

ANTH/SIO 275
Introduction to Paleoethnobotany
Instructor: Dr. Jade d'Alpoim Guedes
Tuesday: Seminar 3:30-5:20 PM
Thursday: Lab 3:30-6:30 PM
Meets: Vaughan Hall 147
jguedes@ucsd.edu
Office hours: by appointment

1.) Course Description:

This course is designed to provide a relatively comprehensive understanding of paleoethnobotany, in addition to hands-on experience working with plant remains. We will focus primarily on macro-remains, although we will minimally discuss pollen and phytolith data as well. We consider the history of the discipline, field and lab methodology, the uses of macrobotanical data to reconstruct environment and subsistence, spatial versus temporal analysis, quantitative methods, and taxonomy. Readings cover the above topics, in addition to several case studies. Class will be divided between seminar and lab time. Students will be involved in hands-on microscope work and will collectively conduct an analysis of a macrobotanical assemblage from Khirbat al-Jariya in Jordan will produce a publishable quality report by the end of the semester. This course presumes that you have some basic knowledge of the origins of agriculture and/or traditional plant use in prehistory. Please note that this is primarily a lab course. We may have labs both of the scheduled days of the weeks in order to cover the vast numbers of plant families with which you will need to familiarize yourself in order to become a paleoethnobotanist. Please note that this course requires a substantial investment in lab hours outside of those scheduled for class. You are expected to spend a minimum of 3-4 additional hours a week working on sorting and identifying samples for your final project.

2.) Course Requirements:

Students will be evaluated by attendance and participation in seminar and lab; presentations of readings assignments due weekly; a small project involving the collection of modern comparative specimens; and a final project that is the outcome of the botanical analysis conducted by the class in the lab sessions.

Grading:

- i.) Seminar Participation and presentation (15%)
- ii.) Reading comments: You must post a 200-400-word comment on the course website the night before class on each of the readings. Due at 11:30 PM the night before class. (20%)
- iii.) Lab Attendance and Lab Notebook (15%)
- iv.) Understanding the Roman meal (20%)
- v.) Final Project (30%)

i.) *Seminar presentations and reading annotations:* Readings are required and students should be prepared to discuss them in seminar. See course schedule for reading assignments. In the week you present you should prepare a handout and powerpoint presentation of no more than 1-4

slides to focus on the major points/problems of the article. Articles assigned for presentation are starred by an *.

When you present an article, you must address the following:

1.) What is the objective of the article? What problem does it raise or address? What issue does it attempt to resolve? What hypotheses are evaluated?

2.) What are the strengths of this reading? What aspects are handled well in the data analysis? Which aspects of the paper are well argued? Note: this is not a book review so focus on the strengths of the argument not the mechanics of the paper.

3.) What are the weaknesses? What is the lasting significance of this article? Why should it be read beyond when it was published? Why/is this an influential piece of scholarship?

ii.) Reading comments: You will be required to post a 200-500 word comment (in the form of a journal entry) on each set of readings by 11:30 pm the night before class. These short-reading and writing assignments will be placed on and turned in on the course website. You will see them appearing in the contents section of the course. In your reading comments you will be asked to write a very brief summary of the content of the most important elements of the paper. Being able to boil complex arguments down to their basics is a key academic skill. The second part of your comment should focus on a critique. Your critique should analyze and evaluate the paper. What did the author of the paper do well? What did they not manage to pull off? What unstated assumptions went into the paper and will those (or did those) stand the test of time? Finally, end by asking questions about anything that confused you or was unclear to you about the reading.

When writing, think of yourself as a professional. Once you have written your response, edit it down to make it as pithy as possible: you will be amazed how much content you can fit into a few hundred words by using clear language and by trimming down to the essential. Double check your work and make sure it does not contain grammar mistakes, misspellings or unclear phrasing.

iii.) Lab Notebook: You must purchase at least a 3-inch ring binder for this class and sketching paper for this binder. Ideally, this should consist of graph paper or at the very least purchase a piece of graph paper you can use for tracing as you should aim to draw your species to scale and this will help you. This binder will contain all your drawings of modern reference collection and archaeological seeds as well as photocopies of relevant identification material. Purchase dividers to organize your material by plant family.

Lab Attendance: Lab attendance is crucial in order to pass this class as you will be taught the techniques for analysis of your collection during this time. In addition to the 3 hr. lab scheduled on Thursday, completion of the final project for this class is likely to require more hours in the laboratory of sorting and identification. You are required to keep a notebook of all your labs, which includes your drawings of specimens, your lab sheets and your answers to lab questions that will be graded. Your notebook should be a 3- inch binder in which you can place your notes and drawings from labs as well as any material given to you by the instructor. Your lab notebook should be handed in on Thursday at the end of class for instructor feedback.

iv.) *Understanding the Roman meal:* You will prepare a brief report on the domestication, identification and morphology of one key plant-based ingredient in a roman meal. You are also invited to experiment with a recipe involving your ingredient of choice.

v.) *Final Project:* The bulk of your grade will be placed on the production of a report on the archaeobotanical remains you have analyzed throughout the course of the semester. This quarter we will focus on analyzing remains from the Khirbat Al-Jariya site in Jordan (11th-10th century BC). If you have another collection that you would like to analyze, please arrange to meet to discuss with the instructor. Note that this course focuses primarily on Old World Paleoethnobotany. Each student will write up a report which details how the seeds were identified and analyzed, will summarize basic patterns and present a quantified interpretation of the data. This should be 7-10 pages of double-spaced text for undergraduates. Graduate student reports should be roughly 15 double spaced pages in length. This does not include supporting tables and figures.

Grading Scale:

94-100 = A

90-93 = A-

87-89 = B+

84-86 = B

80-83 = B-

77-79 = C+

74-76 = C

70-73 = C-

67-69 = D+

64-66 = D

60-63 = D-

<60 = F

Course Policies

Accommodations for Students with Disabilities: Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD) which is located in University Center 202 behind Center Hall. Students are required to present their AFA letters to Faculty (please make arrangements to contact me privately) and to the OSD Liaison at the Global Health Program in advance so that accommodations may be arranged.

Academic Integrity Students should be familiar with the UCSD Policy on Academic Integrity (<http://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2>). All written coursework is to be original and individually authored by the student who turns it in. All sources must be cited and credited. If you have any questions about how it applies to this course, please ask. Any student found to have violated the university's academic integrity standards will be subject to penalties ranging from failing the assignment or course to suspension or expulsion from the university. Your responsibilities and rights under the UCSD Student Code of Conduct can be found at http://students.ucsd.edu/student-life/_organizations/student-conduct/index.html

Policy on late assignments: Writing assignments are due on the day indicated and you will have sufficient time to complete them. Papers must be received on the day specified or they will be considered late. Late papers will be accepted, but will be subject to a penalty of 10 percent per day ending at 5PM and will be accepted only one complete week beyond their due date. If you have extenuating circumstances, discuss them with your instructor well in advance and see what sort of accommodation might be made. Do note that fabricating an excuse to turn in a late assignment is a violation of the university's academic integrity policy and could result in sanctions.

Attendance: Attendance is crucial to pass all components of this class and is a key component of your final grade. If you are absent from seminar section more than two times without prior approval, for any reason (e.g., an emergency or illness), 5% of your course grade will be a zero.

Readings and Required Texts

There is one textbook required for this class:

Marston, d'Alpoim Guedes and Warinner (Eds). 2014. *Method and Theory in Paleoethnobotany*. University of Colorado Press.

We will also have readings from the following two books. If you plan on continuing in the field as a graduate student, it is also essential that you read and purchase the following:

D. Pearsall. 2015. *Paleoethnobotany: A Handbook of Procedures*. Left Coast Press: Walnut Creek.

C. Hastorf and V. Popper (Eds) 1989. *Current Paleoethnobotany*. University of Chicago Press.

PDFs of other readings will be uploaded to the course website. If a reading is not in the course website it is because it is in one of these books.

Week	Date	Class Style	Topic	Readings
1	Thursday September 27 th	Lecture	Introduction to the course (Starting plant evolution)	
2	Tuesday Oct 2 nd	Lecture/Lab 1	Plant Evolution 1 From the oceans to early land plants	
2	Thursday Oct 4 th	Lecture/Lab 1	Plant Evolution 2: From early land plants to the evolution of the seed	
3	Tuesday Oct 9 th	Seminar	Formation Processes of the	Gallagher. 2014. Formation Processes of the Macrobotanical Record in M. Marston, J.

			Archaeobotanical record <i>Reading comments due</i>	d'Alpoim Guedes, J. and C. Warinner (Eds.), <i>Method and Theory in Paleoethnobotany</i> . University of Colorado Press. *Miller, Naomi, and Tristine Smart. 1984. Intentional Burning of Dung as Fuel: A Mechanism for the Incorporation of Charred Seeds into the Archaeological Record. <i>Journal of Ethnobiology</i> 4(1):15-28. Luke Stroth
3	Thursday Oct 11 th	Lab 2	From Flowers to Fruits	
4	Tuesday Oct 16 th	Seminar Making a Roman Meal assigned.	Sampling Strategies <i>Reading comments due</i>	d'Alpoim Guedes, Jade and Spengler, Robert. 2014. Sampling strategies in J. d'Alpoim Guedes, J. M. Marston and C. Warinner (Eds.), <i>Method and Theory in Paleoethnobotany</i> . University of Colorado Press. *Lennstrom, Heidi A., and Christine Hastorf. 1995. Interpretation of Context: Sampling and Analysis in Paleoethnobotany. <i>American Antiquity</i> 60:701-721. Brandon Gay * Diehl, M. 2017. Paleoethnobotanical Sampling Adequacy and Ubiquity: An Example from the American Southwest. <i>Advances in Archaeological Practice</i> , 5(2), 196-205. doi:10.1017/aap.2017.5 Mikael
4	Thursday Oct 18 th	Lab 3	Flotation and laboratory sorting techniques	White, Chantel and Shelton, China. 2014. Recovering Macrobotanical Remains: Current Methods and Techniques. in J. D'Alpoim Guedes, J. M. Marston and C. Warinner (Eds.), <i>Method and Theory in Paleoethnobotany</i> . University of Colorado Press.
5	Tuesday Oct 23 rd	Seminar/Lecture	Wood and Wood Charcoal What is wood?	*Asouti, E., and P. Austin. 2005. Reconstructing woodland vegetation and its relation to human societies, based on the analysis and interpretation of archaeological wood charcoal macro-remains. <i>Environmental Archaeology</i> 10: 1-18. Katrina

			<i>Reading comments due</i>	<p>Cantu</p> <p>*Shackleton and Prins. 1999. Charcoal Analysis and the “Principle of Least Effort”: A conceptual Model. <i>Journal of Archaeological Science</i> 19: 631-637. Jimmy Daniels</p> <p>*Isabelle Théry-Parisot. 2010. Anthracology and taphonomy, from wood gathering to charcoal analysis. A review of the taphonomic processes modifying charcoal assemblages, in archaeological contexts <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> 291 (2010) 142–153. Clara</p> <p>*Smart, Tristine and Ellen Hoffman. 1988. Environmental Interpretation of archaeological charcoal. In C. Hastorf and V. Popper (Eds.) <i>Current Paleoethnobotany</i>: 167-205. Bridget Lawrence</p>
5	Thursday Oct 25 th	Lab 4	Wood structure and wood identification/ Visit to SEM	
6	Tuesday Oct 30 th	Seminar	Environmental reconstruction and what is a weed? <i>Reading comments due</i>	<p>*Willcox George. 2012. Searching for the origins of arable weeds in the Near East. <i>Vegetation History and Archaeobotany</i>. 21(2) Fabian Toro</p> <p>*Miller, Naomi. F. and John. M. Marston. 2012. Archaeological fuel remains as indicators of ancient west Asian agropastoral and land use systems. <i>Journal of Arid Environments</i> 86(0):97-103. Eric Rodriguez</p> <p>* Bogaard, A., G. Jones, M. Charles and J. G. Hodgson. 2001. On the Archaeobotanical Inference of Crop Sowing Time using the FIBS Method. <i>Journal of Archaeological Science</i> 28(11):1171-1183. Juliana Santillan</p>

6	Thursday Nov 1 st	Lecture and Lab 5	Reference collections/ Weeds	
7	Tuesday Nov 6 th	Seminar	Plant Domestication <i>Reading comments due</i>	* Fuller, Dorian. 2007. Contrasting patterns in crop domestication and domestication rates: recent archaeobotanical insights from the old world. <i>Annals of Botany</i> 100(5): 903-924. Kathleen Alan P. Sullivan III, Jean N. Berkebile, Kathleen M. Forste, and Ryan M. Washam. 2015. Disturbing Developments: An Archaeobotanical Perspective on Pinyon-Juniper Woodland Fire Ecology, Economic Resource Production, and Ecosystem History. <i>Journal of Ethnobiology</i> 35 (1), 37-59. Shelby
7	Thursday Nov 8 th	Lab 6	The Domestication and identification of grasses	
8	Tuesday Nov 13 th	Seminar	Documenting within site variability <i>Reading comments due</i>	*Amber M. VanDerwarker, Jennifer V. Alvarado, and Paul Webb. 2014. Analysis and Interpretation of Intrasite Variability in Paleoethnobotanical Remains: A Consideration and Application of Methods at the Ravensford Site, North Carolina. in J. D'Alpoim Guedes, J. M. Marston and C. Warinner (Eds.), <i>Method and Theory in Paleoethnobotany</i> . University of Colorado Press. Sarah Sheridan *Sonya Atalay and Christine Hastorf. 2006. Food, meals and daily activities: The habitus of food practices at Neolithic Çatalhöyük. <i>American Antiquity</i> 71(2):283-319. Ariana Garvin

8	Thursday Nov 15 th	Lab 7	Beans, textiles and other common taxa	Work on sample sorting.
9	Tuesday Nov 20 th	Seminar/ work on final project	Quantification <i>Reading comments due</i>	<p>Marston, John M. 2014. Ratios and Simple Statistics in Paleoethnobotanical Analysis: Data Exploration and Hypothesis Testing in J. D'Alpoim Guedes, J. M. Marston and C. Warinner (Eds.), <i>Method and Theory in Paleoethnobotany</i>. University of Colorado Press.</p> <p>Smith, Alexia. 2014. The Use of Multivariate Statistics in Archaeobotany in J. D'Alpoim Guedes, J. M. Marston and C. Warinner (Eds.), <i>Method and Theory in Paleoethnobotany</i>. University of Colorado Press.</p>
9	Thursday Nov 22 nd		NO CLASS	NO CLASS: THANKSGIVING BREAK
10	Tuesday Nov 27 th	Seminar	Documenting Regional Variability: Crop Processing Models and Big data <i>Reading comments due</i>	<p>*Jones Martin K.1985. Archaeobotany beyond subsistence reconstruction. G.W.W. Barker and C. Gamble (eds.), <i>Beyond domestication in prehistoric Europe</i>. Academic Press: 107-128. Zhen Yu</p> <p>*van der Veen, M. 1991. Consumption or production: agriculture in the Cambridgeshire Fens, pp. 349-61 in Renfrew, J. M. (Ed.), <i>New Light on Early Farming</i>. Edinburgh: Edinburgh University Press. Isabell Villasana</p> <p>*Stevens, Chris. J.2003. An Investigation of Consumption and Production Models for Prehistoric and Roman Britain. <i>Environmental Archaeology</i> 2003(8):61-76. Xiyuan Huang</p> <p>*d'Alpoim Guedes, Jade and Bocinsky, Kyle. In Review. Climate Change stimulated Agricultural innovation and exchange across Asia. <i>Science Advances</i>. Sunyoung Park</p>
10	Thursday Nov 29 th	Lab	DUE: Making a roman meal project	Work on final project

			DUE: December 1st: Raw data from joint project	
11	Tuesday Dec 4 th	Seminar	<p>Interdisciplinary archaeobotany/ work on final project</p> <p><i>Reading comments due</i></p>	<p>*Styring, Amy. K. et al. 2017. Isotope evidence for agricultural extensification reveals how the world's first cities were fed. <i>Nature Plants</i> 3</p> <p>Isabell H.</p> <p>*Logan, Amanda L. 2016 "Why Can't People Feed Themselves?": Archaeology as Alternative Archive of Food Security in Banda, Ghana. <i>American Anthropologist</i> 118 (3): 508-524.</p> <p>Alicia Watanabe</p> <p>*Marston, John M. 2011. Archaeological markers of agricultural risk management. <i>Journal of Anthropological Archaeology</i> 30(2):190-205.</p> <p>Emma Villegas</p>
11	Thursday Dec 6 th	Lab		Work on final project.
12	FINAL EXAMS		DUE DECEMBER 15th: FINAL PROJECT	