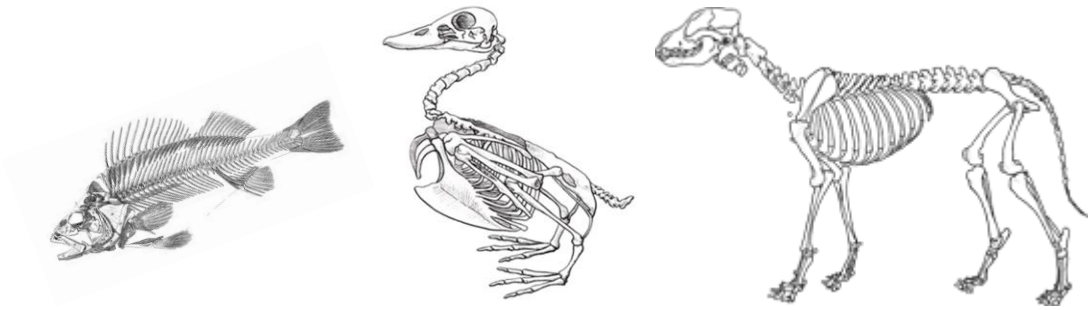
SYLLABUS
Zooarchaeology: Analysis of Faunal Remains

Instructor: Dr. Jean Hudson
Office: Sabin 353
Office hours: Fridays 1-3pm or by appt
Instructor contact: jhudson@uwm.edu

Class time: Friday 10:00am -12:40pm
Class location: Sabin 353 (moved from 149)
TA: Amy Klemmer : aklemmer@uwm.edu
Web site is on Canvas



Course Description

This course provides an introduction to the identification and interpretation of animal bones from archaeological sites. Through a combination of lectures and discussions, lab exercises, and readings, you will learn how to use osteological clues to trace bone fragments back to the animals they represent and to the cultural behaviors that led to their inclusion in the archaeological record. We will also focus on research design – how to plan and complete a research project – including choosing questions and methods, conducting background work, collecting and analyzing data, and interpreting and presenting it.

This class satisfies the Methods requirement and the Research requirement for the Anthropology major.

Learning Objectives

This class is designed to help you build:
- knowledge of human cultures and the natural world
- critical and creative thinking skills
- effective communication skills
- research design skills

Upon successful completion of this class you should be able to:
- identify the major elements of a mammalian skeleton
- distinguish between certain archaeological remains of mammals, birds, fish, reptiles, and amphibians
- apply NISP, WT, MNI, and other quantitative techniques
- build a research design and conduct and present an applied research project
- operationalize criteria and use expected fauna lists & species accounts
- evaluate the zooarchaeological analyses you read
- explain taphonomy, equifinality, multiple working hypotheses, & multiple lines of evidence

Credit Hours

This 3-credit course meets for 3 hours of lecture and lab per week during the semester. Students are expected to put in 6-7 additional hours a week reading, studying, and working on assignments to achieve the learning goals of this course. **Plan on spending at least 1 hour a week of your study time for this class on campus in our lab, so you can study hands-on with the skeletal material**. Weekly open lab times will be established during our first class based on your preferences among the available options.

Required Readings and Where to Find Them

Our readings are available as pdf files via the class web site. Most are oriented towards building your technical skills or providing useful background information for our archaeological study collections.

There are a great many useful texts and illustrated faunal guides that are NOT REQUIRED but that you may decide you want to purchase after previewing examples in our lab library. Among these are:
- *An Introduction to Zooarchaeology* by Diane Gifford-Gonzalez (2018)
- *The Oxford Handbook of Zooarchaeology* edited by Albarella et al (2017)
- *Zooarchaeology and Field Ecology: A Photographic Atlas* by Jack Broughton and Shawn Miller (2016)
- *Social Zooarchaeology* by Nerissa Russell (2012)
- *Comparative Osteology A Laboratory and Field Guide of Common North American Animals* by Bradley Adams and Pam Crabtree (2011)
- *Behavior of North American Mammals* by Marc Elbroch and Kurt Reinhart (2011)
- *Zooarchaeology* by Reitz and Wing (2008)
- *Vertebrate Taphonomy* by Lee Lyman (2008)
- *Animal Skulls* by Mark Elbroch (2006)
- *Teeth* by Simon Hillson (2005)
- *Shells* by Cheryl Claassen (1998)
- *Fishes* by Wheeler and Jones (1989)
- *Birds* by Serjeantson (2009)
- *Quantitative Zooarchaeology* by Don Grayson (1984)
- *Mammal Remains from Archaeological Sites* by Stanley Olsen (1996 reprint)
- *Osteology for the Archaeologist* [includes birds] by Stanley Olsen (1972)
- *Fish, Amphibian and Reptile Remains from Archaeological Sites* by Stanley Olsen (1968)
- *Mammalian Osteology* by Miles Gilbert (1990)
- *Avian Osteology* by Miles Gilbert (1996)

Grading Grading is based on a point system, the percentage distribution of which is outlined below.

	Undergraduate	Graduate
Weekly attendance & participation, including lab work	25%	20%
Weekly lab quizzes (practical identification of bones)	25%	20%
Final report on study collection (and interim deadlines)	25%	20%
Final exam	25%	20%
Grads only: abstract, 20 citations, 5 annotations, 1 presentation		20%
	100%	100%

Point Distribution

Your grades will be assigned according to the following percentages. Less than 60% correct is an F.

A+	97-100%	C+	77-79%
A	93-96%	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	63-66%
B-	80-82%	D-	60-62%

Grading Rubrics

Items other than quizzes & the final exam are graded on either a 0 to 2 scale (participation, lab work) or a 0 to 10 scale (final report, graduate student bibliography & presentation). Associated rubrics below:

0	absent, nothing submitted	0	nothing submitted
1	present but participation does not demonstrate preparation or solid effort during class, item is late or incomplete	6-6.9	late, incomplete, did not follow directions
		7-7.9	followed directions but content does not demonstrate good comprehension of key ideas and/or data show multiple or significant errors
2	present and actively engaged and prepared, submitted work is on-time, complete, and demonstrates understanding	8-8.9	complete, content shows good comprehension of key ideas; data show no major errors
		9-9.9	complete, content shows full comprehension of key ideas and qualifying factors; data show no major errors; writing/presentation is easy to follow
		10	as above but with exceptional clarity & logic, and/or relevant independent insight, creativity, or critique

Assignments

Attendance and Participation. Because of the laboratory nature of this class, **attendance is essential**. Make it a priority. **We meet only once a week; take full advantage of the learning opportunities**. Class time will include a mix of: 1) lecture; 2) review and discussion of the readings; 3) one or more lab modules to develop specific identification skills; and/or 4) application of those skills to a real archaeological collection. **Most classes will begin with a practical quiz** on the skills learned in the previous class. Missing a class will affect your learning and your grade in many negative ways (the material covered, the hands-on learning, the quiz points, lab exercise points, and participation points for that day). If you cannot avoid missing a class due to health issues, inform us as soon as possible so we can look for ways to help you master the materials and adapt to achieve your goals.

Readings. See the Class Schedule on Canvas for the weekly reading assignments. Always read the assigned material before coming to class on that day so that you can ask and answer questions about it.

Quizzes and Final Exam. The quizzes will be almost weekly, and largely practical. For example, there may be twenty bones, individually bagged and numbered; each person will get 30 seconds to examine the bone and identify the skeletal element represented before passing it on and receiving the next one. **Budget time to come in during open lab hours each week to "bone up" for the quiz** – it will really make a difference. And you might win the coveted Golden Furculum award! **No make-ups** for quizzes without prior arrangement. The final exam will have a practical component and a section asking you to define key terms and demonstrate your understanding of the interpretive methods we have studied.

Access to the Lab. Plan on spending part of your weekly study time for this class in the lab during our open lab hours. This will allow you to study for the practical quizzes, make use of the various reference books, and work on your identifications of the archaeological bone. We will discuss schedule options for the open lab hours in class; our goal is to find times that will give everyone a chance to study.

Research Design and Final Report. Throughout the semester we will spend time working with faunal remains from a real archaeological site. You will work in teams, applying the identification skills you are learning. Your identifications will be proofed by me and the TA and graded for effort, legibility, & compliance with our protocols. Each team will input their proofed data and we will merge this into a single data base that all may use for their final report. For the final report each of you will define your own individual research question to be answered by analysis of the collection. This class is designed to walk you through the research design and report writing process. You will follow a template with due dates for specific sections; class readings and exercises will help to provide the content; we will spend some class discussion time helping you define and refine your research question. Follow the template and writing schedule due dates provided on Canvas for full credit and feedback before the final grading.

Grads only – Abstract, Literature Search Citations, Annotated Bibliography, & Presentation
These four assignments are required only of graduate students. Format in .docx or .pdf.

> **Abstract**. Choose a research topic of interest to you that can be addressed with faunal remains – we will discuss your ideas during the first week. If it connects to your thesis or dissertation, so much the better. Submit a paragraph-length abstract **by the end of the 2nd week**. It should be obvious in your abstract what questions you wish to answer and what kinds of faunal data you will seek to answer them. You can choose a culturally-specific data-oriented question, e.g,. what is our current understanding of the faunal evidence for diet (or something else) in region X during time period Y. Or you can choose a particular zooarchaeological method (e.g., body part analysis, or cutmarks, or cooking, or season of death) and review applications and evaluations of that method. This abstract will provide the framework for your literature search & annotated bibliography. I am glad to discuss your ideas with you.
>
> **Literature search.** Use our library and on-line journal databases to build a digital collection of citations and their published abstracts for at least 20 faunal publications that are especially relevant to the research question defined in your own abstract. Choose thoughtfully – do not just take the first 20 you find – evaluate the relevance – if you could only read 20, which ones would be best? It is fine to include older classics as well as current publications, but there should be at least as many citations from the last 10 years as there are older ones. This is supposed to be a literature search exercise that pulls you into the faunal literature and makes you more aware of where to look for those kinds of articles and how to look for them (including specialized vocabulary), so **avoid items you were familiar with prior to this class**. For each of the 20 copy of the full citation and cut and paste the published abstract (or 1st paragraph if no abstract). Put these together in a single digital document and submit **by the end of the 7th week of class**. Feel free to submit it earlier.

Annotated bibliography. From your literature search, select 5 items that use faunal data (tables, figures) to address a research question and read them well. Fill out an annotation form (available on our web site) for each. Submit them **by the end of the 8th week**. Feel free to submit earlier.

Presenting an article. Choose one of your 5 articles to present **during class in the 9th week**. This should be an article that includes faunal data tables & figures & interpretations that address the author's research goals – choose accordingly. Presentation length is 10 minutes. Format is a voice-over powerpoint that you will post to the class Discussion forum. Your goal is to help us understand the author's research goals, methods, and how they presented their supporting faunal data in terms of tables and figures. Submit your presentation no later Wed.

Class Web Site. Use our Canvas site to access class readings and course information.

Our Archaeological Collection. Throughout the semester, you will be applying the skills you learn to a real archaeological collection of animal bone.

*The collection we will be analyzing comes from the **Bell** site, 47-Wn-9. This site is located in Winnebago County, near Oshkosh. Historic occupation at the site dates from about A.D. 1680 to 1730, a time span when Native American groups were often relocating as they all interacted with European fur traders, military, and colonials. The group that occupied this site during the time period we will be studying call themselves the Meskwaki. There is a modern Meskwaki Nation settlement in Iowa, where the formal designation of the group is the Sac and Fox Tribe of the Mississippi. Some aspects of this complex cultural history are detailed in our readings. We will be looking at their occupation of a site (the Bell site) that was referred to historically as the Grand Village.*

Excavations at the site include those carried out by the UW-Oshkosh archaeological field school, directed by Dr. Jeffrey Behm. Evidence at the site indicates it was a fairly large village, with houses, a palisade, and a great many pit features. Identification of the animal bone from this site will contribute to a better understanding of what life was like in this village, during this time of rapid changes, and how these people fit into their ecosystem. Former UWM graduate student Ralph Koziarski interpreted faunal remains from a set of features at this site, comparing prehistoric and historic subsistence; we will read some of his work. Another UWM graduate student, Sam Snell, did his Master's thesis on the Bell site, using GIS to analyze the spatial distribution of various features of the site, and we will be using some of his maps. Dr. Jeffrey Behm, faculty at UW-Oshkosh, has published on the site; we will read some of his work. It is thanks to him that we have the opportunity to work on these materials. Our goal is to make a small but useful contribution to the understanding of the site by performing a rough sort of some of the animal bone.

Lab Protocols.

Two rules of lab procedure are essential for this effort.

1) Never lose provenience. 2) Accuracy matters more than precision.

The first refers to being extremely rigorous about maintaining the information about where each particular bone sample came from - the lot number, the level, the type of sample, the screen size, and any zone or area. The second refers to the difference between accuracy and precision, and the importance of being conservative in your identifications, especially when you are learning. It is much better to identify a bone fragment accurately as "fish", than to attempt a more precise identification as "catfish" when you cannot prove your accuracy. I will repeatedly emphasize these two issues in class: work carefully to maintain provenience and make conservative identifications that you can defend with clear criteria.

I will also expect you to **follow our lab protocols & treat our comparatives with TLC**. To follow lab protocols simply pay attention to specific directions, such as how to fill out our tags, when to use pencil rather than pen, when to focus on particular aspects of identifications but not others, how to log your progress, and where to put finished vs unfinished work. **No materials may leave the lab** – this includes the study collection and the comparatives, as well as our "library" of books. When working with the comparatives, handle them carefully, keeping your hand and the table or counter under them, and making sure they are back where they should be at the end of the lab session. Do not pick up a bone by a fragile arch or projection. And of course honesty is always the best policy – if something does accidentally get broken or strays from its box or bag, let me know. The sooner I know, the better the chance it can be fixed.

Other Matters of Relevance

UNIVERSITY POLICIES may be found at:
https://uwm.edu/secu/wp-content/uploads/sites/122/2016/12/Syllabus-Links.pdf

Access the assigned readings via our Canvas site. Be ready to discuss them the week they are assigned.

Stay alert to any **announcements in class or on Canvas** that might modify this schedule or the syllabus, or provide information about free lectures or other events & associated extra credit options.

Extra Credit Options (up to 10 points).

Attend one of the public lectures on archaeology or anthropology that are announced in class or on our class web site and type up and submit via Canvas a one-page summary that identifies its relevance to some aspect of human-animal relationships. One point per write-up.

Participate in one of the specimen prep opportunities coordinated by your TA. These involve reducing an animal carcass to its skeletal elements following our reference collection protocols. Be ready for a little gore and some smelly moments. It is a great way to get an "inside" view of where each skeletal element is located and how it functions. If you are considering a career in veterinary science or human medicine and forensics or animal biology and ecology (or zooarchaeology) you may find this especially useful. One point per participation event.