**Analysis of Stone Tool Technology**

**ANTH 4358-002**

**Fall 2013**

**Instructor:**

Matthew D. Hunstiger

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Office Hours: Tuesday and Thursday 4:30-5:30 in UH 019, or by appointment

**Class Meets:**

Tuesday, Thursday, 5:30 pm – 6:50 pm, in UH 09 (lecture), or 019 (lab), or

outside (flintknapping)

**Course Description:**

In a world where technological gadgets come and go with the seasons, chipped stone artifacts represent the enduring skill and creativity of our ancestors. As far tools are concerned, most of the existence of humanity has been spent using stone as a primary medium for interacting with the physical world. Given its importance to our history, this course will cover theory and method in lithic analysis to guide the students in understanding how we can learn about our ancestor’s behavior from chipped stone tools. The course includes: 1) a comprehensive survey of known flintknapping processes, including hands-on experience in recreating prehistoric lithic technologies, 2) the critical examination of different analytical traditions used to study stone tools, 3) practical experience analyzing the stone tool assemblage from an experimentally produced archaeological site in order to reconstruct the behaviors, from the procurement of raw materials to the discard of exhausted tools, which created the site. Since this is a practical laboratory class, students who successfully complete the course will have the skills required of a lithic analyst working in the Cultural Resource Management (CRM) industry. Students are also expected to contribute to discussions of the readings and their analyses of the material.

**Student Learning Outcomes:**

Upon completion of this course, students will be able to:

* replicate\* and/or discuss the differences between major lithic technological traditions
* analyze a lithic assemblage using a variety of attributes and methods and then report their findings in a professional manner
* discuss different analytical traditions used in lithic analysis
* assess the significance of an assemblage from a National Register of Historic Places perspective

**Required Texts:**

* Andrefsky, W., Jr. 2005. *Lithics: Macroscopic Approaches to Analysis*, 2nd edition. *Cambridge Manuals in Archaeology*. Cambridge: Cambridge University Press.
* Inizan, M.-L., M. Reduron-Ballinger, H. Roche, and J. Tixier. 1999. *Technology and terminology of knapped stone*. Vol. 5. *Préhistoire de la Pierre Taillée*. Nanterre, France: Cercle de Recherches et d'Études Préhistoriques. A PDF file of this book is available online, made available by the authors without copyright fees, at the following web address: http://www.arkeotek.org/ebooks/TerminologyKnappedStone.pdf
* Whittaker, J. C. 1994. *Flintknapping: Making and Understanding Stone Tools*. Austin, TX: University of Texas Press.
* Other readings will be made available for download as PDF’s from the Blackboard website.

**Required Readings:**

Specific reading assignments are given for each week. You are expected to do these readings before the first class meeting of the week, and you should also be able to answer questions about, and discuss, that week’s reading material. Besides the required texts listed above, other readings will be made available as PDF’s on the course’s Blackboard website. Note the need for Adobe Reader (free download here: http://www.adobe.com/products/reader.html) or Acrobat to view these files. Readings made available as PDF’s will be in *italics* in the course schedule, while readings from the required texts will be in regular typeface.

**Attendance:**

 You are **required** to attend all lectures, discussions and labs. Some class meetings will be held in UH 09, some in the lab UH 019, and a portion of the class will be spent outside on the grass north of University Hall for flintknapping purposes.

**Structure of Class Time:**

The first meeting of each week will usually consist of lecture and class discussion of the readings. The second meeting of the week will be divided between 1) lecture or laboratory analyses of the teaching assemblage using analytical skills specific to that week’s topic and 2) training in flintknapping outside University Hall. Training may include watching instructional videos. You should dress for flintknapping when that activity is scheduled.

**Expectations for Out-of-Class Study:**

 As this is a course providing practical training in lithic analysis, students should expect to spend several hours per week outside of class time in the UH 019 lab collecting data.

**Grade Assessment**:

45% laboratory reports, 5% discussion participation, 30% five in-class quizzes, and 20% final lab report. A-F grading will include + and - modifiers. An Incomplete grade will only be assigned after extensive instructor-student consultation prior to the end of term.

**Exams:**

There will be five in-class quizzes, totaling 30% of the course grade, which will be used to ensure that you have learned the steps in lithic analysis up to the date of each quiz. They will be both written and practical (e.g., an artifact will be provided for you to note particular features or to measure). There will be **no make-up exams** except in exceptional (documented) cases of dire illness, emergency, or religious observance. Requests for make-up exams should be made to the instructor, *before* the exam.

**Laboratory Reports:**

Each of you will conduct your lithic analyses in lab throughout the term on a particular lithic teaching assemblage. Each assemblage represents a representative portion of a living floor created by the instructor and provenienced as if it were an archaeological site. This teaching collection is named the “Drúadan Forest site.” We will use these teaching collections, since this allows us to control lithic variation for pedagogical purposes. Each of the nine labs will require you to analyze the artifacts in your assemblage with a particular question in mind and to submit a lab report by a specific class meeting. This lab report will often require both answers in the form of short essays as well as tables, charts, and statistical tests (using MS Excel). These answers will present your data from your sample as well as interpret the entire collection on the basis of the graphs and tables provided in the lab assignment. The former will allow you to get the hands-on experience of artifact analysis on a manageable sample size while the latter will give you a sufficiently large sample to make credible conclusions. Each lab report will require some hours spent in the lab outside of class hours in order to collect or produce all of the data required. The quality of the presentation of the written lab report is an important aspect of the task, as it is vital that archaeological research be understandable and clearly written in order to be useful. By the end of the course, these lab reports will together form a complete analysis of a lithic collection, comparable to any professional report on a new site. The skills you will learn in creating these lab reports will allow you to go into the field to conduct independent research on stone tools for senior-level undergraduate projects, graduate student thesis research, or postgraduate field work. Each lab report is graded out of 20 points, with 2 points deducted per day between the due date and when you submit the assignment. Each lab represents 5% of the course grade.

**Final Lab Report on the Drúadan Forest site:**

You will be required to write a paper as a final interpretation of the results of the analyses of the experimental lithic collection as a whole. As your earlier lab reports only deal with one issue of lithic technology at a time and only pertain to your small portion of the collection, the final paper will be your opportunity to offer an interpretation of the entire assemblage, using the cumulative results of the analytical techniques you have learned and applied throughout the course. In sum, this paper will answer the question, “What happened at this site, based on what you can observe in the lithic artifacts?” The paper tends to be around 20 pages long, including embedded graphs and tables, although there is no required page range. This final report is due at the beginning of the official final exam time for the course (5:30-8:00 pm Tuesday, December 10) so that we can spend the 2.5 hours of the scheduled exam time discussing everyone’s interpretations of the site and the ultimate “answer” to the puzzle of what flintknapping behaviors went into the creation of the Drúadan Forest site. Attendance at this Drúadan Forest *séance* is mandatory and represents the scheduled exam for the course.

**Graduate Students:**

Graduate students taking the course will be held to a higher standard for the quality of their participation in seminar as well as the quality of their lab reports and answers to exam questions. Extra readings may be provided for graduate students for particular topics. Graduate students may write the final paper as described above or on a research topic chosen in consultation with the instructor.

**Blackboard Policy:**

This class will make frequent use of Blackboard for placing PDF’s for students to download, posting digital copies of assignments, instructions as well as data sets to use in your labs. Be sure to check it frequently during the week.

**Safety and Flintknapping:**

The practice of making stone tools through conchoidal fracture, otherwise called flintknapping, is an extremely important part of this course, as it forms the basis for most lithic analysts’ ability to understand prehistoric material culture behavior. Flintknapping is, however, also an inherently dangerous activity. You are making weapons and butchery tools and therefore they are sharp. The odds are that you will be cut sometime during your period of learning to flintknap. For this reason, safety precautions are an important concern. To participate in the flintknapping portion of the course, you must:

* Wear protective goggles that cover the front and sides of the eyes (these goggles will be provided).
* Wear leather gloves on at least the hand you use to hold the core during direct and indirect percussion and on both hands while pressure flaking. Also wear leather gloves when handling or passing stone tools from one person to another, as a clumsy hand-off of a stone between friends is a frequent cause of injury.
* Wear appropriate clothing, notably long pants, socks, and shoes that cover your feet and ankles.
* Be awake and alert. This requirement means that you must not be groggy from lack of sleep nor the effect of over the counter medicines, prescription medicines, alcohol, or other intoxicating substances.
* Follow the directions of the instructor.

It is important that you wear the protective items listed above at all times while flintknapping, regardless of whether or not you yourself are flintknapping. Note, you are just as likely to be cut by flaking debris flying from your neighbor’s core as you are from your own. After you receive a safety tour of the basement lab UH 019 as well as the flintknapping equipment in particular, you will be asked to sign a form noting the safety information and the tour. The Department of Sociology and Anthropology will provide first aid and bandages, but more serious wounds will involve ambulance transport to a hospital emergency room. Neither the instructor, nor the University of Texas-Arlington, will be responsible for these medical costs. Check the status of your health insurance before you participate in these labs. If you have any medical condition that could imperil you (e.g., hemophilia) or those administering first aid (e.g., blood pathogens such as HIV), please inform the instructor. Any such information will be held in the strictest confidence. In my experience learning as well as teaching lithic analysis, the hands-on practice of making stone tools is always a high point in the endeavor. Regardless of the excitement of flintknapping, this activity is dangerous and you must follow the instructors’ directions **exactly** in order to avoid injury. Individuals who disregard safety precautions or fail to follow directions from the instructor will receive a failing grade in the course and be subject to academic disciplinary action. Although flintknapping is a fun activity to watch as well as do, please do not invite visitors to our flintknapping sessions without the prior approval of the instructor. Any visitor must not touch the stone or tools during a flintknapping session and must wear the appropriate protective items listed above.

**Drop Policy:**

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period (through **August 28th**). After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. **The last day to drop a class is October 30th**. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/aao/fao/>).

**Americans with Disabilities Act:**

The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, UH 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Academic Integrity:**

Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University.

 It is my expectation that students will work together, asking questions, discussing materials, and learning from one another as well as from me, during flintknapping, lecture/discussions as well as in lab. However, having collected their data and acquired the larger data sets for each lab as appropriate, students will submit their own work. If a student hands in work that is plagiarized, not original, or otherwise inappropriate, the work will be counted for ZERO credit (with no possibility of makeup) and the incident will be reported to the appropriate authority. I also expect students to act in an appropriate manner towards me and fellow students in lecture and lab.

**Student Support Services**:

UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

**Electronic Communication:**

**Students should check their e-mail daily during the week.** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

**Student Feedback Survey:**

At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:**

A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:**

Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is up the stairs and left for the UH 019 lab and down the hall and left or right for UH 09. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

**Course Schedule:**

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| **Date** | **Topic** | **Readings** |
| Week 1ThursdayAugust 22 | Introduction: Why Study Lithic Technology?* Questions asked and answered through lithic analysis
* Course structure, lab tour and safety
* Flintknapping videos?
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| Week 2TuesdayAugust 27 | Mechanics of Making Stone Tools: the Flintknapping Process* Variables which determine flake morphology (shape vs. mass)
* Learning lithic morphology and terminology
 | * Andrefsky Chs. 1-2
* Whittaker Chs. 1-3
* Inizan et al. Ch. 2
 |
| Week 2ThursdayAugust 29 | Rules of Artifact Illustration and Labeling* Begin Lab Report 1: Artifact Illustration and Labeling
 | * *Addington 1986 selections*
* Inizan et al. Ch. 7
 |
| Week 3TuesdaySeptember 3 | Epistemology of the Typological Exercise* (Brief) history of lithic analysis
* Classification exercises and discussion

**QUIZ 1: KNOWING YOUR WAY AROUND A FLAKE** | * Andrefsky Ch. 4
* *Odell 2003 pp. 1-12*
 |
| Week 3ThursdaySeptember 5 | Introductory Flintknapping**DUE: LAB REPORT 1: ARTIFACT ILLUSTRATION** | * Whittaker Chs. 4-6
 |
| Week 4TuesdaySeptember 10 | Understanding Artifact Ontogeny* How and why one studies dorsal scar pattern, scar order, and post-depositional alteration (patina, burning, rolling) to reconstruct artifact life history
 | * *Debénath & Dibble Chs. 1-3 & pp. 40-41*
 |
| Week 4ThursdaySeptember 12 | Raw Material Studies* Why exotic vs. local raw material determinations are useful
* Introduction to the Drúadan Forest Teaching Collection
* Inventory Methods: using Excel
* Begin Lab Report 2: Raw Material Inventory
 | * Andrefsky Chs. 3 & 8
* *Larson and Kornfeld 1997*
 |
| Week 5TuesdaySeptember 17 | Understanding Assemblage Formation I* Site function
* Settlement patterns
* Artifact class typology
* Inventory methods: making cross-tabulations
* Begin Lab Report 3: Artifact Classification
 | * *Chatters 1987*
* *Conard and Adler 1997*
 |
| Week 5ThursdaySeptember 19 | Lab work on artifact class typology and flintknapping | * Whittaker Ch. 8
 |
| Week 6TuesdaySeptember 24 | Understanding Assemblage Formation II* Site formation processes
* Practice with dorsal scar pattern and order
 | * *Tostevin and Škrdla 2006*
 |
| Week 6ThursdaySeptember 26 | Retouched Tool Typology I* Bordes’ retouched tool typology
* North American projectile point classification
* Separate tools from the DR debitage
* Begin Lab Report 4: Retouched Tool Typology

**DUE: LAB REPORT 3: ARTIFACT CLASSIFICATION** | * *Refer to Debénath & Dibble Chs. 4-11, Appendix 1*
 |
| Week 7TuesdayOctober 1 | Discrete Variables I* Cross-checking artifact class
* Attribute Analysis of Debitage: Cortex and Dorsal Scar Direction
* Dealing with discontinuous variation using basic statistics: chi-square tests
* Begin Lab Report 5: Discrete Variables
 | * Andrefsky Chs. 5 & 6 (pp. 113-131)
* *Shennan Ch. 7*
 |
| Week 7ThursdayOctober 3 | Debrief Retouched Typologies* Debrief the Bordian and North American point typologies, piece by piece
* Return edge-damaged and other non-intentionally retouched tools to individual trays, leaving Essential Tools in the DR Tool Tray

**DUE: LAB REPORT 4: RETOUCHED TOOL TYPOLOGY** | * Andrefsky Ch. 7 (pp. 143-175)
 |
| Week 8TuesdayOctober 8 | Determining Technological Trajectories I* Introduction to different knapping trajectories through refits
* Begin Lab Report 6: Determining Technological Trajectories
 | * Inizan et al. Chs. 3-5
 |
| Week 8ThursdayOctober 10 | Determining Technological Trajectories II* Comparison of methods for determining trajectories
* Work on Lab 6 and flintknapping

**DUE: LAB 5: DISCRETE VARIABLES** | * Andrefsky Ch. 6 (pp. 131-142
* Inizan et al. Introduction & Ch. 6
* Whittaker Ch. 7
* *Dibble 1995*
 |
| Week 9TuesdayOctober 15 | Continuous Variables I* Debrief Lab 5 results
* Linear Measurement techniques
* Begin Lab 7: Continuous Variables
 |  |
| Week 9ThursdayOctober 17 | Continuous Variables II* Work on Lab 7 and flintknapping

**QUIZ 2: ILLUSTRATION RULES AND FLAKE SCAR PATTERN AND ORDER** | Whittaker Ch. 9 |
| Week 10TuesdayOctober 22 | Archaeological Practicalities I* Section 106, Phases 1, 2 and 3
* Mass Analysis
* Learning from maps
 | * *Ahler 1989*
* *Andrefsky 2007*
* *Department of the Interior 2006, p. 60*
 |
| Week 10ThursdayOctober 24 | Archaeological Practicalities II* Inter-analyst exercises
* Paleospud exercises

**QUIZ 3: TYPING RETOUCHED TOOLS AND FLAKES BY TECHNOLOGICAL CATEGORIES** |  |
| Week 11TuesdayOctober 29 | Dimensional Analysis I* Henry’s mobility studies and Dibble’s cost/benefit analysis
* Discussion of dimensional change during core reduction
* Dealing with continuous variation using basic statistics: t-tests
* Begin Lab 8: Dimensional Analysis

**DUE: LAB REPORT 7: CONTINUOUS VARIABLES** | * *Henry 1989*
* *Dibble 1997*
* *Shennan 1997 Ch. 6*
 |
| Week 11ThursdayOctober 31 | How Significant a Site?* National Register of Historic Places criteria
* Lab work
* Flintknapping
 | * *Department of the Interior 1997*
 |
| Week 12TuesdayNovember 5 | Measuring Tool Reduction and Curation I* Kuhn’s Index of Tool Reduction
* Clarkson’s Index of Invasiveness
* Eren et al.’s Estimated Reduction Percentage
* Begin Lab 9: Measuring Tool Reduction
 | * *Eren and Pendergast 2008*
 |
| Week 12ThursdayNovember 7 | Measuring Tool Reduction and Curation II* Debrief Lab 8
* Combine data for Lab 9
* Flintknapping

**DUE: LAB 8: DIMENSIONAL ANALYSIS** |  |
| Week 13TuesdayNovember 12 | Spatial Analysis of Lithic Production I* Breaks versus refits versus modification
* Lecture/Discussion on how refit studies informs on site taphonomy, lithic technology, ritual and cognition
* Begin refit studies of the Drúadan Forest collection
 | * *Deller et al. 2009*
 |
| Week 13ThursdayNovember 14 | The Impact of Museum Curation on Lithic Analysis: The Madness of Dr. Rana* Debrief Lab 9
* Handout Drúadan Forest Final Lab Report Assignment
* Continue refitting exercises

**DUE: LAB REPORT 9: MEASURING TOOL REDUCTOIN** |  |
| Week 14TuesdayNovember 19 | Practicalities in Lithic Analysis* Debrief refitting exercises
* Advanced data entry with E4
 |  |
| Week 14ThursdayNovember 21 | New Directions in Lithic Analysis I* Determining projectile delivery systems
* Andrefsky’s reduction index for hafted arrowheads

**QUIZ 4: DISCONTINUOUS AND CONTINUOUS VARIABLES** | * *Shea 2006*
 |
| Week 15TuesdayNovember 26 | New directions in Lithic Analysis II* Lithics and social interaction
* 3D modeling of stone tools
 | * *Tostevin 2007*
 |
| Week 15ThursdayNovember 28 | Thanksgiving HolidayNo Class |  |
| Week 16TuesdayDecember 3 | Questions on Preparing the Final Report**QUIZ 5: THEORETICAL OBJECTIVES OF LITHIC ANALYSIS** |  |
| Week 17 | *Séance* of the Drúadan Forest, Tuesday, December 10th, 5:30-8:00 pm**DUE: FINAL LAB REPORT** |  |

**Citations for Readings (Not Including Required Texts) by Date**

|  |  |
| --- | --- |
| August 29 | Addington, L. R. 1986. *Lithic Illustration: Drawing Flaked Stone Artifacts for Publication*. Chicago, IL: University of Chicago Press. |
| September 3 | Odell, G. H. 2003. *Lithic Analysis*. *Manuals in Archaeological Method, Theory, and Technique*. New York, NY: Springer. |
| September 10 | Debénath, A., and H. L. Dibble. 1994. *Handbook of Paleolithic Typology: Volume One, Lower and Middle Paleolithic of Europe*. Philadelphia, PA: University Museum, University of Pennsylvania. |
| September 12 | Larson, M. L., and M. Kornfeld. 1997. Chipped Stone Nodules: Theory, Method, and Examples. *Lithic Technology* 22:4-18. |
| September 17 | Chatters, J. C. 1987. Hunter-gatherer adaptations and assemblage structure. *Journal of Anthropological Archaeology* 6:336-375.Conard, N. J., and D. S. Adler. 1997. Lithic Reduction and Hominid Behavior in the Middle Paleolithic of the Rhineland. *Journal of Anthropological Research* 53:147-175. |
| September 24 | Tostevin, G. B., and P. Škrdla. 2006. New Excavations at Bohunice and the Question of the Uniqueness of the Type-Site for the Bohunician Industrial Type. *Anthropologie* 44:31-48. |
| October 1 | Shennan, S. 1997. *Quantifying Archaeology*, 2nd edition. Edinburgh: Edinburgh University Press. |
| October 10 | Dibble, H. L. 1995. "Biache-Saint-Vaast, Level IIa: A Comparison of Approaches," in *The Definition and Interpretation of Levallois Technology*, *Monographs in World Archaeology No. 23*. Edited by H. L. Dibble and O. Bar-Yosef, pp. 93-116. Madison, WI: Prehistory Press. |
| October 22 | Ahler, S. A. 1989. "Mass Analysis of Flaking Debris: Studying the Forest Rather Than the Tree," in *Alternative Approaches to Lithic Analysis*. Edited by D. O. Henry and G. H. Odell, pp. 85-118. Washington, D.C.: Archaeological Papers of the American Anthropological Association No. 1.Andrefsky, W., Jr. 2007. The application and misapplication of mass analysis in lithic debitage studies. *Journal of Archaeological Science* 34:392-402.Department of the Interior. Editor. 2006. *Federal Historic Preservation Laws: The Official Compilation of U.S. Cultural Heritage Statutes*. Washington, D.C.: Government Printing Office. |
| October 29 | Henry, D. O. 1989. "Correlations between Reduction Strategies and Settlement Patterns," in *Alternative Approaches to Lithic Analysis*, *Archeological Papers of the American Anthropological Association No. 1*. Edited by D. O. Henry and G. H. Odell, pp. 139-155. Tulsa, OK: University of Tulsa.Dibble, H. L. 1997. Platform Variability and Flake Morphology: A Comparison of Experimental and Archaeological Data and Implications for Interpreting Prehistoric Lithic Technological Strategies. *Lithic Technology* 22:150-170. |
| October 31 | Department of the Interior. 1997. "How to Apply the National Register Criteria for Evaluation," vol. NRB 15. |
| November 5 | Eren, M. I., and M. E. Prendergast. 2008. "Comparing and Synthesizing Unifacial Stone Tool Reduction Indices," in *Lithic Technology: Measures of Production, Use, and Curation*. Edited by W. Andrefsky, Jr., pp. 49-85. Cambridge: Cambridge University Press. |
| November 12 | Deller, D. B., C. J. Ellis, and J. R. Keron. 2009. Understanding cache variability: a deliberately burned Early Paleoindian tool assemblage from the Crowfield site, Southwestern Ontario, Canada. *American Antiquity* 74:371-397. |
| November 21 | Shea, J. J. 2006. The origins of lithic projectile point technology: evidence from Africa, the Levant, and Europe. *Journal of Archaeological Science* 33:823-846. |
| November 26 | Tostevin, G. B. 2007. "Social Intimacy, Artefact Visibility, and Acculturation Models of Neanderthal-Modern Human Interaction," in *Rethinking the Human Revolution: New Behavioral and Biological Perspectives on the Origins and Dispersal of Modern Humans*, *McDonald Institute for Archaeological Research Monographs*. Edited by P. A. Mellars, K. V. Boyle, O. Bar-Yosef, and C. B. Stringer, pp. 341-357. Cambridge: Oxbow Books. |

**Credits:**

 This course and syllabus is largely derived from my PhD advisor Gilbert Tostevin’s (University of Minnesota, Twin Cities Campus) method of lithic analysis, as well as by training and conversations with Harold Dibble and Gilliane Monnier.