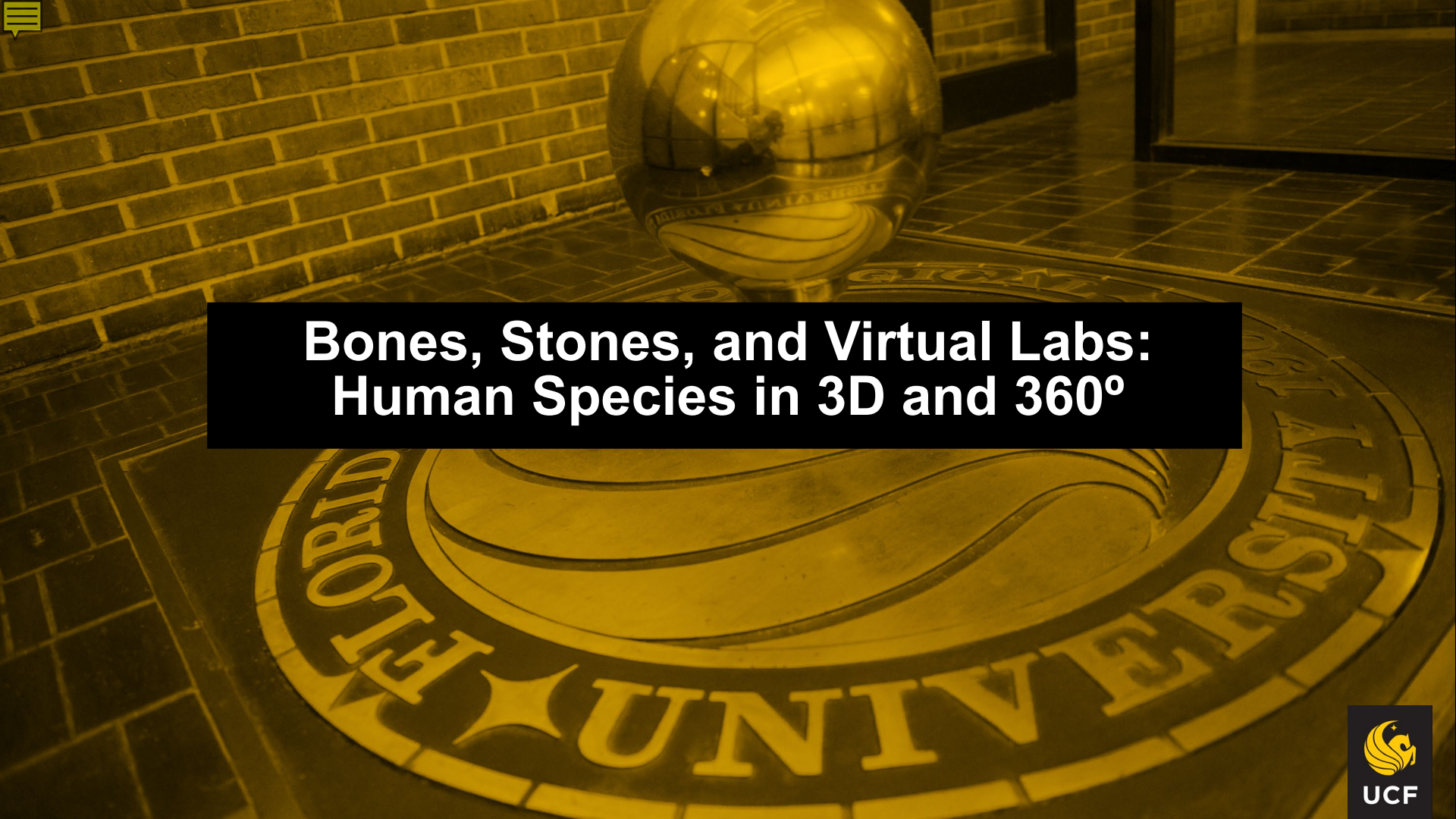
Bones, Stones, and Virtual Labs:
Human Species in 3D and 360º
UCF

Project Team Members

Amanda Groff, PhD.
Senior Lecturer

Sarah Freidline, PhD.
Assistant Professor

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Goals for the Project

- ANT 2511 – Human Species (GEP) is a lab-based course without a lab
- Create virtual, “hands-on” lab spaces for that shifts online students from passive recipients to active learners
- Increase engagement through immersive 360º lab spaces that utilize 3D models to develop skills
  - Anatomical identification; comparative analyses, measuring elements
  - Help those in non-science majors


Project Description
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Project Overview

- Design and build 4 virtual labs utilizing our teaching classroom in MSB
- These virtual labs are embedded in New Quizzes which allows the student to interact with the lab while answering programmed questions, side-by-side.
- Aim: Photographs and diagrams fall flat. Anatomy is best learned in 3 dimensions; thus, we aim to increase student engagement, and thereby decrease DFW rates
- First of its kind in our Department, and could be widely used by other departments to solve space issues and accommodate increased online student enrollment

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Course Breakdown

- Amanda Groff, Sarah Freidline, ANT 2511 Teaching Faculty (5 more in total)
- ANT 2511 Human Species
- Online, Mixed-mode
- GEP course and Affordability Counts (department-wide adoption of OER)
- 360º and 3D scanned models of skeletal elements and stone tools; virtual measuring tools

Project Impact

- Popular GEP: 1800 average online students per academic year
- 2021-2023 Academic Years
  - ANT 2511 (all sections) had an average DFW rate of 12.7%.
  - It is our goal, and hope, that with these labs student anxiety regarding these detailed concepts will be reduced, and as a result, increase our student retention and engagement.
  - Our goal is to decrease our DFW rate to 7%.

- Spring 2023:
  - On average 22.4%-30.6% of the class skipped written assignments.
  - Our goal is to decrease this non-submission rate to 12-20%.

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Project Timeline

Accomplished:

1. All 360 images and lab scenes have been filmed for all 4 labs
2. All lab video introductions have been filmed for all 4 labs
3. 3D scanning of 56 skeletal elements and stone tools is complete
4. All 3D model-building is complete for all 4 labs
5. Lab questions have been developed Labs 1 and 2
6. Virtual Lab 1 is complete in its entirety

Next Steps:

1. Complete questions for Labs 3 and 4 by beginning of May
2. Finish rendering the virtual spaces for Labs 2, 3, and 4 by September
3. Lab 1 to be pilot tested in Fall 2024 to approximately 200-400 students
4. Labs 2, 3, 4 to be implemented in Spring 2025

Future Directions:

1. Introduce an AI Lab assistant
2. Plan for accessibility

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Supporting Details

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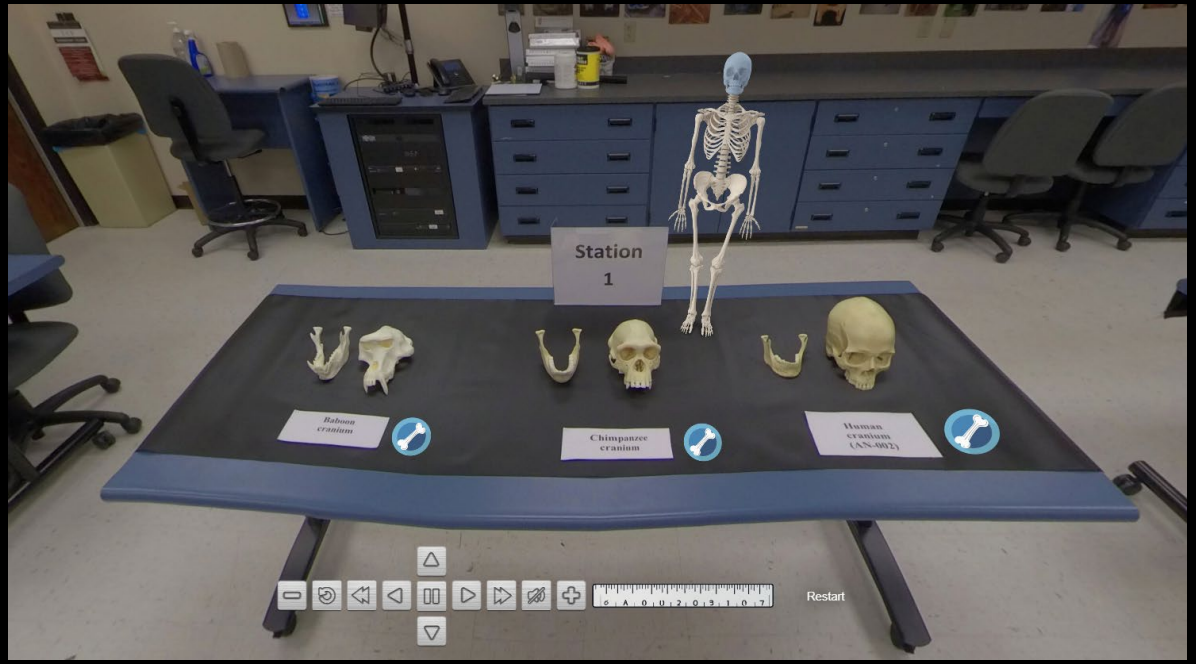
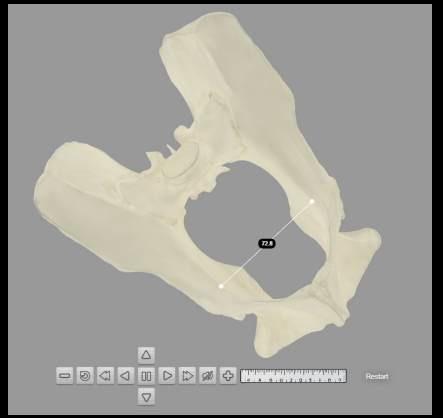
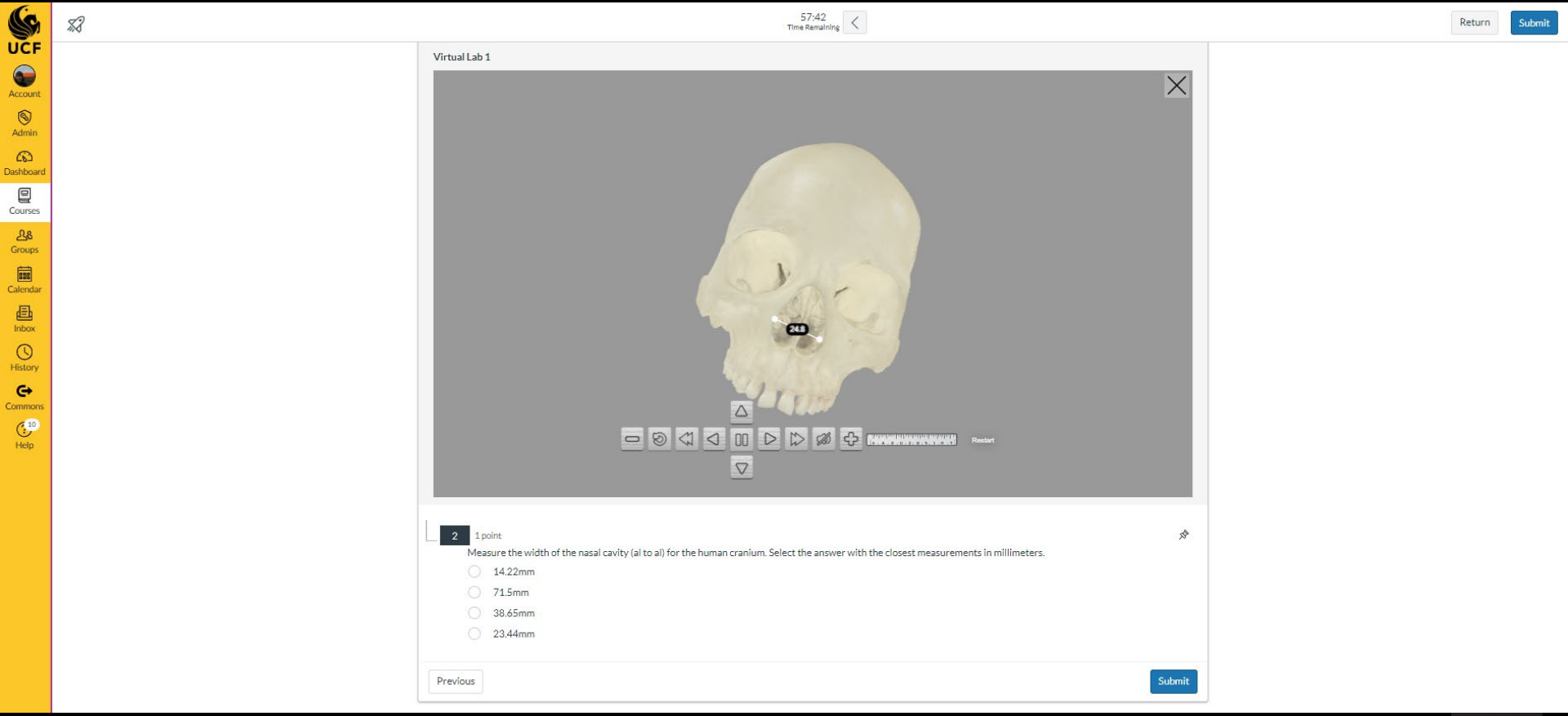




Project Highlights



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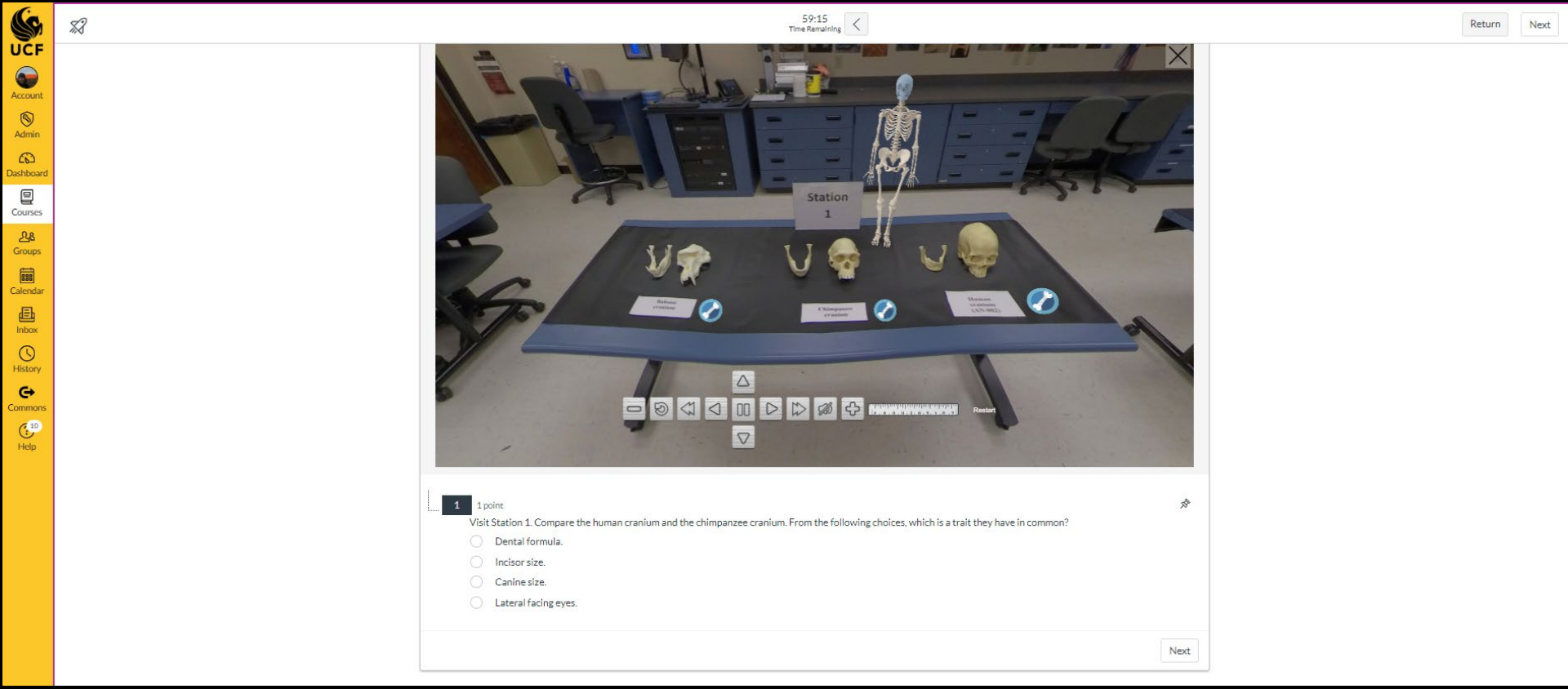

Evaluation Plans/Results

Fall 2024:

- Implement a survey to gain student feedback
- Have a preliminary look at student participation in the Lab

Spring 2025:

- Enact suggestions and fix issues for Lab 1, utilize as part of curriculum
- Share Lab 1 with ANT 2511 colleagues
- Pilot test Labs 2, 3, 4, and implement a survey to gain student feedback.
- Review participation in all 4 labs

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Thank you!