

ESPM/IB 105, "Natural History Museums & Biodiversity Science" Fall 2022; T-TH 3:30 to 5:00 in 3059 VLSB unless otherwise noted in column F

Week	Affiliation	Presenter /leader	Topic	Date	Location	Regular Weekly Assignments, due Fridays
Week 1	Essig	Rosemary Gillespie	Overview of museums worldwide & their role in research	25-Aug	3059 VLSB	
Week 2	Herbaria	Brent Mishler	Introduction to research using collections	30-Aug	3059 VLSB	
	Herbaria	Brent Mishler, Ana Penny, Gabrielle Rosa, Klara Scharnagl	1. Curating physical specimens. Botany – Fieldwork. How to collect, prepare etc.	1-Sep	right outside VLSB (north side)	1. Make 2 plant collections; mount them, and make labels
Week 3	MVZ	Chris Conroy, Carla Cicero, Carol Spencer	1. Curating physical specimens. Vertebrates – How to collect, prepare, preserve, permits, accession policy, etc.	6-Sep	in front of Weill hall (LSA)	
	Essig	Pete Oboyski	1. Curating physical specimens. Entomology – Fieldwork. How to collect, prepare etc.	8-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	13-Sep	3059 VLSB	
	UCMP	Eric Holt	1. Curating physical specimens. Fossils -- How to collect, prepare, preserve, permits, accession policy, etc.	15-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	Hearst	Caroline Jean Fernald	1. Introduction to Hearst museum's history, mission, & collections; gallery tour and education programs	20-Sep	3059 VLSB	
	Essig	Valeria Ramírez Castañeda and Rosemary Gillespie	Discussion - Ethics of specimen collecting, decolonization, repatriation and other international relations	22-Sep	3059 VLSB	4. One page essay on pluses and minuses of collecting physical specimens
Week 6	UCMP	Jack Tseng	Paths to becoming a curator of a natural history museum	27-Sep	3059 VLSB	
	MVZ	Michelle Koo	Databasing and Technology — Information Management	29-Sep	3059 VLSB	5. Arctos Quiz
Week 7	MVZ	Michelle Koo	Introduction to georeferencing. Hands on: Map This! exercise	4-Oct	3059 VLSB	
	MVZ	Michelle Koo	Introduction to data science tools for exploring museum data. Hands on: Jupyter Notebook and web services	6-Oct	3059 VLSB	6. Georeferencing exercise
Week 8	MVZ	Michelle Koo	Archives & recording natural history events	11-Oct	MVZ library	Midterm exam (virtual, open book, available all week)
	Herbaria	Jason Alexander	Digitizing – capturing collection information, imaging, crowd sourcing, georeferencing. iDigBio, GBIF	13-Oct	3059 VLSB	7. Choose a threatened species, use professional databases like Arctos or CCH to produce a range map and characterize its habitat preferences
Week 9	MVZ	Rebecca Tarvin	Equity in fieldwork	18-Oct	3059 VLSB	

	Essig	Pete Oboyski, Roberta Brett	2. Tour of Essig Museum of Entomology & Operations	20-Oct	Essig Museum	8. Transcribe x specimens using Notes from Nature
Week 10	UCMP	Ashley Dineen, Lisa White	2. Tour of UCMP; digitizing lab	25-Oct	UCMP	
	Herbaria	Brent Mishler, Ana Penny, Gabrielle Rosa	2. Tour of Herbaria; digitizing lab	27-Oct	Herbaria	9. One page essay on Annie Alexander, in part using BNHM museum resources and archives
Week 11	MVZ	Carla Cicero, Carole Spencer, Chris Conroy	2. Tour of Museum of Vertebrate Zoology & Operations; specimen prep lab	1-Nov	MVZ	
	UC Bot Gard	Andrew Doran. Holly Forbes	2. Tour of Botanical Garden - programs and operation	3-Nov	UC Botanical Garden	10. Compile a list of appropriate plants to use for a native plant garden in Los Angeles
Week 12	Herbaria	Israel Borokini	Ecological niche modeling using museum specimens, and its uses	8-Nov	3059 VLSB	
	Herbaria	Israel Borokini	Conservation needs in tropical countries and the role of natural history museums	10-Nov	3059 VLSB	11. Turn in a one page reflection on your visit to a free-standing Natural History Museum
Week 13	Herbaria	Brent Mishler	Collections data in taxonomy, spatial phylogenetics, and conservation	15-Nov	3059 VLSB	
	MVZ-EGL	Lydia Smith	Molecular data in biodiversity research; genomic tools	17-Nov	3059 VLSB	12. Phylogenetic exercise
Week 14	UCMP	Seth Finnegan	Value of collections – isotopic tools, CT scanning, morphometrics	22-Nov	3059 VLSB	
	<i>Thanksgiving Day holiday</i>			24 Nov		
Week 15	UCMP	Lisa White	Outreach; citizen science; diverse communities	29-Nov	Virtual	
		Gillespie and Mishler	Wrap up session - final discussion	1-Dec	3059 VLSB	13. Turn in a one page review of a virtual museum exhibit you have seen, evaluating its educational value
RRR week	Term paper -- a research proposal using museum specimens and data (details forthcoming)			9-Dec	Outline (1 page) due Oct 28th (5%); final paper (5 pages) due Dec 9th (15%)	
Finals week	Final exam (virtual, open book, available all week)			16-Dec		

Grading rubric:

35% Weekly assignments
 15% participation*
 20% Term paper/ proposal
 30% Tests: Midterm (15%) + final (15%)

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

28 class sessions total:

11 museum activity sessions
 17 lectures/discussions*
 *will try to allow 30 minutes for discussion time 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.