



Anth 3811 (FA) **Zooarchaeology**
Department of Anthropology, Lakehead University
Fall, 2023

Class: ATAC 1005 (Lecture); BB0020, FB 1006 (Lab)
Time: Lect/Lab: Mon, Wed, 5:30 to 7 pm

Instructor: Clarence Surette
BB0008
clsurett@lakeheadu.ca
807-343-8010 ext. 8278

Course Description:

Zooarchaeology is the study of animal remains from archaeological contexts to enhance our understanding of the long-standing and complex relationship between past people and animals. Analyses of archaeological animal remains can address problems that range from past human subsistence strategies and paleoecology to paleoclimatic reconstruction. This course is designed to provide a basic understanding of zooarchaeology, in addition to hands-on experience working with animal remains.

In this course, most of the class time will be spent in the lab. Students will be involved in hands-on identifications of animal remains and by the end of the course will conduct analyses of zooarchaeological assemblages. Lectures will cover basic zooarchaeological methods and topics. As part of a group project* (groups of 2 or 3 depending on the number of students), additional experience in vertebrate identification will be achieved through the preparation and curation of vertebrate skeletal specimens (one mammal, one bird, one fish) for the anthropology osteological comparative collections.

Learning Outcomes:

By the end of the course, students will be able to:

- 1) become proficient in the identification of the bones of several local species of mammal, bird and fish;
- 2) identify complete and partially fragmented skeletal remains of fish, birds and mammals to skeletal element and class (order for some mammals);
- 3) effectively use MS Excel to conduct basic analyses and graph archaeological datasets.

***Note:** In order to work on your group project, **you will need to book time outside of class time to work on this**, as it will require the use of a fume hood and only two or three people can fit in there at a time. We will book time in the instrumentation laboratory at the beginning of the semester. Once the bones have been processed and cleaned, class time will be used to do the identification and labelling (second half of the semester). Additionally, my office hours and extra lab time on this will be Thursdays and Fridays from 5-8 pm. If these hours do not fit your schedule, please make arrangements with me for other times.

Grading

Lab Attendance/Participation 10 %

Lab Notebook 10%

Quiz 10%

Group Project and Write Up 50%

Zooarchaeological Assemblage Identification 20%

While in the lab, students will be expected to complete a series of exercises in order to maximize their learning experience. Furthermore, lab time will also be necessary to work on their projects and seek clarifications as needed. This portion of the class will contribute to the **participation/lab attendance grade (10%)**.

Since the majority of the class will be spent on hands-on learning, keeping a **lab notebook** will be necessary, especially when it comes to the write up for the group project. I will be collecting your notebooks at the end of term, which will be worth **10 % of your final grade**.

A **midterm quiz (10%)** will be a mix of fill in the blanks/multiple choice questions addressing topics discussed in the first half of the semester.

The **group project (50%)** will consist of macerating three animals (one bird, one fish, one mammal), making a bone collection for each, identifying and labelling each bone. If present, feathers, scales, and hair will also be kept. The write up will include information on each animal, diagrams, and a spreadsheet (**portfolios**). To do the write-up, each student will be asked to keep **notes and pictures** describing what they are doing and how. This will help in writing a guide describing how to prepare a reference collection for each type of animal. A spreadsheet will also be provided for each animal describing which bones are present, missing, damaged, or exhibiting signs of trauma. A general illustration of each animal will be required to indicate which bones are present/missing/damaged. Furthermore, a short paragraph will be added to describe which bones from each animal are commonly found at archaeological sites and why, which will be accompanied by supporting articles. **One write-up will be required for each group.**

For the final portion of the course students will be required to **identify archaeological faunal remains**. Each student will be given an assemblage of unidentified remains and required to use everything they have learned throughout the course to identify, describe, and quantify these remains. The data collected will be organized in an excel spreadsheet and submitted for grading, this will be worth **20% of your final grade**.

ATTENDANCE: Attendance forms part of your participation grade. Since much of the course material requires hands-on interaction with faunal remains, it is important that you attend every class. If you are unable to attend a class, please let me know in advance if

possible, or as soon as possible afterwards, as make-up time will be required to cover the material missed.

Lakehead's Accommodation & Confidentiality Statements:

Lakehead University is committed to achieving full accessibility for persons with disabilities/medical conditions. Part of this commitment includes arranging academic accommodations for students with disabilities/medical conditions to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability/medical condition and think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please email sas@lakeheadu.ca or visit <https://www.lakeheadu.ca/faculty-and-staff/departments/services/sas>

Students are strongly advised to familiarize themselves with the Student Code of Conduct (<http://policies.lakeheadu.ca/policy.php?pid=60>) with regard to **both** academic and non-academic misconduct. Non-compliance will NOT be tolerated in this course and the code will be adhered to in terms of disciplinary action.

EQUIPMENT LIST

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

Lab Coat: A lab coat will be required when defleshing animals.

Goggles: Goggles will be required when defleshing animals.

Scalpel: A scalpel and a few blades will be required when defleshing animals, any other materials that may help is your choice.

NOTE: The following is a tentative schedule with dates and topics covered, it will be subject to change depending on processing time for your group projects.

Wk 1 Sept 6 (ATAC 1005)

Overview of course contents

Intro to Zooarchaeology

Examination of Bone Tools

Wk 2 Sept 11 (ATAC 1005), 13 (FB 1006)

Domestication

Seasonality

Aging

Sexing

Paleopathology

Examination of Bone Artifacts
Fish dissection for group project (FB 1006)

- Wk 3** Sept 18 (ATAC 1005), 20 (ATAC 1005)
Butchering Practices
Taphonomy, Recovery, and Preservation
Elemental and Chemical Analyses
Examination of Bone Artifacts
Describing bone surfaces and orientation
Bone microstructure
Axial versus appendicular skeleton
Locomotion and lifestyle
Dentition, and dental formulae
Mammal Osteology
Avian Osteology
Fish Osteology
Reptile/Amphibian Osteology
- Wk 4** Sept 25 (BB 0020), 27 (BB 0020)
Mammal Osteology lab (elements, orientation, taxonomic identification)
Avian Osteology lab (elements, orientation, taxonomic identification)
- Wk 5** Oct 2 (BB 0020), 4 (ATAC 1005)
Fish, Reptile/Amphibian Osteology Lab (elements, orientation, taxonomic identification)
Quantitative Analysis
NISP, MNI, MNE Utility Indices
Fish Scales, Feathers, and Hairs
Examination of Bone Artifacts
- Wk 6 Study Week**
- Wk 7** Oct 16 (BB 0020), 18 (BB 0020)
Quiz (October 16th in BB 0020)
Archaeology of the invisible: zooarchaeology Microscopy lab (Hair, Feather, Scales, saw marks)
Analysis of Zooarchaeological Assemblages
- Wk 8** Oct 23, 25 (BB 0020)
Analysis of Zooarchaeological Assemblages
- Wk 9** Oct 30, Nov 1 (BB 0020)
Analysis of Zooarchaeological Assemblages
Sorting/Identifying/cataloguing of Bones for Group project.
Due Date: November 1st (Excel sheets for the Analysis of Zooarchaeological Assemblages)

Wk10 Nov 6, 8 (BB 0020)
Sorting/Identifying/cataloguing of Bones for Group project.

Wk 11 Nov 13, 15 (BB 0020)
Sorting/Identifying/cataloguing of Bones for Group project.

Wk 12 Nov 20, 22 (BB 0020)
Sorting/Identifying/cataloguing of Bones for Group project.

Wk 13 Nov 27, 29 (BB 0020)
Sorting/Identifying/cataloguing of Bones for Group project.

Wk 14 Dec 4 (BB 0020)
Sorting/Identifying/cataloguing of Bones for Group project.

Due Date: December 15th (Portfolios for Groups Projects are due – a write up of your procedures for the maceration of each animal which includes pictures, diagrams, excel sheets of the bones catalogued and their condition, a short paragraph of which bones from each animal one would be expected to find at an archaeological site and/or some information on the skeletal biology of the animals, and a few references).

Due Date: December 15th: Notebook

Late Assignments

Late assignments will automatically receive a **5% deduction daily** and **will automatically receive a 0 if not received before marks are due on December 21st.**