

**Lithic Technology**  
ASM 573 - 84941  
FALL 2013 - MICHAEL BARTON

**Course Resources**

**Texts:**  

**Other useful books:**  

**Course Objectives, Organization, and Grading**

The fundamental goal of this course is for students to gain an in depth understanding of an extinct technological system that was critical for human cultural and biological evolution, but which is very different from the technologies that permeate our lives today. Students should learn to build on this understanding of lithic technology to design scientifically sound research that can use the analysis of chipped stone artifacts to provide insights into past human behaviors and societies.

The emphasis in the course will be on lithic technologies in the context of small-scale societies—because that has been the focus of the great majority of relevant research. While we will touch on ground stone, the course is primarily about chipped stone because both technological practice and social context of ground stone and chipped stone technologies differ to a considerable extent, ground stone is only present in some Holocene societies (while chipped stone has been a ubiquitous human technology for at least a couple million years), and chipped stone is by far more common in archaeological assemblages world-wide.

The course will combine critical discussion of recent published research, treating both theory and practice, with hands-on experience in lithic analysis. This will enable students to develop a critical and nuanced understand prehistoric lithic technology and to better apply this knowledge to archaeological questions. Hence, class time usually will be divided between seminar-like discussions and hands-on practica.
Grades will be based on several projects over the course of the semester, and a final project consisting in the analysis of a lithic collection and the presentation of the results; the final paper can be based on experimental or archaeological material but it will need to demonstrate the integration of theory, practice, and explanation. In-class participation and presentation of readings will also contribute to the final grade. Projects will build on activities carried out in the practica, and build on concepts discussed in the seminar time. So active and regular participation is critical.

**Readings for each class session include:**

- General methodology and application from the Andrefsky and/or Whittiker texts. These are references for methods and their applications.
- Articles that exemplify aspects of lithic technology and lithic analysis in anthropological/archaeological research which we will discuss in class. These will be the basis for the seminar-like discussion. You will need to read the assigned articles so as to not feel embarrassed in front of your peers who DID read them.
- Optional papers that you might find useful if you wish to pursue a topic further.

**Course grades will be based on the following:**

1. three short projects that will focus on the application of GIS and image analysis techniques to small, test data sets (45%);
2. the completion and oral presentation of paper presenting the results of an original analysis of a lithic assemblage (40%);
3. active participation in class discussion and lab practica (15%).

**Student Academic Integrity Standards**

**Student Standards:** Students are required to read and act in accordance with university and Arizona Board of Regents policies, including:

- The Student Code of Conduct: Arizona Board of Regents Policies 5-301 through 5-308: [https://students.asu.edu/srr/code](https://students.asu.edu/srr/code)

**Cheating and Plagiarism** are unethical and represent serious violations that will be dealt with as harshly as University procedures permit. Cheating means presenting others work as your own. Plagiarism is using information and or original wording in your writing without giving proper credit to the source. If you follow an argument closely or quote a source directly, you must provide a citation to the publication, including the author, date and page number. If you directly quote a source, even in an assignment, you must use quotation marks and a page number citation for each quoted sentence or phrase.

You may work with other students on assignments, however, all work that you do and writing that you turn in must be done independently. If you have any doubt about whether the form of cooperation you contemplate is acceptable, ask the instructor in advance of turning in an assignment.
SYLLABUS AND READING LIST

8/28  Introduction to lithic technology and to class

Andrefsky, chapt. 1


9/4  Ethnoarchaeology of the last lithic users


For further reading:


Practicum: preparing for flint-knapping

9/11  The mechanics of conchoidal fracture and the physics of knapping

Andrefsky, chapt. 2

Whittaker, chapt. 2, 4-6

For further reading:

Practicum: making fakes (KEEP YOUR DEBITAGE)

9/18
Cores and bifaces

Whittaker, chapt. 7-8


For further reading:

Practicum: making bifaces (KEEP YOUR DEBITAGE)

9/25
Technological practice: stages, chains, or trees

Andrefsky, chapt. 6


For further reading:

**Practicum:** production stages and debitage analysis

### 10/2 Classification and typology


**Practicum:** examining typologies

### PROJECT 1 DUE

### 10/9 Artifact life histories and formation processes


**For further reading:**


**Practicum:** modeling formation processes

10/16  **Lithics as components of technological systems**

*Andrefsky, chapt 5*


*For further reading:*


**Practicum:** lithic attributes

10/23  **Land-use, mobility, and settlement**


*For further reading:*


**Practicum:** analysis of survey data

**PROJECT 2 DUE**

10/30

**Intra-site activities**

*Andrefsky, chapt. 8*


**For further reading:**


**Practicum:** refitting

11/6

**Style and social identity (guest, Josh Watts)**


For further reading:

Practicum: morphology and style

11/13 Traces of use and damage


For further reading:


Practicum: use and damage

PROJECT 3 DUE

11/20 Lithic raw materials and sourcing (guest, Steven Schmich)

Andrefsky, chapt. 3


For further reading:

Practicum: trace element analysis

11/27  A different stone technology: ground stone (guest, Craig Fertemels)


For further reading:

Practicum: looking at ground stone

12/4  Lithic technology in complex societies and industrial contexts


For further reading:


PRESENTATIONS DURING FINALS TIME