

ANTH/ENST 3133 Environmental Archaeology
Winter 2020

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Lecture: M/W, 1:00 – 2:30 pm
Lab: Fridays, 10:00 am – 1:00 pm

Evaluation: Zooarchaeology 3 lab Quizzes (3x10%), 1 midterm test (20%)
 Paleoeecology Lab assignments (5%), paleoecology project (20%), final exam (25%)

This class introduces osteological and paleo-ecological studies in archaeology. The first module focuses on zooarchaeology (Dr. Hamilton), while the second module addresses aspects of paleoecology and archaeobotany (Dr. Boyd). The class consists of 3 hours of lectures and 3 hours of lab.

No text book is assigned for the Zooarchaeology module, but a lab manual and Lecture materials are available through myCourseLink.

The recommended text for the paleoecology/archaeobotany component is:

- Reitz, E.J. and Shackley, M. 2012. *Environmental Archaeology*. New York: Springer. [E-BOOK available online through the LU library website].
- Journal articles (case studies) will be uploaded to myCourseLink for the paleoecology component. Students are expected to read these articles and be prepared to discuss them in class.

Course Schedule:

Week 1 (Jan 6-)

Lecture: history of Zooarchaeology
 Biological, Folk and Zooarchaeological Taxonomies
 Describing Bone surfaces and orientation
 Bone and tooth anatomy
Lab: Bone microstructure
 Axial versus appendicular skeleton
 Locomotion and lifestyle
 Dentition, and dental formulae

Week 2 (Jan 13-)

Lecture Taphonomy in Zooarchaeology
 Inferring past environments
 Inferring domestication
Lab Comparative mammalian osteology

Week 3 (Jan 20-)

- Lecture** Describing individual bones
Variation within species
Interpreting past environments
Inferring seasonality
Sexing and Aging Techniques
- Lab** **lab Quiz 1 (10%)**
Fish and Bird Osteology

Week 4 (Jan 27-)

- Lecture** Assessing relative abundance of individual Taxa
MNI, NISP, Utility indices
- Lab** **lab Quiz 2 (10%)**
Identification of fragmentary bones

Week 5 (Feb 3-)

- Lecture** Element representation, bone processing and butchering
Evaluating Human predator, processing behaviour
- Lab** **Lab Quiz 3 (10%)**
Identification of fragmentary bones

Week 6 (Feb 10-)

- Lecture** Case study: Fur Trade 'over-hunting' (Peace River)
Case study: Integrating NISP, MNI, and historic records (Brandon House)
- Lab** **Midterm Quiz (20%)**
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Week 7 (Feb 24-) Paleoecology begins

- Lecture** Introduction
- Lab** **Conifer scavenger hunt** (weather permitting)

Week 8 (March 2-)

- Lecture** Bryophytes and vascular plants
- Lab** **Plant macrofossil identification (5%)**

Week 9 (March 9-)

- Lecture** Plant microfossils: pollen, phytoliths and starch
- Lab** Macrofossil sample processing & project information

Week 10 (March 16-)

- Lecture** Arthropods and other invertebrates
- Lab** Paleoecology project (microscopy)

Week 11 (March 23-)

- Lecture** Molluscs and echinoderms
- Lab** Paleoecology project (microscopy)

Week 12 (March 30-)

- Lecture** Viruses, bacteria, fungi, and stable isotopes

Lab Paleocology project (microscopy)

Paleocology project: Due: **April 3**

Final exam (Paleocology only): **TBA**

References (zooarchaeology)

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