ANT 416H5 S – ADVANCED ARCHAEOLOGICAL ANALYSIS

Winter/Spring 2009, Anthropology, UTM

Dr. Heather M.-L. Miller

Course Web Page: http://www.utm.utoronto.ca/~w3hmlmil/416S2009.htm and Blackboard

Lecture & Laboratory: Tuesdays 1:00-4:00 pm, Room 217 North Building
Open Lab Time: Tuesdays 4:00-5:00 pm

	Office	Phone	Email	Office Hour
Dr. Miller	208 North	905-828-3741	heather.miller@utoronto.ca	Tuesdays 4-5
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Course Description

This course in advanced archaeological analytical methods will use hands-on techniques to examine some of the many methods used by archaeologists to extract meaning from their data. We will focus on the most time-consuming aspect of archaeological research – analysis of objects, spatial relations, and other archaeological data. These techniques include basic description, measurement, qualitative and quantitative analyses. No previous knowledge of statistics is required; however, **basic mathematical skills** (algebra and willingness to learn some statistics) **are required to successfully complete the class**.

ANT 416 is based on the knowledge and skills acquired in ANT312, Archaeological Analysis, so you are strongly recommended to review your notes and labs from that course. Lectures, labs and readings will provide overlapping material, but students are responsible for all material covered in any of these formats.

NOTE: Students must attend all lectures and laboratories. It will be impossible to completely make up any missed classes, as group activities cannot be replicated. To even discuss the possibility of making up a lab, a doctor's note or similar documentation will be required.

Course Materials

(1) **Required Textboo**k: Banning, E. B., 2000. *The Archaeologist's Laboratory: The Analysis of Archaeological Data*. New York: Kluwer Academic. Available at UTM Bookstore AND as an electronic book through the library.

Other required readings will be provided via Blackboard or by links to the library.

(2) **Required Equipment**: Students may need their own safety and working equipment for their independent projects. Any equipment needed for labs will be provided.

(3) **Recommended Book**: Barber, Russell J. 1994. *Doing Historical Archaeology.* Englewood Cliffs, NJ: Prentice Hall. (This was the textbook for ANT312, and will be referenced frequently in this class.)

Evaluation

(1) QUIZZES (10%): Weekly quizzes on readings (10 at 1% each)

The weekly quizzes will be composed of 4 or 5 true/false or multiple choice questions designed to reward those who do the readings assigned for each class period. They will test major points covered in the assigned reading (such as the topics referenced in the introductions, headings and conclusion), not minor details or formulas. Twelve quizzes will be given, and the lowest score for each student will be dropped. NO MAKEUPS are possible for quizzes.

(2) LAB ASSIGNMENTS (60%): Eight reports on labs conducted in most weeks (8 at 7.5% each)
The eight lab assignments must be submitted in the standard format provided by the instructor, and must be written independently by each student. Information from assigned readings, lectures, and labs will be needed to complete and properly record all of these labs, so be sure to do the reading BEFORE class.

(3) INDEPENDENT PROJECT (30%)
Students will each do their own independent project on archaeological, experimental, or ethnographic materials. The independent project will be marked on the quality and quantity of data collection and submission (in most cases, 10%) as well as the overall final report (in most cases, 20%). In order to make the nature of the work clear to all involved, individual contracts detailing the nature of the project and its evaluation will be written for each student, and signed by the student and instructor, as well as the person providing the materials for the research project if appropriate. Contracts will be completed no later than the week after Reading Week.

Regulations for ANT312 Marked Work

1. You may work with other students in preparing for assignments, but what you submit must be your own work. You are encouraged to discuss questions together, or share source materials, or recommend readings and web sites. However, I will expect everyone in the class to have a different lab write-up; be especially careful to work ALONE on your final write-up.

2. Please be especially careful to avoid plagiarism, which is a serious academic offence. Assignments in which plagiarism is detected will be severely penalized. For more details, see Section 7.1 "Academic Honesty" and Section 11.2, the Code of Behaviour on Academic Matters in the current UTM Calendar. It is your responsibility to be familiar with this code, and adhere to it. Be sure to read the link to the information on plagiarism on the web site, http://www.utoronto.ca/writing/plagsep.html.

3. No make-up quizzes will be given, under ANY circumstances. If you are late to class, you may not take the quiz, which will be given at the beginning of each class. The lowest mark on the quizzes will be dropped for every student, so missing a class due to illness, etc., will not affect your overall quiz mark.

4. Late lab assignments will have 20% of the total possible marks deducted per calendar day late. **10% will be deducted** for assignments turned in **after the first hour of class on the date due**, even if the assignment is turned in on the due date. **No lab assignments will be accepted after 3 days (that is, Friday is the last day a late assignment will be accepted).** It is your responsibility to turn in late assignments to the instructor, at her convenience. You may NOT submit assignments by email. Only the usual documented excuses (doctor's note, etc.) will be accepted to avoid late penalties.
***Course work is cumulative, so lab assignments must be completed on time.

5. When you hand in your assignments, you must sign the submission form. DO NOT submit your assignment to the secretary nor to anyone else in the Department of Anthropology. DO NOT slide your assignment under the instructor's office door. The assignment has not been officially submitted until you sign the submission form. You are advised to make a copy of your assignments before submitting them.

Course Schedule

DATE	ASSIGNMENT DUE	READING to be COMPLETED for QUIZ	TOPIC for CLASS
Jan 6	---	---	Introduction Lab 1: Clay Body Preparation and Testing Independent Projects
Jan 13	---	Syllabus & web links (plagiarism, etc) Ch. 1: Introduction (p. 1-5) Ch. 7: Artifact Conservation (p. 129-139)	Lecture and Lab 1 continued: Clay bar preparation Lecture and Demo: Handling objects
Jan 20	---	Ch. 8: Analyzing Lithics (pp. 141-160) Ch. 9: Analyzing Pottery (pp. 161-186)	Lab 1 concluded: Measurement Lecture: Technology and Analysis: Pottery and Lithics Film: *Maria Martinez*
Jan 27	Lab 1 Report: Clay Body Preparation and Testing	1st half Ch. 2: Measurement (pp. 7-21) Barker Appendix C (pp. 233-235) Ch. 16: Illustration (pp. 278-292)	Lecture: Measurement and Illustration Lab 2: Measurement and Illustration
Feb 3	Lab 2 Report: Measurement and Illustration	2nd half Ch 2: Graphs (pp. 21-34) Special Reading on Maps (to be provided on Blackboard)	Lecture: Graphs and Maps Lab 3: Graphs and Maps (if time: Lecture: Remote Sensing)
Feb 10	Lab 3 Report: Graphs and Maps	To Be Announced (TBA)	Special Lecture on Archaeometry (focus on Organics) by Michael Gregg
Feb 17	READING WEEK – Work on Independent Study Topics – background reading should be complete, and data collection well underway		
Feb 24	---	Miller, H.M-L. 2007. pp. 30-39, 168-180 in *Archaeological Approaches to Technology*. Elsevier. Ch. 11: Plant Remains (pp. 213-233) Reddy, NS 1997. If the Threshing Floor Could Talk. *J. Field Archaeology* 16:162-187	Lecture: Ethnoarchaeology and Experimental Archaeology; Analogy Lab 4: Ethnoarchaeology Film: TBA
Mar 3	Lab 4 Report: Ethnoarchaeology	Ch. 3: Systematics, Databases (pp. 35-72) Ch. 13: Seriation (pp. 249-256)	Lecture: Systematics and Databases Lab 5: Systematics and Seriation
Mar 10	Lab 5 Report: Systematics and Seriation	Ch. 4: Research Sampling (pp. 73-92)	Lecture: Research Design & Sampling Lab 6: Sampling
Mar 17	Lab 6 Report: Sampling	Ch. 5: Quantification (pp. 93-116) Ch. 10: Faunal (pp. 187-211)	Lecture: Quantification Lab 7: Quantification (Faunal)
Mar 24	Lab 7 Report: Quantification	Ch. 12: Soils, etc. (p. 235-247) Ch. 14: Stratigraphy. (pp. 257-264) Ch. 15: Radiocarbon (pp. 265-275)	Lecture: Geomorphology & Stratigraphy Lab 8: Stratigraphy and Radiocarbon
Mar 31	Lab 8 Report: Stratigraphy	*Review* Barker Appendix C (pp. 233-235) Ch. 6: Probability; Statistics (pp. 117-128)	Lecture: Probability and Statistics
April 7	**Independent Study Reports DUE**	Class Exercise: Probability (for Quiz grade)	Short Presentations: Independent Study Reports

Format for Formal Lab Reports

1. General Appearance: Lab reports should be typed unless otherwise indicated on the individual lab instructions. Those labs or sections of labs that are handwritten must be neatly PRINTED in dark pencil or ink, carefully drawn, and on paper with smooth edges. (In other words, they should look as good as a typewritten lab, not as if you wrote it on the bus on an old piece of paper from the bottom of your bag.)

2. Heading: Put the lab number and name at the top of the page, with your name under it, and the date the lab is due in the third line. **Do NOT use a separate cover sheet**. For example:
Lab 10: Analysis of Refractory Materials
Heather M.-L. Miller
Dec. 25, 2003

3. Organization of Contents: Each lab report should begin with a statement of the objective, and end with a conclusion. Both should be short – a few sentences at most. The body of the lab will differ for each lab, and will be specified for each under the heading "Outline". All labs will have illustrations of some sort.

Here is an example of an Objective and a Conclusion:

Objective
The purpose of Lab 10 is to test whether the addition of chopped straw to a clay body makes it more heat resistant.

Conclusion
My own experimental results were that the addition of a small amount of chopped straw (10% by volume) did make the test clay more heat resistant, but the addition of more straw (20% and 30%) did not increase heat resistance. However, the overall class results showed that the addition of more straw increased heat resistance, in a linear fashion. My own results were thrown out due to experimenter error in the firing process procedure.

**Your ability to discern the main objective(s) of a lab is a central part of your lab grade – so don't ask your instructors or classmates to tell you what the objective was for each lab. This is often the difference between an A and a B lab. However, if you are still having trouble with this after the first few labs, please come see the instructor or TA during her office hours.

4. Drawings & Flow Chart / Tables
Use these to clarify and illustrate the text; most will be done by hand, not on the computer. Drawings will be necessary for some labs, and a flow chart or table of steps showing the overall lab process is helpful for most labs. Either integrate any drawings or tables into the text, or put them at the end of the lab. Be sure to put a referent (e.g., "Figure 1" or "Table 1") into your text, so the reader looks for the illustrations. See how your text does this for more help.

5. Style: Lab reports should be concise and to the point – delete all unnecessary sentences, such as "Since earliest times, humans have used stone tools." Cut to the essence: "This lab will examine whether it is possible to determine the function of a stone tool from the use wear on it." However, do be sure to cite references as appropriate. ****Clear, concise communication is a major goal of this class**, so write appropriately – longer is certainly not always better.

6. Citations & Bibliographies: Use the style employed by your textbook for all citations & bibliographies turned in for this class. Ask the instructor or TA if you have any problems.