ANTH/ENST 3133 Environmental Archaeology
Fall 2015, Lecture/Lab

Instructors
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Lecture: BB2002 Friday 12:30 to 2:30 pm
Lab: BB0017 Monday 11:30 to 2:30 pm

Evaluation:
Zooarchaeology 3 lab Quizzes (3x10%), 1 midterm test (20%)
Paleoecology Lab assignments (20%), paleoecology project (30%)

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 2 hours of lectures and 3 hours of lab.

No text book is assigned for the Zooarchaeology module, but a lab manual is available through WebCT. Lecture materials will be available from Web CT.

The text for the paleoecology/archaeobotany component is:

(This text is available as a free ebook through the LU library website)

Course Schedule:

Week 1 (Sept 14-18, 2015)
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 (Sept 21-25, 2015)
Lecture: Taphonomy in Zooarchaeology
Inferring past environments
Inferring domestication

Lab: Comparative mammalian osteology

Week 3 (Sept 28-Oct2, 2015)
Lecture: Describing individual bones
Variation within species
Interpreting past environments
Inferring seasonality
| Week 4 (Oct 5-9, 2015) | **Lecture** | Assessing relative abundance of individual Taxa  
MNI, NISP, Utility indices | **Lab** | **Lab Quiz 2 (10%)**  
Identification of fragmentary bones |
|-----------------------|-------------|-------------------------------------------------|--------|-------------------------------|
| **Week 5 (Oct 12-16, 2015)** | **Lecture** | Element representation, bone processing and butchering  
Evaluating Human predator, processing behaviour | **Lab** | **Lab Quiz 3 (10%)**  
Identification of fragmentary bones |
| **Week 6 (Oct 19-23, 2015)** | **Lecture** | Case study: Fur Trade ‘over-hunting’ (Peace River)  
Case study: Integrating NISP, MNI, and historic records (Brandon House) | **Lab** | **Midterm Quiz (20%)** |
| **Week 7: Paleoecology begins** | **Lecture** | Introduction | **Lab** | Scavenger hunt |
| **Week 8** | **Lecture** | Bryophytes and vascular plants | **Lab** | **Plant macrofossil identification (10%)** |
| **Week 9** | **Lecture** | Plant microfossils: pollen, phytoliths and starch | **Lab** | **Plant microfossil identification (10%)** |
| **Week 10** | **Lecture** | Arthropods and other invertebrates | **Lab** | Macrofossil sample processing & project description |
| **Week 11** | **Lecture** | Molluscs and echinoderms | **Lab** | Paleoecology project |
| **Week 12** | **Lecture** | Viruses, bacteria, fungi, and stable isotopes | **Lab** | **Paleoecology project (30%)** |

The paleoecology project is due on the last day of class (**December 7**)
References (zooarchaeology)


Lyman, R. Lee


Lyman, R. L. and K. P. Cannon (eds).

Maurean, Curtis W., and Lillian M. Spencer

O’Connell, James C., Kristen Hawkes and Nicholas Blurton Jones

O’Connor, T.

Olsen, Stanley J.

1964 Mammal remains from archaeological sites, *Part I, Southeastern and Southwestern United States*, Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University 56(1).

1968 Fish, amphibian, and reptile remains from archaeological sites, *Part I, Southeastern and Southwestern United States*, Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University 56(2).

1972 *Osteology for the archaeologist, 3, the American mastodon and woolly mammoth*, Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University 56(3).


Olsen, Stanley J.
1960 Postcranial skeletal characters of Bison and Bos, Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University 35(4).

1964 Mammal remains from archaeological sites, *Part I, Southeastern and Southwestern United States*, Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University 56(1).

1968 Fish, amphibian, and reptile remains from archaeological sites, *Part I, Southeastern and Southwestern United States*, Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University 56(2).

1972 *Osteology for the archaeologist, 3, the American mastodon and woolly mammoth*, Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University 56(3).