ZOOARCHAEOLOGY IN THEORY & PRACTICE:

ANALYZING MATERIALS FROM LOS ANGELES NATURAL HISTORY MUSEUM AND CHANNEL ISLANDS, CALIFORNIA (US)

Course ID: HIST 301 ZA

June 12-July 8, 2023

Academic Credits: 8 Semester Credit Units (Equivalent to 12 Quarter Units)

School of Record: Iowa Wesleyan University

DIRECTOR

Dr. Ariel Taivalkoski – Research Assistant Professor, University at Buffalo (arieltai@buffalo.edu)

PROGRAM DESCRIPTION

This zooarchaeology field school is a laboratory program that focuses on the identification and interpretation of archaeological faunal materials. In addition to covering theoretical approaches to faunal remain interpretations, laboratory course work will concentrate on developing proficiency in identifying mammal, fish, bird, and herptile specimens. This program will provide seminar course work including the study of taphonomic processes, assemblage formation, and the use of bone data to investigate archaeological questions.

Students will learn how to use comparative collections for actual research of materials excavated archaeologically. For 2023, we will be using the large comparative collections of the Los Angeles Natural History Museum (third largest such museum in the U.S.) to analyze archaeological faunal assemblages. Students will have the opportunity to work with a variety of faunal material from the Channel Islands (including remains from Daisy Cave, Big Dog Cave, and Dr. Gusick's own excavations) as well as 19th century historic material recovered from the area surrounding the museum. Our research goal is to identify species and reconstruct ancient environment and human-nature interaction during the Chumash and Tongva occupation of the Channel Islands

The course is design to develop experienced and capable researchers in zooarcheology, a first step to a possible career in academia or the Cultural Resource Management sector. Students will be shown the many career pathways available to anthropology majors and will prepare application materials for

a job in their preferred pathway. Students will be trained in both academic writing and public interpretation of faunal materials. Honors thesis and graduate level research work with the collections is possible and encouraged.

This program is lab based. No excavations will take place, we will focus on methodological analysis of faunal remains in a lab setting.

IMPORTANT DISCLAIMER

The Center for Field Sciences was established to support field training in a range of sciences at sites across the world. Traveling and conducting field work involves risk. Students interested in participating in any CFS program must weigh the potential risk against the value of education provided for the program sites of their choosing.

Risk is inherent in everything we do and the CFS takes risk seriously. A committee of leading scholars review each field school location prior to approval. Once a program is accepted, the CFS continually monitor conditions at the program site, its academic quality and ability to conduct as safe of an experience as possible.

The CFS does not provide trip or travel cancellation insurance. Students are encouraged to explore such insurance policies on their own. Post Covid 19, most basic policies do not cover trip cancelation due to pandemics. If you wish to purchase an insurance policy that cover such contingencies, explore Cancel for Any Reason (CFAR) plans. *Insuremytrip.com* or *Travelguard.com* are possible websites where students may explore different insurance policies.

You should be aware that conditions in the field are different than those you experience in your home, dorms or college town. You will be exposed to the elements, live in rustic accommodation, and expect to engage in physical activity daily.

We do our best to follow schedule and activities as outlined in this syllabus. Yet local permitting agencies, political, environmental, personal, or weather conditions may force changes. This syllabus, therefore, is only a general commitment. Students should allow flexibility and adaptability as research work is frequently subject to change.

All students must consult medical professionals to ensure they are fit to participate in this program. If you have any medical concerns, please consult your doctor. For all other concerns, please consult with the program director – as appropriate.

COURSE OBJECTIVES

The objective of this program is to prepare students to perform zooarchaeological analyses for both academic and non-academic contexts. This objective is accomplished by 1) providing students with the practical skills to identify animal bones from archaeological sites, 2) teaching students how to employ zooarchaeological assemblages to answer broader research questions, 3) preparing students for both academic and non-academic careers through the preparation of job application materials and 4) experience in writing zooarchaeological interpretation for both scholarly and public audiences.

Students will engage in hands-on analyses of zooarchaeological assemblages from the Channel Islands, and document their analyses for interpretation and reporting. Students will use the comparative collection at the Los Angeles Natural History Museum. Students will participate in the cleaning, sorting, tabulation, and curation of the zooarchaeological material used during this program.

LEARNT SKILLS

We are aware that many students may not seek academic careers but will pursue employment in the private sector. To that end, we are following the Twin Cairns Skills Log Matrix™ (https://twincairns.com/skill-set-matrix/) and will provide training for the following skills:

Skill	Description
Artifact Identification	Ability to identify archaeological artifacts and ecofacts, from both pre contact and historical context
Basic Conservation & Preservation	Ability to conduct initial field conservation and preservation of different artifact types, features & architecture
Data Recording	Ability to use printed or digital sheets to document & record field data
Photography	Ability to take clear images of various feature, artifact & soil colors at various light and field depth conditions
Artifact Documentation	Ability to measure, record, photographed and classify various artifact types in the lab/post ex setting
Public Interpretation	Ability to understand site history and provide clear and coherent interpretation for the public
Collection Management	Ability to manage museum or other scientifically important collections using databases, digital photography and interaction with curators/subject experts
Archival Search	Ability to find & search various databases for records related to prior work/research done on cultural or natural heritage in the project area
Zooarchaeology	Ability to excavate, document and study ancient fauna remains

COURSE SCHEDULE

Course structure may be subject of change upon directors' discretion

WEEKLY SCHEDULE

	Lecture Topics	Lab Practicums
Week 1	• History of Zooarchaeology • Introduction to Channel Islands Archaeology • Overview of archaeology and excavating faunal remains • Types of zooarchaeological data	• Distinguishing between mammal, fish, bird, etc. • Distinguishing humans from other mammals • Zooarchaeological Quantification • Setting up a zooarchaeological analysis
Week 2	• Reference collections: using them and creating them • Wild vs. domesticated animals • Intro to human-animal relationships; ethnozoology • Skeletal part representation and assessing human activity	• Flotation • Cataloguing zooarchaeological materials • Using comparative collections • Assessing skeletal part frequencies
Week 3	• Processing for food and material • Taphonomy in zooarchaeology • Pathology in Zooarchaeology • Metrical recording and analysis	• Pathology • Taphonomy • Cut marks and bone working • Measurement methods

Week 4	• Applied zooarchaeology • Techniques in zooarchaeology • Geochemistry • Writing a zooarchaeological report	• Seasonality and Aging • Intro to microscopy techniques • Producing a contextual analysis • Curating zooarchaeological materials

TYPICAL WORK DAY

MONDAY, WEDNESDAY, FRIDAY	
9:00 AM-11:00 AM	Lecture Weekly quiz at 9 AM Fridays
11:00 AM-12:00 PM	Lab Activity
12:00 PM-1:00 PM	Lunch break
1:00 PM-2:00 PM	Lab Activity
2:00 PM-2:30 PM	Afternoon break
2:30 PM-5:00 PM	Lecture/Lab Activity
TUESDAY, THURSDAY	
9:00 AM-10:00 AM	Lecture
10:00 AM-12:00 PM	Writing project meeting
12:00 PM-1:00 PM	Lunch break
1:00 PM-2:00 PM	Lab Activity
2:00 PM-2:30 PM	Afternoon Break
2:30 PM-5:00 PM	Lab Activity/Guest lectures
SATURDAY	
Optional field trips- Schedule announced prior to first week of field school	

ACADEMIC GRADING MATRIX

Students will be graded based on their work as follows.

- 20% lab notebook
- 20% Weekly Quizzes- Each week there will be 2 quizzes, a bone quiz and a theory quiz. The Bone quiz will be a practical evaluation of the student's zooarchaeological identification skills. The theory quiz will be a multiple choice and short answer quiz covering zooarchaeological theory and methodologies covered during the week.
- 20% Contribution to Paper
- 20% Job application packet- Students will prepare a cover letter and resume/cv
- 10% Social Media Post- Students will prepare a social media post featuring one of the activities conducted during this program. Post may be featured on the Center for Field Sciences or Natural History Museum, LA social media.

SKILLS MATRIX LEVELS

The school instructors will evaluate the level each student achieved on the list of skills provided above. Each skill will be graded on one of the following three levels:

Basic: Can perform the skill/task with some supervision.
Competent: Can perform the skill/task without any supervision.
Advanced: Can perform the skill/task and teach others how to do it.

ATTENDANCE POLICY

The required minimum attendance for the successful completion of the field school is 85% of the course hours. Any significant delay or early departure from an activity will be calculated as an absence from the activity. An acceptable number of absences for a medical or other personal reasons will not be considered if the student catches up on the field school study plan through additional readings, homework or tutorials with program staff members.

PREREQUISITES

None. This is hands-on, experiential learning and students will study on-site how to conduct zooarchaeological research. Students are required to come equipped with sufficient excitement and adequate understanding that the work requires patience, discipline, and attention to detail.

PROGRAM ETIQUETTE

This program takes places in an active museum and students should be respectful of visitors and workers. Please conduct yourselves as though you are a representative of the museum at all times. Allow visitors first access to elevators, be quiet and orderly while navigating the museum, etc. More detailed instructions about museum policy will be provided on first day of program.

EQUIPMENT LIST

Pens/pencils: You will be required to keep a lab notebook during this program. Bring pens and pencils for drawing bones and taking notes.

Lab notebook: Blank notebook, any type/variety. If it is your preference you may keep a digital copy of your lab notebook instead of a physical one. Just be aware that you will need to provide drawings/photos within the lab notebook.

TRAVEL & MEETING POINT/TIME

We suggest you hold purchasing your airline ticket until six (6) weeks prior to departure date. Natural disasters, political changes, weather conditions and a range of other factors may require the cancelation of a program. The CFS typically takes a close look at local conditions 6-7 weeks prior to program beginning and makes a Go/No Go decision by then. Such time frame still allows for the purchase deeply discounted airline tickets while protecting students from potential loss of airline ticket costs if CFS is forced to cancel a program.

Students will meet at the Natural History Museum in Los Angeles at 900 W Exposition Blvd, Los Angeles, CA on Monday June 12th at 9:00 AM.

If you missed your connection or your flight is delayed, please call, text or email project director immediately. A local emergency cell phone number will be provided to all enrolled students.

VISA REQUIREMENTS

This is a domestic program. No visa is required for US Citizens

MEALS & ACCOMMODATION

This project DOES NOT provide accommodations or food. For lunch breaks, there are several food options near the Natural History Museum, Los Angeles. You may also bring your lunch, as they are refrigeration options available for your use.

Restaurants

The NHM Grill in the NHM, Los Angeles Small café offering limited grab'n'go options

Hotbox Burgers 1030 W Martin Luther King Jr Blvd Suite #108, Los Angeles, CA 90037

The Lab Gastropub 3500 S Figueroa St, Los Angeles, CA 90007

Grocery Stores

Expo Super Market 1019 W Martin Luther King Jr Blvd, Los Angeles, CA 90037

Trader Joe's 3131 S Hoover St Ste 1920, Los Angeles, CA 9008

ACADEMIC CREDITS & TRANSCRIPT (CFS text – do not change)

Attending students will be awarded 8 semester credit units (equivalent to 12 quarter credit units). Students will receive a letter grade for attending this field school based on the assessment matrix (above). This program provides a minimum of 160 direct instructional hours. Students are encouraged to discuss the transferability of credit units with faculty and the registrar at their home institutions prior to attending this program.

Students will be able to access their transcript through our School of Record – Iowa Wesleyan University. IWU has authorized the National Student Clearinghouse to provide enrollment and degree verification (https://secure.studentclearinghouse.org/tsorder/schoolwelcome?ficecode=00187100). Upon completion of a program, students will get an email from IWU with a student ID that may be used to retrieve transcripts. The first set of transcripts will be provided at no cost, additional transcripts may require payment. If you have questions about ordering a transcript, contact the IWU office of the registrar at registrar@iw.edu.

REQUIRED READINGS

PDF files of all mandatory readings will be provided to enrolled students via a shared Dropbox folder.

Bovy, K.M., 2012. Why so many wings? A re-examination of avian skeletal part representation in the south-central Northwest Coast, USA. *Journal of Archaeological Science*, *39*(7), pp.2049-2059.

Butler, V.L. and Chatters, J.C., 1994. The role of bone density in structuring prehistoric salmon bone assemblages. *Journal of Archaeological Science*, *21*(3), pp.413-424.

Driver, J.C., Bovy, K., Butler, V.L., Lupo, K.D., Lyman, R.L. and Otaola, C., 2011. Identification, classification and zooarchaeology. *Ethnobiology letters*, *2*, pp.19-39.

Erlandson, J.M., Rick, T.C., Estes, J.A., Graham, M.H., Braje, T.J. and Vellanoweth, R.L., 2005. Sea otters, shellfish, and humans: 10,000 years of ecological interaction on San Miguel Island, California. In *Proceedings of the sixth California Islands symposium* (pp. 58-69). Arcata, California: Institute for Wildlife Studies.

Erlandson, J.M., Braje, T.J., Rick, T.C. and Davis, T., 2009. Comparing faunal remains and subsistence technology at CA-SMI-507: a 9,000-year-old paleocoastal shell midden on San Miguel Island, California. *The Journal of Island and Coastal Archaeology*, *4*(2), pp.195-206.

Funk, Caroline. "Ethno-ornithology in the Rat Islands: Prehistoric Aleut relationships with birds in the western Aleutians, Alaska." *Journal of Anthropological Archaeology* 51 (2018): 144-158.

Giovas, C. and LeFebvre, M., 2006. My island, your island, our islands: Considerations for island archaeozoology as a disciplinary community. In *Landscape Zooarchaeology Symposium*.

Grayson, D.K. and Frey, C.J., 2004. Measuring skeletal part representation in archaeological faunas. *Journal of Taphonomy*, *2*(1), pp.27-42.

Hill, E., 2013. Archaeology and animal persons: toward a prehistory of human-animal relations. *Environment and Society*, *4*(1), pp.117-136.

Hoffman, B.W., Czederpiltz, J.M. and Partlow, M.A., 2000. Heads or tails: the zooarchaeology of Aleut salmon storage on Unimak Island, Alaska. *Journal of archaeological science*, *27*(8), pp.699-708.

Hofman, C. and Rick, T., 2014. The dogs of CA-SRI-2: zooarchaeology, diet, and context of Canis familiaris from Santa Rosa Island, California, USA. *Ethnobiology Letters*, *5*, pp.65-76.

Lam, Y.M. and Pearson, O.M., 2005. Bone density studies and the interpretation of the faunal record. *Evolutionary Anthropology: Issues, News, and Reviews: Issues, News, and Reviews*, *14*(3), pp.99-108.

Lyman, R.L., 1987. Zooarchaeology and taphonomy: a general consideration. *Journal of Ethnobiology*, *7*(1), pp.93-117.

Moss, M.L., 2020. Did Tlingit ancestors eat sea otters? Addressing intellectual property and cultural heritage through zooarchaeology. *American Antiquity*, *85*(2), pp.202-221.

Rick, T.C., Walker, P.L., Willis, L.M., Noah, A.C., Erlandson, J.M., Vellanoweth, R.L., Braje, T.J. and Kennett, D.J., 2008. Dogs, humans and island ecosystems: the distribution, antiquity and ecology of domestic dogs (Canis familiaris) on California's Channel Islands, USA. *The Holocene*, *18*(7), pp.1077-1087.

Steele, T.E., 2015. The contributions of animal bones from archaeological sites: the past and future of zooarchaeology. *Journal of Archaeological Science*, *56*, pp.168-176.

Wolverton, S., 2013. Data quality in zooarchaeological faunal identification. *Journal of Archaeological Method and Theory*, *20*(3), pp.381-396.

RECOMMENDED READINGS

Baker, P. and Worley, F., 2014. *Animal bones and archaeology: guidelines for best practice*. Swindon: English Heritage.

Beisaw, A.M., 2013. *Identifying and interpreting animal bones: a manual* (Vol. 18). Texas A&M University Press.

Betts, M.W., Maschner, H.D., Schou, C.D., Schlader, R., Holmes, J., Clement, N. and Smuin, M., 2011. Virtual zooarchaeology: building a web-based reference collection of northern vertebrates for archaeofaunal research and education. *Journal of Archaeological Science*, *38*(4), pp.755-e1.

Gifford-Gonzalez, D., 2018. *An introduction to zooarchaeology* (p. 503). Cham: Springer.

Miller, S.D. and Broughton, J.M., 2016. *Zooarchaeology and field ecology: a photographic atlas*. University of Utah Press.

O'Connor, T.P. and O'Connor, T., 2008. *The archaeology of animal bones* (No. 4). Texas A&M University Press.

Reitz, E.J., Reitz, E. and Wing, E.S., 1999. *Zooarchaeology*. Cambridge University Press.