



ARKY 415
Winter 2017

Dr. Elizabeth Paris
Department of Anthropology and Archaeology

LEC: TR 09:30 – 10:45, ES 859
LAB: R 14:00 – 16:45, ES 859

COURSE DESCRIPTION

This course will introduce you to The analysis of stone (lithic) tool form, manufacture, and use as applied to reconstruction of past human lifeways. Topics covered include: methods of shaping stone into tools; reconstruction of the lithic reduction process and stages from discarded debitage; lithic fracture mechanics; identification of lithic material types and sourcing to specific quarries; the meaning of stone tool morphology; tool typology; lithic usewear analysis; and the integrative use of these sources of information to reconstruct aspects of tool use, activity areas, site type, settlement patterns, social group, cultural change through space and time, and trade.

WHAT WILL YOU LEARN?

By the end of this course, students should be able to:

- Grasp the historical development of the field of stone tool analysis in archaeology, including theoretical approaches and methods used in archaeology today.
- Apply archaeological methods, techniques and concepts through lab exercises.
- Understand the sources of analogy and principles of experimentation by which researchers test hypotheses regarding ancient technologies.
- Practice hands-on learning and develop basic skills in flintknapping and use-wear analysis.

Office: ES 818

Office Hours: T 3:30-5:00 PM and by appointment

EMAIL: ELIZABETH.PARIS@UCALGARY.CA

TA: Matthew Munro

TA Office Hours: T 2:00-3:30 pm

TA Email: matthew.munro@ucalgary.ca

Any emailed questions should be first directed to the TA, and will be referred to the instructor as necessary. Please expect 48 hours for a response. If more than 48 hours have passed with no reply, check the email address and re-send. Please use your UCalgary email address for course business.

REQUIRED READINGS

Course textbooks:

Brian Kooyman. 2000. *Understanding Stone Tools and Archaeological Sites*. University of Calgary Press and University of New Mexico Press.

John C. Whittaker. 1994. *Flintknapping: Making and Understanding Stone Tools*. University of Texas Press, Austin.

Additional readings and Youtube video links will be listed on D2L. PDF copies and links to articles, book chapters and videos will be posted on D2L in modules that correspond to the week in which they are due.

All readings and videos are required! Please check the schedule below for readings and due dates.

COURSE STRUCTURE

Grades will be based on the following course activities:

1.	Attendance and participation	10%	See schedule
2.	Discussion leadership	5%	See schedule
3.	Examples Labs and Practice Labs	30%	See schedule
4.	Lab Quizzes	15%	See schedule
5.	Lithic Analysis Final Project	40%	Portions due April 6 and April 13

NOTE: There is no registrar-scheduled final examination for this course.

In this class, grades are assigned according to the following chart:

Percentages	Letter grade	Interpretation
97-100%	A+	<i>The A range denotes excellent performance.</i>
90-96%	A	
86-89%	A-	
82-85%	B+	<i>The B range denotes good performance.</i>
78-81%	B	
74-77%	B-	
70-73%	C+	<i>The C range denotes satisfactory performance.</i>
66-69%	C	
62-65%	C-	
56-61%	D+	<i>The D range denotes unsatisfactory performance.</i>
50-55%	D	
<50%	F	<i>An F denotes failing performance.</i>

ASA FLINTKNAPPING AND STONE TOOLS WORKSHOP

The Archaeological Society of Alberta has traditionally held a Flintknapping and Stone Tools Workshop. The workshop is traditionally held over two days (Saturday and Sunday) on either the first or second weekend in March. There is a cost associated with the workshop, and there is also a one-day discount for students. Attendance is encouraged, although not required for the course.

EVALUATION METHODS

While there are two scheduled time blocks for lecture and lab for this class, in reality, there will be less of a separation between the activities of lectures vs. labs than the scheduling would suggest. You will be expected to attend both portions of the class, and participate fully in all aspects of the class, no matter when they are scheduled.

1. ATTENDANCE AND PARTICIPATION (10%)

This course will be in a seminar format, and students will be graded for their participation in in-class discussions and activities.

- Grading for “participation” assumes that you come to class regularly and on time, ready to talk about the required reading/assignments, and to participate in the activities. Please come prepared to comment on and discuss class-related material in a way that demonstrates to me that you have done the readings and thought seriously about them. You must also follow the rules of course etiquette for both lectures and labs (see below).
- Grades for each course meeting will be assessed through a “check-plus/check/check-minus/absent” system with a corresponding number of points (4-3-2-0), and will be assessed as a proportion of the total number of possible points.
- If you find you are having difficulties in class, please come and see myself or the TA early in the semester to work on them. It will be hard to turn things around if you wait until the last two weeks of class to seek help.

2. DISCUSSION LEADERSHIP (5%)

On the first day of class, you will sign up to lead one discussion for the class. Depending on enrollment, you will sign up singly or in pairs. Each student will be responsible for leading the discussion on the assigned course readings for that day. Additionally, each student will be responsible for finding and reading a scholarly article, book, or book chapter relating to the theme of the discussion. Students will send the UCalgary library link or PDF file to the instructor 24 hours prior to the course meeting to create a class resource library on D2L. Each student will also briefly summarize their article during their assigned course meeting. Students will be evaluated based on the appropriateness of the article for the topic, the quality of the article, and the quality of the in-class summary.

3. EXAMPLES LABS AND PRACTICE LABS (30%)

There will be eleven scheduled Examples Labs and Practice labs, which will be held during the Thursday afternoon lab time blocks. Please see the course schedule below. You will be responsible for turning in lab worksheets at the end of each Practice Lab; these will constitute 30 percent of your final grade.

You need to make sure to dress appropriately for this class. Flintknapping days and use-wear analysis days will require long pants and close-toed shoes. You will also be required to wear protective eyewear, labcoats, and gloves, depending on the activity. They will be provided for the class, but you may bring your own.

4. LAB QUIZZES (15%)

There will be five lab quizzes in the course. Please see the course schedule below; most quizzes will be scheduled for the second portion of the class period on Tuesday mornings. The quizzes will require you to apply the knowledge that you have learned from previous examples labs and practice labs to a set of unlabeled specimens. Each quiz will be worth 3 percent of your grade, and collectively, quizzes represent a total of 15 percent of your final grade.

5. LITHIC ANALYSIS FINAL PROJECT (40%)

The final project in this course will simulate the type of investigation that you would be expected to perform as a lithic analysis specialist on a professional research project, whether in academia or the public sector. For this project, you will analyze an actual archaeological sample of approximately 300 specimens. You must hand in a research report that contains a full analysis of your sample, using the techniques that have been taught throughout the class.

A separate Lithic Analysis Final Project Handout will be given to you with the specifications for the assignment. Make sure to follow the directions very carefully in order to receive credit. The final project will constitute 40 percent of your final grade.

ATTENDANCE AND MAKEUP POLICY

Attendance and Participation: Each student is allowed one lecture absence without penalty (labs and scheduled discussion leadership cannot be missed without an official excuse as per university policy). There are 37 total course meetings, meaning that your attendance will be calculated as a specific proportion of 36 meetings. Two late arrivals (i.e., walking into class after attendance has been taken) will count as one absence when calculating attendance. I take attendance at the beginning of class. Where students have absences with an official university excuse, the grade will be calculated as a proportion from the course meetings attended.

Discussion Leadership: There are limited opportunities to schedule a missed discussion leader session. It is thus important that you honor your commitment. If an officially excused conflict develops during the semester, please let me know as soon as possible in order to re-schedule your session.

Labs and Quizzes: Rescheduling of examples labs, practice labs, and quizzes is extremely difficult due to their involved nature. Official excused absences must be reported to the instructor and TA as soon as possible, and students will need to be flexible and work with us for any attempts to reschedule.

Final Project: Final papers may not be turned in late without an official excuse as per university policy. As it is possible to turn in written assignments prior to the due date, foreseen schedule conflicts resulting from university athletic competitions, religious observances, etc. must be arranged individually with the professor in advance. Unforeseen emergency or situations should be reported to the professor as soon as possible, and any alternative arrangements will be based on individual circumstances.

COURSE SCHEDULE

Students should do all readings and assignments during the week in which they are assigned.

**Note that this syllabus is subject to change at any time at the professor's discretion.

WEEK	DUE DATE	TOPICS AND READINGS
Week 1	T, Jan. 10	Topic: Introduction to the course Film: Flintknapping by Bruce Bradley
	R, Jan.12 LEC	Topic: Physics and Fracture Mechanics Read: Kooyman Chapters 1 and 2, Whittaker Chapter 1
	R, Jan.12 LAB	EXAMPLES LAB 1: Fracture Mechanics and Flake Features PRACTICE LAB 1: Fracture Mechanics and Flake Features
Week 2	T, Jan. 17	Topic: Raw Materials, Quarries, and Sources Read: Kooyman Chapter 3, Whittaker Chapter 4, Braswell et al. 2000 QUIZ 1: Fracture Mechanics and Flake Features
	R, Jan. 19 LEC	Topic: Northwest Plains Sourcing and Quarries Topic: Sourcing, Compositional analysis, X-ray Fluorescence Discussion Leaders: Read: Kooyman Chapter 4, Tykot 2003 (WS)

Week 3	R, Jan. 19 LAB	EXAMPLES LAB 2: Sourcing PRACTICE LAB 2: Sourcing
	T, Jan. 24	Topic: Manufacturing Techniques/Reduction Stages Topic: Behavior Analysis vs. Chaine d'Operatoire Read: Kooyman Chapter 5, Bleed 2001, Sheets 1975, Clark and Bryant 1997 QUIZ 2: Raw Materials and Sources
	R, Jan. 26 LEC	Topics: Debitage and Mass Analysis Discussion Leaders: Read: Ahler 1989, Bradbury and Carr 1999
Week 4	R, Jan. 26 LAB	EXAMPLES LAB 3: Reduction Stages PRACTICE LAB 3: Reduction Stages
	T, Jan. 31	Topic: Tool Classification Read: Kooyman Chapters 6 and 8, Whittaker Chapters 2 and 11 QUIZ 3: Reduction Stages
	R, Feb. 2 LEC	Topic: Northwest Plains Lithic Technology Discussion Leaders: Read: Kooyman Chapter 9, Driver 1993
Week 5	R, Feb. 2 LAB	EXAMPLES LAB 4: Tool types PRACTICE LAB 4: Tool types
	T, Feb. 7	Topic: Formal vs. Informal Tools Read: Andrefsky 1994; Paris 2012
	R, Feb. 9 LEC	Topic: Groundstone Tools Read: Adams 2013 Chapters 1-2 Review: Kooyman Chapter 5 pp. 64-65
Week 6	R, Feb. 9 LAB	EXAMPLES LAB 5: Groundstone PRACTICE LAB 5: Flintknapping Day 1 Direct and Indirect Percussion Read: Whittaker Chapter 3, 5, 6, 7
	T, Feb. 14	Topic: Sources of Analogy: Ethnohistory and Ethnoarchaeology Read: Nations and Clark 1983, Hitchcock and Bleed 1997 (PT), Hayden and Nelson 1981 QUIZ 4: Tool types
	R, Feb. 16 LEC	Topic: Sources of Analogy: Experimental Archaeology Discussion Leaders: Read: Kooyman Chapter 7, Sheets and Muto 1972, Clark 1985
	R, Feb. 16 LAB	EXAMPLES LAB/PRACTICE LAB 6: Flintknapping Day 2 Pressure Flaking Review: Whittaker Chapter 6-7 Read: Whittaker Chapter 8

Week 7	T, Feb. 21	READING WEEK
	R, Feb. 23 LEC	READING WEEK
	R, Feb. 23 LAB	READING WEEK
Week 8	T, Feb. 28	Topic: Wider Applications in Lithic Analysis Read: Kooyman Chapter 10, Whittaker Chapter 11
	R, Mar. 2 LEC	Topic: Usewear and Tool Function Discussion Leader: Read: Kooyman Chapter 11, Bamforth 1988, Ahler 1979, Odell 1980 Review: Whittaker Chapter 11 pp. 283-288
	R, Mar. 2 LAB	EXAMPLES LAB/PRACTICE LAB 7: Usewear Replication and Analysis
Week 9	T, Mar. 7	Topic: Projectile Technology Read: Hurst Thomas 1978, Flenniken and Raymond 1986, Hurst Thomas 1986 QUIZ 5: Cumulative Review
	R, Mar. 9 LEC	Topic: Projectile Technology II: Design, Durability and Reshaping Discussion Leader: Read: Whittaker Chapter 9 (Fluting), Cheshier and Kelly 2006, Hunzicker 2008
	R, Mar. 9 LAB	EXAMPLES LAB/PRACTICE LAB 8: Use-wear microscopy
Week 10	T, Mar. 14	Topic: Lithic Craft Production, Specialization, Workshops Review: Whittaker Chapter 9 (Blades) Read: Costin 1991, Clark 1986, Clark 1987
	R, Mar. 16 LEC	Topic: Exchange and Inequality Discussion Leader: Read: Torrence 1986, Aoyama 1994
	R, Mar. 16 LAB	EXAMPLES LAB/PRACTICE LAB 9: Flintknapping Day 4 Project Day 1 (half day)
Week 11	T, Mar. 21	Topic: Mesoamerican Warfare and Weapons Read: Aoyama 2005, Carballo 2007 Discussion Leader:
	R, Mar. 23 LEC	Topic: Preparing Professional Reports and Publications Read: Porter 2013; Porter 2014
	R, Mar. 23 LAB	EXAMPLES LAB/PRACTICE LAB 10: Flintknapping Day 5 Project Day 2 (half day)
Week 12	T, Mar. 28	Topic: Middens, Microdebitage and Activity Areas Read: Moholy-Nagy 1997, Hayden and Cannon 1983
	R, Mar. 30 LEC	Topic: Project Day 3
	R, Mar. 30 LAB	Topic: Project Day 3 (continued)
Week 13	T, Apr. 4	EXAMPLES LAB /PRACTICE LAB 11: Mass analysis and Flake types

Week 14	R, Apr. 6 LEC	Topic: Residues and Hydration Review: Kooyman Chapter 11 Read: Kooyman et al. 1992, Jahren 1997
	R, Apr. 6 LAB	Project Day 4 (whole day; Lithic Database DUE)
	T, Apr. 11	Topic: Lithics in Religion and Ritual Discussion Leader: Read: Aoyama 2014, Stemp and Awe 2014, Sievert 1994
	R, Apr. 13	Topic: Lithic Project DUE on D2L at 11:59 pm

CLASSROOM ETIQUETTE

- Please make this class a scheduling priority. Arrive on time, and do not leave before the end of the period. During the “lecture” time blocks, you should not leave the room and come back during the class. It is more distracting than you might realize. During the labs, we will schedule a *short* break during the lab, but if you need to use the restroom or grab a drink of water, please do so quietly and discretely. However, you may not leave the room during a scheduled lab quiz, for academic honesty reasons. If you have to leave class early for a legitimate personal reason or emergency, let me know in advance if possible, and do so without disrupting class.
- Food is not permitted in lab classes, because it can leave damaging residues on artifacts and analysis surfaces. If you bring food on a lab day, you will be asked to throw it out. You may bring a drink in a sealed, non-spill container, which you should keep stowed in the cubbies whenever we engage in lab exercises. This is a long seminar with a substantial lab component, so plan accordingly. If you anticipate being hungry, eat lunch before coming to class.
- This class includes lab activities that have mild safety risks, including flintknapping and use-wear analysis. By remaining in the class, you agree to promptly follow all safety instructions from the professor and teaching assistant. Unsafe behavior will not be tolerated, and may result in your removal from the class.
- Students are required to remain and assist with clean-up activities following labs, and for disposing of all materials in a safe manner, as directed by the instructor and TA.
- Treat everyone in the class as a colleague—show respect to both your fellow students and myself, even if you strongly disagree with someone’s opinion. Be friendly, courteous and kind during discussions. Do not talk over or interrupt the instructor or other students.
- Silence and stow your phones, and do not use them during class. They are distracting to everyone.
- You may only use laptops and tablets for note-taking purposes. Using them for other activities is highly distracting. If I observe that your laptop or tablet is distracting your fellow students, I will ask you to place it on the podium, and you will lose participation points for that day.
- Course materials prepared by the instructor, together with the content of all lectures presented by the instructor, are the property of the instructor. You may not make video and audio recordings of lectures and labs without the explicit consent of the instructor, nor transfer them to another student, whether or not that student is enrolled in the course.

ACADEMIC ACCOMMODATIONS

<http://www.ucalgary.ca/access/accommodations/policy>

Students needing an Accommodation because of a Disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities

Students needing an Accommodation based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to "(Instructor) (Associate Dean) (Department Head) (other designated person)"

ACADEMIC INTEGRITY

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Calgary is a strong signal of each student's individual academic achievements. As a result, the University treats cases of cheating and plagiarism very seriously. For detailed information on what constitutes academic misconduct, please refer to the following link:

<http://www.ucalgary.ca/pubs/calendar/current/k-2-1.html>

All suspected cases of academic dishonesty will be investigated following procedures outlined in the University Calendar. If you have questions or concerns about what constitutes appropriate academic behavior or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources.

TEACHING EVALUATIONS / USRI (Universal Student Ratings of Instruction)

At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. **Your responses make a difference, please participate!** Website:

<http://www.ucalgary.ca/usri/>

Writing Across the Curriculum:

Writing skills are not exclusive to English courses and, in fact, should cross all disciplines. The University supports the belief that throughout their University careers, students should be taught how to write well so that when they graduate their writing abilities will be far above the minimal standards required at entrance. Consistent with this belief, students are expected to do a substantial amount of writing in their University courses and, where appropriate, instructors can and may use writing and the grading thereof as a factor in the evaluation of student work. The services provided by the Writing Centre in the Effective Writing Office can be utilized by all undergraduate and graduate students who feel they require further assistance.

Emergency Evacuation Assembly Points:

In the event of an emergency that requires evacuation, please refer to the following link to become familiar with the assembly points for the class: <http://www.ucalgary.ca/emergencyplan/assemblypoints>

Freedom of Information and Protection of Privacy Act:

The University of Calgary is committed to protecting the privacy of individuals who work and study at the University or who otherwise interact with the University in accordance with the standards set out in the Freedom of Information and Protection of Privacy Act. Please refer to the following link for detailed information: <http://www.ucalgary.ca/legalservices/foip>

The Department of Anthropology and Archaeology's FOIP (Freedom of Information and Privacy) policy requires all reports/examinations to be returned to students during class time or the instructor's office hours. Any term work not picked up will be placed in the Anthropology and Archaeology Office (ES620) for distribution. Any student not wishing to have their work placed in the office must make alternative arrangements with the course instructor early in the term.

Safewalk Information:

Campus Security, in partnership with the Students' Union, provides the Safewalk service, 24 hours a day to any location on Campus including the LRT, parking lots, bus zones and University residences. Contact Campus Security at (403) 220-5333 or use a help phone, and Safewalkers or a Campus Security Officer will accompany you to your campus destination.

Faculty of Arts Program Advising and Student Information Resources:

Have a question, but not sure where to start? Arts Students' Centre

The Faculty of Arts Students' Centre is the overall headquarters for undergraduate programs in the Faculty of Arts. The key objective of this office is to connect students with whatever academic assistance that they require.

In addition to housing the Associate Dean, Undergraduate Programs and Student Affairs and the Associate Dean for Teaching and Learning, the Arts Students' Centre is the specific home to:

- program advising
- the Faculty's Co-operative Education Program
- the Arts and Science Honours Academy
- the Faculty's Interdisciplinary Programs
- a Student Help Desk

Location: Social Sciences Room 102

Phone: 403.220.3580

Email: ascarts@ucalgary.ca

Website: arts.ucalgary.ca/undergraduate/

For registration (add/drop/swap), paying fees and assistance with your Student Centre, contact Enrolment Services at (403) 210-ROCK [7625] or visit them at the MacKimmie Library Block.

Contacts for Students Union Representatives for the Faculty of Arts:

arts1@su.ucalgary.ca

arts2@su.ucalgary.ca

arts3@su.ucalgary.ca

arts4@su.ucalgary.ca