

***Lithic Technology - Squeezing Blood from Stones:
Making, Using, Analyzing and Understanding Flaked Stone Artifacts***

Course Objective: This course is designed to introduce students to flaked stone technology and analysis. The overall goal is for students to learn how to make, identify, classify and analyze flaked stone artifacts to the extent that they feel comfortable working with stone artifact collections in research and CRM settings. We will also consider, albeit in less detail, theoretical and methodological approaches to interpreting human behavior from stone artifacts. Students are encouraged to work with their own data sets if they have one.

Prerequisites

You are expected to have taken a course equivalent to ANT 2000 (General Anthropology), and/or ANT 2140 (World Archaeology), and/or another Upper Division archaeology course. If you have not had at least one of these courses, you can still take the course. But I **strongly advise** you to read at least one introductory archaeology text in method and theory (e.g. Thomas, D.H. and R. Kelly 2011). *Archaeology: Down to Earth*. 3rd Edition. NY. Cengage) as I will expect you to be familiar with the basics of archaeological method and theory and world archaeology.

Some knowledge of basic statistics and the ability to use Microsoft Excel is recommended, but not required.

Class Meetings: B357 Turlington Hall

- Tuesdays 9:35-11:30 am (Per. 3-4) and Thursdays (Per. 3), B368 Turlington Hall

Office Hours and Communication

- Office hours: B368 Turlington Hall, Tuesday and Thursday 2-3 pm (or by appointment).
- Telephone: Office: (352) 294-7599; Lab: (352) 294-7579
- E-mail: sbrandt@ufl.edu
- Lectures, Assignments, Study Guides and other PDF's will be posted to E-Learning (Sakai)
- Web page: TBA

Required Readings

- Holdaway, S. and N. Stern 2004. *A Record in Stone*. Canberra: Aboriginal Studies Press.
- Andrefsky, W. Jr. 2005. *Lithics: Macroscopic Approaches to Analysis*. Cambridge: Cambridge University Press. 2nd Edition
- Selected journal articles and book chapters (provided in pdf format)

Recommended Books on Reserve (more to be added)

- Whittaker, J.C. 1994. *Flintknapping: Making and Understanding Stone Tools*. Austin: U. Texas Press.
- Kooyman, B.P. 2000. *Understanding Stone Tools and Archaeological Sites*. Calgary: University of Calgary Press.
- Odell, G. 2004. *Lithic Analysis*. New York: Plenum

Recommended Journals

- *Journal of Lithic Studies*. New Open Access Journal <http://journals.ed.ac.uk/lithicstudies/index>
- *Lithic Technology* (UF Library)

Web Sources

- The "Lithic Site" Web Page: <http://wings.buffalo.edu/anthropology/Lithics>
- YouTube videos on flintknapping

Equipment and Supplies: I am requesting that each student contribute \$20-25 toward the purchase of obsidian raw material, plastic bags, marking pens and other misc. items, to be collected during the second week of classes (provided free of charge: some raw materials, gloves, ground sheets, goggles, pads, billets, band aids, calipers, goniometers)

Examinations and Grading

Grades will be based on: 1) three non-cumulative exams (identification of artifacts and their characteristics, and half-page mini essays) each worth 100 points; 2) three sorting assignments; and 3) a project (sorting, analyses and write-up of a lithic collection). Your grade will be based on the total accumulation of points, as follows:

Undergraduates

First Exam	50
Second Exam	50
Third "Exam" (Take Home)	40
Sorting Assignments: 3@ 20	60
Project	100
Total Points	300

Graduates: Research Paper@100 pts 400

A	94-100%
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	65-69
D	60-63
E	<60%

Research Paper Option: Students have the option of substituting a ~5-10 page research paper for either the first or second exam (but NOT the third). The topic must be cleared by the professor at least three weeks prior to the end of the semester.

Attendance: Attendance is mandatory. Failure to attend lectures without an official excuse (see below) will result in the loss of points, as follows:

- 1 missed 0 points subtracted from total points
- 2 missed 30 points subtracted from total points
- 3rd missed 60 points subtracted from total points
- 4th missed **Automatic E for the course**

Official UF, Medical Or Religious Absences And Make-Up Exams

Except for medical/disability reasons, religious reasons or official university business, there will be **no** makeup exams or excused absences. A letter signed by a physician or a university official must be obtained **before** a makeup exam will be scheduled or an absence excused. Likewise, any religious reason for missing an exam or section must also be discussed with the professor and/or TA **before** a makeup exam will be scheduled or an absence excused. If you have a disability that could affect your class performance, please discuss this with the professor or TA during the first week of class.

Cheating

Needless to say, cheating in any way will not be tolerated and will result in a 0 exam score and/or possible dismissal from the course.

WEEKLY SCHEDULE OF LECTURES AND READINGS (Subject to Modification)

Note: an occasional extra article (in pdf) may be added as necessary

Week 1: 8/26 Introduction and Course Requirements; Why and How to Study Flaked Stone Artifacts (Lithics); Fracture Mechanics and Raw Materials; Direct Percussion; Film: *The Cutting Edge*.

8/28 Practice Hard-Hammer Direct Percussion Knapping.

- **Record:** Ch 1: 1-17 (up to “Box 1.3)
- **Lithics:** Ch 1-3

Week 2: 9/2 What is Up, What is Down, What is Left, What is Right? Orienting and Describing Lithics; Classification:

- Practice Describing and Classifying your Lithic Assemblage.

****Assignment 1 (15 pts): Laboratory sorting of your own knapped lithics (see handout). Due by beginning of class, Tuesday, 9/9.**

9/4 Practice Anvil and Bipolar Knapping and include these assemblages in Assignment 1.

- **Record:** Ch 3,5, 4, 6 in that order
- **Lithics:** Ch 4

Week 3: 9/9 **Turn in Assignment**; Typology: The Oldowan–The World’s First Artifacts?

- Practice Using Hard-Hammer Direct Percussion Knapping to make Oldowan Core and Flake Artifacts

9/11 Artifact Life Cycles, Lithic Technological Organization and *Chaine Operatoire*

- Record: Ch 2:44-92.
- **Lithics:** Ch 5
- **Leakey, M.D. 1971 *Olduvai Gorge*. Cambridge: Cambridge U. Press. Section on Oldowan Typology (see E-Learning).**

Week 4: 9/16 Hard and Soft Hammer Approaches to Bifacial Reduction and Production; “Bifaces” and the Acheulian.

- Practice making handaxes and cleavers

9/18 Sort, Describe and Classify Your Biface Assemblages in Class

- **Assignment 2 (30 pts): Sorting, describing and classifying your biface assemblages. Due no later than the beginning of class on 9/25.**
- **Lithics:** Ch 5
- **Kliendienst, M.R. 1962 Components Of The East African Acheulian Assemblage: An Analytic Approach. *Proc. 4th Pan-African Congress On Prehistory*. pp. 81-105 (pdf**

Week 5: 9/23 **FIRST EXAM (50 points)**

9/25 Prepared Cores (e.g. Levallois and Disc) and Flake Tools Points, Scrapers, Burins etc.; The Mousterian Technocomplex and South African Stillbay

- Practice knapping of prepared cores and other Mousterian material
 - **Bordes, F. 1961. *Typologie du Paleolithique Ancien et Moyen*. Bordeaux. Selected translations and illustrations (pdf)**
 - **Article on the Stillbay to be uploaded to E-Learning**
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- Week 6: 9/30 Return and Discuss the First Exam; Attribute Analysis and Measurement;
- Practice conducting attribute analysis using your prepared core and flake tool assemblages from last week as well as earlier assemblages
 - **Assignment 3 Sorting, classifying, and doing attribute analyses of your assemblages (see handout). Due no later than the beginning of class on 10/9**

10/2 Continue working on Assignment 3 in class

Readings

Week 7: 10/9 **Turn in Assignment 3**; Blade Core Technology, Blade Tools and Backing; The Howieson's Poort, Ethiopian Blade Tool Tradition and Solutrean Technocomplexes

- Practice making blade cores, blade and backed tools

10/11 Continue to practice making blade cores, blade and backed tools: Microlithization

Readings

Week 8: 10/16 Pre-Paleoindian, Paleoindian and Archaic Technologies of the Americas

- Practice Making Early American Lithic Technologies

10/18 Continue to Practice Making Early American Lithic Technologies; Review for Exam 2

Readings

Week 9: 10/21 EXAM 2

10/23: Discussion of Projects

Readings

Week 10: 10/28 Return and Discuss Exam; Determination of Lithic Functions: Analogy; Experimentation; Ethnoarchaeology; Use-wear/Micro-wear; Residue/Chemical Analyses

10/30 Determination of Lithic Functions (continued)

Readings

Week 11: 11/4 Composite Tools and Hafting; Using Spear Throwers (Atlatls)

11/6 Work on Projects in class

Readings

Week 12: 11/11 - Veteran's Day – no class!

11/13 Work on Projects in class

Readings

Week 13: 11/18 Explaining Artifact Variability: Culture-History; Style and Function

11/20 Explaining Artifact Variability: Raw Materials and Technological Organization;
Chaine Opertatoire

Week 14: 11/25 – No Formal Class: Work on your Projects
11/27 – Happy Thanksgiving

Week 15: 12/2 Explaining Artifact Variability: Agency, Gender, Memory: Scanning, 3-D and Other New Methods of Lithic Analysis

12/4 New Methods Continued

Readings

Week 16: 12/9: Turn in Take-Home Exam; Continue Working on Projects
Projects Due on Day of Official “Final”