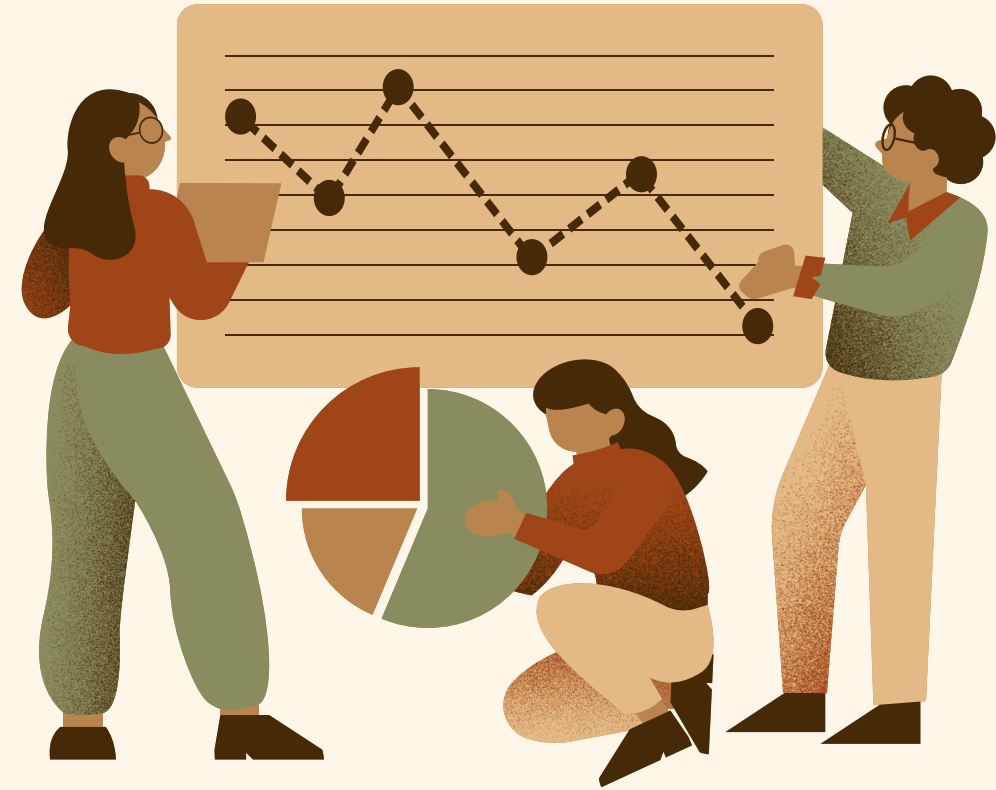Getting to know ours and our team's strengths, learning our capacities, and incorporating feedback.

Gather phase & Current Work

October - December 2023

Navigating:
Power dynamics, setting boundaries, and consultations- a new kind of meeting

Communicating:
Understanding how to present to different audiences, and learning how different faculties work

Analyzing:
Deciding how to incorporate feedback, where to go from here, and finding any gaps

Looking Ahead
January 2024 - January 2025 (and beyond!)

Succession Planning: documenting our thought processes, approaches

Making Connections: Continuing to make new and strengthen existing partnerships

Iterative Refinement: Constant and regular refinement of our course content/structure through continued consultation with project partners

Running and Assessing Our Pilot: Asking for student feedback, adjusting after surveys, making the course better

Stations

Projector Screen

Station 1: Anti-colonial approaches
Recommendations for us, questions, ideas, resources.

Station 2: Sitting with discomfort
How can we do this in a science course?

Station 3: Ungrading and equitable course structures
How have you seen it done, what feedback have you gotten?

Station 4: Free discussion, ask about the project!
Ask about content, themes, strategies, challenges, anything!