

ESPM/IB 105, "Natural History Museums & Biodiversity Science" Fall 2023; T-TH 3:30 to 5:00, in 3059 VLSB unless otherwise noted

Week	BNHM Affiliation	Presenter /leader	Topic	Date	Location	Regular Weekly Assignments, due Fridays on bCourses
Week 1	Herbaria	Brent Mishler	Overview of natural history museums worldwide & their roles	24-Aug	3059 VLSB	
Week 2	UCMP	Jack Tseng	Paths to becoming a curator of a natural history museum	29-Aug	3059 VLSB	
	Herbaria	Brent Mishler, Ana Penny, Gabrielle Rosa, Klara Scharnagl	1. Curating physical specimens. Botany – Fieldwork. How to collect, prepare etc.	31-Aug	right outside VLSB (north side)	1. Make 2 plant collections; mount them, and make labels
Week 3	MVZ	Chris Conroy, Libby Beckman, Carol Spencer	1. Curating physical specimens. Vertebrates – How to collect, prepare, preserve, permits, accession policy, etc.	5-Sep	in front of Weill hall (LSA)	
	Essig	Pete Oboyski, Roberta Brett	1. Curating physical specimens. Entomology – Fieldwork. How to collect, prepare etc.	7-Sep	right outside VLSB (south side)	2. Make 2 insect collections; pin them, and make labels
Week 4	UC Bot Gard	Andrew Doran	1. Introduction to the UC Botanical Garden and living collections curation	12-Sep	3059 VLSB	
	Hearst	Caroline Jean Fernald	1. Introduction to Hearst museum's history, mission, & collections; gallery tour and education programs	14-Sep	3059 VLSB	3. One page essay on similarities and differences in curation between a preserved snake, a live flowering plant, and a dinosaur bone
Week 5	UCMP	Eric Holt (or other UCMP rep)	1. Curating physical specimens. Fossils -- How to collect, prepare, preserve, permits, accession policy, etc.	19-Sep	3059 VLSB	
	MVZ	Valeria Ramírez Castañeda	Discussion - Ethics of specimen collecting, decolonization, repatriation and other international relations	21-Sep	3059 VLSB	4. One page essay on pluses and minuses of collecting physical specimens
Week 6	Herbaria	Brent Mishler	Introduction to research using collections	26-Sep	3059 VLSB	
	Herbaria	Jason Alexander	Digitizing museum collections – imaging, capturing collection metadata, crowd sourcing, data cleaning	28-Sep	3059 VLSB	5. Find a research paper that uses museum specimens, and write a one-page summary of its goal, how it used specimens and/or their metadata, and results
Week 7	MVZ	Michelle Koo	Databasing and Technology — Information Management	3-Oct	3059 VLSB	
	MVZ	Michelle Koo	Public portals for biodiversity information. Introduction to georeferencing. Hands on: Map This! exercise	5-Oct	3059 VLSB	6. Arctos Quiz
Week 8	MVZ	Michelle Koo	Introduction to data science tools for exploring museum data. Hands on: Jupyter Notebook and web services	10-Oct	3059 VLSB	
	MVZ	Michelle Koo	Archives & recording natural history events	12-Oct	3059 VLSB	Midterm exam (virtual, open book, available all week)

Week 9	MVZ	Rebecca Tarvin	Equity in fieldwork	17-Oct	3059 VLSB	
	Essig	Pete Oboyski, Roberta Brett	2. Tour of Essig Museum of Entomology & Operations	19-Oct	Essig Museum	7. Transcribe 12 specimens using Notes from Nature
Week 10	MVZ	Libby Beckman, Carol Spencer, Chris Conroy	2. Tour of Museum of Vertebrate Zoology & Operations; specimen prep lab	24-Oct	MVZ	
	Herbaria	Brent Mishler, Ana Penny, Gabrielle Rosa	2. Tour of Herbaria; digizing lab	26-Oct	Herbaria	Turn in the outline for your research proposal using museum specimens and data
Week 11	UCMP	Ashley Dineen, Lisa White	2. Tour of UCMP; digizing lab	31-Oct	UCMP	
	UC Bot Gard	Andrew Doran. Holly Forbes	2. Tour of Botanical Garden - programs and operation	2-Nov	UC Botanical Garden	8. Choose a threatened species, use professional databases like Arctos or CCH to produce a range map and characterize its habitat preferences
Week 12	Hearst	Caroline Jean Fernald	2. Tour of Hearst Museum - gallery and behind the scenes	7-Nov	Hearst Museum	
	Herbaria	Lúcia Lohmann	Conservation needs in tropical countries and the role of natural history museums	9-Nov	3059 VLSB	9. One page essay on Annie Alexander, in part using BNHM museum resources and archives
Week 13	Herbaria	Brent Mishler	Collections data in taxonomy, spatial phylogenetics, and conservation	14-Nov	3059 VLSB	
	UCMP	Lisa White	Outreach; community science; diverse communities	16-Nov	3059 VLSB	10. Phylogenetic exercise
Week 14	UCMP	Seth Finnegan	Value of collections – isotopic tools, CT scanning, morphometrics	21-Nov	3059 VLSB	
		<i>Thanksgiving Day holiday</i>		23 Nov		
Week 15	MVZ-EGL	Lydia Smith	Molecular data in biodiversity research; genomic tools	28-Nov	3059 VLSB	
	BNHM-wide	Brent Mishler + some curators and staff	Wrap up session - final discussion - grad school - museum careers	30-Nov	3059 VLSB	11. Turn in either a one page review of a virtual museum exhibit you have seen, or report on a visit to a free-standing Natural History Museum outside UCB
RRR week			Term paper -- a research proposal using museum specimens and data (details forthcoming)	8-Dec		Outline (1 page) due Oct 27th (8%); final paper (5 pages) due Dec 8th (15%)
Finals week			Final exam (virtual, open book, available all week)	15-Dec		Due Dec 15 @ midnight

Grading rubric:

33% Weekly assignments (11 in all)
 14% Participation (28 sessions)*
 23% Term paper/ outline
 30% Tests: Midterm (15%) + final (15%)

* roll will be taken each class, be sure to sign in

28 class sessions total:

12 museum activity sessions
 16 lectures/discussions (will try to allow 30 minutes for discussion in each lecture)

In green are student activities relating specifically to our own Berkeley Natural History Museums; the other sessions are intended to be more general.