

**ZOOARCHAEOLOGY**  
**ANTH 4460 – 001/002 & BIOL 4460 – 001/002**  
**Spring, 2016**

**INSTRUCTOR:** Dr. Naomi Cleghorn

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**Department Phone:** 817-272-2661

**Office Hours:** Monday, 9 am – 2 pm, or by appointment

**CLASS MEETS:** Tuesday & Thursday, 12:30 – 2:50 pm  
University Hall 13

**COURSE DESCRIPTION:**

Zooarchaeology is the study of animal remains (primarily bones, teeth, and shells) from archaeological contexts. The goal of most zooarchaeological studies is to determine how animals fit into human economic and ecological strategies. Zooarchaeological research is therefore applicable in virtually all archaeological contexts (as long as animal remains are preserved) and is an integral component of archaeological analysis.



This course introduces students to the important issues and analytical techniques of zooarchaeology, including taphonomic processes (that is, how faunal assemblages are formed and altered), quantification of skeletal elements, distinctions between major taxonomic groups, season of death, interpretation of mortality profiles, application of optimal foraging theory, and biometric data analysis. Laboratory sessions complement lectures and provide hands-on instruction in skeletal identification. Students learn how to identify bones and teeth, how to distinguish between some major taxonomic groups, and how to identify evidence of bone alteration by various taphonomic processes (i.e., butchery, burning, acid

dissolution, weathering, and carnivore gnawing). Using modern bone, students work in small groups to simulate and then analyze some of these processes. We also discuss field and laboratory methods, including documentation and conservation.

Because zooarchaeological analysis requires the use of a computer, some lab time may be devoted to the use of software applications. Students will learn the basics of using a spreadsheet and a database program. (Note: these are basic life skills, and will help you get a job in virtually any field after college!)

## STUDENT LEARNING OUTCOMES:

By the end of the course students should be able to do the following:

- Summarize the major issues in zooarchaeological analysis, including taphonomic processes, methodology, and interpretation.
- Identify skeletal elements, including fragmented bones, from a variety of animals.
- Identify teeth and some bones to taxon.
- Produce basic quantification summaries.
- Identify evidence on animal bones for various taphonomic processes.

Other skills students should acquire:

- Use of a spreadsheet program (Excel) for data analysis and graphing.

## REQUIRED TEXTS:

Reitz EJ, and Wing ES. 2008. *Zooarchaeology*. Cambridge University Press.

Russell, N. 2012. *Social Zooarchaeology*. Cambridge University Press. (Available on Kindle)

## STRONGLY SUGGESTED TEXTS:

Lyman, R.L. 1994. *Vertebrate Taphonomy*. Cambridge University Press.

Hillson S. 2005. *Teeth*. Cambridge University Press.

Additional required readings are listed on the class schedule. Links to these readings can be found on Blackboard.

Multiple osteological guides will be provided in lab and via Blackboard.

## REQUIREMENTS & GRADING:

Students are evaluated on the basis of quizzes, laboratory reports, two exams (a midterm and final).

Requirement	% of Grade
Lab Attendance/Completion	15%
Zooarchaeology Lab Report	30%
Lab Notebook	5%
Quizzes *(see Quiz Relief Option below)	30%
Final exam	20%

### ATTENDANCE & COMPLETION OF LABS: (15%)

All lab assignments should be completed. Students must use the assigned lab time to complete these exercises.

### LABORATORY REPORT (30%):

Students undertake an analytical project using a zooarchaeological assemblage (from the site of Opovo) provided by the instructor. Working in small groups, students will collect data, develop

analyses, and prepare reports employing key course concepts. (Note: although students will work in groups, they will hand in individual reports). The final report will include the following components: general description, quantification, fragmentation, surface modification, skeletal element representation, and an interpretive overview. Parts of the report may be checked by the instructor in March & April, but the final report will be due May 5<sup>th</sup>.

#### **LABORATORY NOTEBOOK (5%):**

Organized management of data during collection and analysis is essential to any laboratory science, including archaeology. Students will carefully and comprehensively track all of their own activities related to the Opovo project. Lab notes will be graded for thoroughness, neatness, and organization.

#### **QUIZZES (30%)**

There will be nine quizzes over the course of the semester. These will primarily focus on practical skills, but may also include material covered in readings or lecture. The 2 lowest quiz grades will be dropped automatically.

#### **QUIZ RELIEF PAPER OPTION:**

Students have the option of turning in a research paper in lieu of part of their quiz grade. They are still required to take all quizzes, but these would be worth only 10% of the total grade, while the research paper would be worth 20%. The 5 – 7 page research paper will examine a particular relationship between humans and any animal species in depth, will cite at least 3 sources of primary zooarchaeological literature, and will include (in addition to the references cited section), a related annotated bibliography of at least 10 scholarly sources). Use of a reference manager is absolutely required. If you have never used one, I will help you with this. If you would like to pursue this option, I will provide a schedule of due dates. The decision to write a paper must be made by February 20<sup>th</sup>.

#### **IF YOU WRITE THE PAPER**

**On-line Plagiarism Tutorial:** *You must complete the tutorial to get credit for the paper option.* The link to the tutorial / quiz is on Blackboard. You must pass this with a score of 100% in order to get credit for the tutorial. (The site itself will tell you that 70% is passing, but we have higher expectations in anthropology). You may take the tutorial as many times as you require to achieve 100% accuracy. Please enter your first and last name when prompted by the test. At the conclusion of a successful test, *you must have the test email your results to me* – I will not give you credit unless *I receive the email from the test.* I generally send out an email acknowledging receipt. If you don't get this within 3 days, check in with me. Do this by February 20<sup>th</sup>.

#### **FINAL EXAM (20%):**

The exam will include practical identifications, objective questions, and essays. It will be comprehensive.

## GRADING SCALE:

Grades for assignments and tests are posted to Blackboard as soon as possible. It is your responsibility to track your progress and determine that grades have been entered correctly to Blackboard. If you find a discrepancy, contact me immediately.

Your total course grade will be determined based on the following scale.

90% and greater	A
80% to 89%	B
70% to 79%	C
60% to 69%	D
Less than 60%	F

\* A .5% is rounded to next higher grade.

## TEST AND ASSIGNMENT DUE DATES:

SCHEDULED QUIZZES/EXAMS/ASSIGNMENTS	DATE (Subject to revision)
Quiz 1: Reading / Lecture Material	January 28 <sup>th</sup>
Quiz 2: Bovid / Cervid whole bones	February 4 <sup>th</sup>
Quiz 3: Landmarks on whole bones	February 11 <sup>th</sup>
Quiz 4: Comparative post-cranial osteology	February 18 <sup>th</sup>
Quiz 5: Comparative cranial and dental anatomy	February 25 <sup>th</sup>
Quiz 6: Identification of fragmentary remains	March 3 <sup>rd</sup>
Quiz 7: Reading/Lecture material	March 10 <sup>th</sup>
Quiz 8: Fracture Assessment	March 24 <sup>th</sup>
Quiz 9: Surface Modification	March 31 <sup>st</sup>
Report: Opovo General Description & Fragmentation	April 14 <sup>th</sup>
Report: Opovo Skeletal Element Representation	April 21 <sup>st</sup>
Report: Opovo Surface modification	April 28 <sup>th</sup>
Report: Opovo Final Report	May 5 <sup>th</sup>
Final Exam	Thursday May 12 <sup>th</sup> , 11am – 1:30 pm

## CLASS SCHEDULE: WHAT TO DO AND WHEN TO DO IT

(Subject to revision)

Reading abbreviations: RW = Reitz & Wing , NR = Russell (Social)

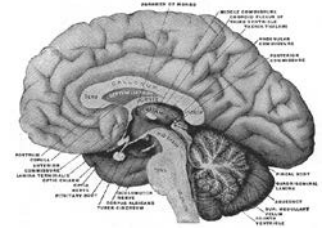
Week	Dates	Topic	Lab	Quiz /Assign.	Reading
1	Jan 19 <sup>th</sup> / 21 <sup>st</sup>	Introduction to zooarchaeology	Body plan	None	RW 1 & 2
2	Jan 26 <sup>th</sup> / 28 <sup>th</sup>	Basic biology & vertebrate skeletons	Skeletal element landmarks	Reading / Lecture	Davis 2 Lyman 4, pp70-95
3	Feb 2 <sup>nd</sup> / 4 <sup>th</sup>	Comparative Osteology & Dentition	Vertebrate comparisons, skulls	Whole bone	RW 3 pp 31-63 Hillson pp 1 – 19 Elbroch pp 9 – 39
4	Feb 9 <sup>th</sup> / 11 <sup>th</sup>	Mortality, Seasonality, Biometrics	Age estimation	Bone landmarks	RW 3 pp 63-87 Davis 4 Lyman pp 114-135 RW 7 pp182-213
5	Feb 16 <sup>th</sup> / 18 <sup>th</sup>	Taphonomy & Zooarchaeological Assemblages	Identification of fragmented bones	Comparative post-crania	RW 5 & 6; Brain 1981 Intro
6	Feb 23 <sup>rd</sup> / 25 <sup>th</sup>	Quantification	Quantification	Comparative crania & dentition	RW 7 pp213-242 Lyman pp97–113
7	Mar 1 <sup>st</sup> / 3 <sup>rd</sup>	Zooarchaeological Theory <i>Termini Lecture – Bioarchaeology(3/3,7pm)</i>	Zooarchaeological Assemblage (Opovo)	Identification of fragments	Marean 1995 Lyman pp135-150
8	Mar 8 <sup>th</sup> / 10 <sup>th</sup>	Fragmentation, burning, weathering	Fracture morphology & weathering	Reading / Lecture	Behrensmeyer 1978 Villa & Mahieu 1991 Lyman pp315-338
9		SPRING BREAK	--	--	--
10	Mar 22 <sup>nd</sup> / 24 <sup>th</sup>	Surface modification I: Non-human	Surface modification	Fractures	Blumenschine/Selvaggio
11	Mar 29 <sup>th</sup> / 31 <sup>st</sup>	Surface modification II: butchery	Surface modification	--	Binford 1981 Lyman pp294-315
12	Apr 5 <sup>th</sup> / 7 <sup>th</sup>	Body part representation	Zooarchaeological Assemblage (Opovo)	Surface modification	Lyman 223-234 Marean/Cleghorn 2003
13	Apr 12 <sup>th</sup> / 14 <sup>th</sup>	Domestication	Zooarchaeological Assemblage (Opovo)	Opovo part 1	RW 9; NR 6 Zeder 2006
14	Apr 19 <sup>th</sup> / 21 <sup>st</sup>	Village & Urban Zooarchaeology	Zooarchaeological Assemblage (Opovo)	Opovo part 2	Crabtree 1990 O'Connor 14
15	Apr 26 <sup>th</sup> / 28 <sup>th</sup>	Environmental Zooarchaeology	Zooarchaeological Assemblage (Opovo)	Opovo part 3	RW 4 & 10 Lyman 2006
16	May 3 <sup>rd</sup> / 5 <sup>th</sup>	Social Zooarchaeology	Zooarchaeological Assemblage (Opovo)	Opovo final	NR 3 (part) & 9

# COURSE POLICIES

(including the policies of the Vice Provost for Academic Affairs):

## 1. ACADEMIC INTEGRITY POLICY:

**Make sure all your work is the product of  
YOUR BRAIN!**



As a student of the University of Texas at Arlington, you are expected to maintain the highest standards of academic integrity. Any instance of academic dishonesty will have a significant negative impact on your scholastic record, not to mention your grade in this class.

Discipline may include a **failing grade for the class** together with either **suspension or expulsion** from the University of Texas. Also, academic misconduct **will be reported** to the Office of Student Conduct.

I am not kidding and I have no tolerance for even “small” amounts of cheating or plagiarism. To avoid doing this “accidentally,” **never cut and paste from anything you didn’t write.**

The Board of Regents has defined academic dishonesty as follows: “Scholastic dishonesty includes but *is not limited to* cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.” (Regents’ Rules and Regulations, Series 50101, Section 2.2).

All students enrolled in this course are expected to adhere to the **UT Arlington Honor Code:**

*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

## 2. LATE WORK POLICY:

Assignments are graded down **10%** of their value per day after the due date.

## 3. MAKE-UP TEST POLICY:

***--There are no make-up tests or quizzes! --***

The nature of practical quizzes makes them very difficult to set up and run, so I do not offer make-ups. However, I do automatically drop the two lowest grades. Thus, you can miss two quizzes with impunity. Save these misses for emergency use.

#### 4. ATTENDANCE POLICY:

##### **Be there on time!**

Attendance *and punctuality* are expected. Walking in late is rude and distracting – don't do it! Although there is no attendance grade, missing in-class assignments will negatively impact your grade (as described above). Some assignments / exercises / quizzes may happen at the beginning of the class. If you miss these by walking in late, **you will not be able to make them up.**

The Provost's Office would like me to add: "At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance."

#### 5. ELECTRONIC COMMUNICATION POLICY:

**I expect you to check your UTA email daily during the week!**

Sometimes I may hint at upcoming pop-quizzes or in-class exercises. If you miss the email, you will definitely be at a disadvantage.

A note from the Provost on communication:

UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

To obtain your NetID or for logon assistance, visit:

<https://webapps.uta.edu/oit/selfservice/>.

If you are unable to resolve your issue from the Self-Service website, contact the Helpdesk at [helpdesk@uta.edu](mailto:helpdesk@uta.edu).

#### 6. BLACKBOARD POLICY:

I use Blackboard A LOT for this course. **Check it often** for assignments, instructions, announcements, and to monitor your progress.

#### 7. CLASSROOM ELECTRONIC DEVICE POLICY:



**No laptops, tablets, or cell phones** may be used during class – *unless* you have a special waiver from the Office for Students with Disabilities. (I suggest you set your cell phone to silent, but I will forgive the occasional accidental ringing.)

## **8. TITLE IX POLICY:**

As stated by the Provost's Office:

"The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates." For more information, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX)."

## **9. DROP POLICY:**

***The last day to drop a class is April 1<sup>st</sup>, 2016, by 4 pm.***

The Provost's Office states:

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period (**through January 22<sup>nd</sup>, 2016**). After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

## **10. AMERICANS WITH DISABILITIES ACT POLICY:**

**Contact me early in the semester.**

**All tests taken in the ARC need to be scheduled well in advance.**

Please inform me if you have a disability requiring special consideration for classes and exams, and provide me with the relevant paperwork during the first two weeks of class. If you need to take any tests or exams in the Office for Students with Disabilities (UH 102), please note that these must be scheduled with **both** the instructor and that office at least a week in advance. It is possible (and preferable) to set up this schedule near the beginning of the semester.

The University's policy as stated by the Provost is as follows:

UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA), and Section 504 of the Rehabilitation Act. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the Office for Students with Disabilities (OSD). Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

Office for Students with Disabilities (OSD) [www.uta.edu/disability](http://www.uta.edu/disability) or 817-272-3364.

Counseling and Psychological Services, (CAPS) [www.uta.edu/caps/](http://www.uta.edu/caps/) or 817-272-3671.



Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

## **11. STUDENT FEEDBACK SURVEY**

**Please fill out the feedback survey!! I value your input.**

The Provost adds: "At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>."

## **12. FINAL REVIEW WEEK POLICY**

As stated by the Provost's Office:

A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

## **13. EMERGENCY EXIT PROCEDURES:**

**Know your exit routes!**

The nearest exits are just to the east of our room. To reach these, exit the room by either door, turn left, then turn either left or right, continue up the short set of steps, and through glass doors to the outside. Note that there are additional exits if this route is too crowded. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

## **14. INCOMPLETES:**

I will only allow a student to take an incomplete for the course under *extraordinary circumstances* and if they meet all of the following conditions: missing only one major grade component (specifically - the Report, Paper, or Final Exam); otherwise earning a grade of 90% or higher; demonstrated an academic

commitment to the class. The student must consult with me and obtain approval before an incomplete is offered.

## **COURSE SUPPORT SERVICES (Get Help – Get a better grade!)**

### **OFFICE HOURS**

Come see me if you're having trouble with the class. If you can't come to my office hours, email me to make an appointment.

### **PRIVATE TUTORING**

The University provides a private tutoring service for this course at a rate of \$6.50 per hour. To sign up for tutoring first go to the University Tutorial Office (205 Ransom Hall) and request a login ID. After this you may schedule tutoring sessions on-line.

### **WRITING SUPPORT:**

Having trouble with that paper? **Get help!**

Contact the UTA writing center on-line at: <http://www.uta.edu/owl/>

Not only will they give you advice on your work, they also have short workshops throughout the semester. Writing well is one of the most valuable skills you can acquire in college!



### **STUDENT SUPPORT SERVICES AVAILABLE:**

UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).