

ANTH 5330/6330
GEOARCHAEOLOGY
FALL 2014

Lecture: Tuesday and Thursday, 3:00-4:15 pm
Old Main 119
Instructor: Judson Finley
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Office Hours: Tuesday and Thursday 9:00-11:00, or by appointment

Course Description

All archaeologists work in a geological context. In conducting a survey, it is critical to understand the spatial relationships between the archaeological record and associated landforms. In excavating a site, it is essential to understand the origin and depositional mode of sediments containing the cultural record. It is also necessary for archaeologists to understand the physical post-depositional processes that modify the archaeological record. And finally, because environment affects culture in some way, sediments are relevant to archaeologists as records of paleoenvironment. This course is designed for upper division undergraduate and graduate students with variable backgrounds in archaeological, earth, or soil science who are seeking to gain those skills. The course is an overview that integrates the various subfields of geology, geomorphology, and soils geography into an archaeological context.

Requirements

This is primarily a lecture-based course. Attendance and participation are vital to your success, which means you must keep up with the readings. Grades for this class are based on five individual components: class participation (25%), a short research paper (25%), one mid-term exam (25%), and one final exam (25%). Full participation in class discussions is expected, which means completing the weekly readings prior to class.

****FINAL EXAM— THURSDAY DECEMBER 11, 2014, 1:30-3:20, OLD MAIN 119**

Required Texts:

Waters, M. R. (1992). *Principles of Geoarchaeology: A North American Perspective*. University of Arizona Press, Tucson.

COURSE SCHEDULE

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| Week 1 August 25-29, 2014 | Philosophy and History of Geoarchaeology READING: Chamberlain (1890); Waters (1992):1-13 |
| Week 2 September 1-5, 2014 | *LABOR DAY, SEPTEMBER 1, 2014—NO CLASS Geoscience Fundamentals READING: Pipkin et al. (2005); Holliday (2001) |
| Week 3 September 8-12, 2014 | Weathering READING: Birkeland (1999):60-77, 94-99; Waters (1992):15-19 |
| Week 4 September 15-19, 2014 | Sediment Production and Transport READING: Boggs (2011):45-52; Waters (1992):20-40 |
| Week 5 September 22-26, 2014 | Sediment Description READING: Boggs (2011):110-130 |
| Week 6 September 29- October 3, 2014 | Stratigraphy READING: Waters (1992):60-114 |
| Week 7 October 6-10, 2014 | Alluvial Processes READING: Waters (1992):115-184 |
| Week 8 October 13-17, 2014 | EXAM 1: October 9, 2014 *No Class Thursday October 16, 2014 (Friday Schedule and GBAC/GSA Meetings) *Fall Break October 17, 2014 |
| Week 9 October 20-24, 2014 | FILM: Mystery of the Megaflood READING: Baker (1988) *Article Summary Due Thursday October 23, 2014 |
| Week 10 October 27-31, 2014 | Eolian Processes; Rockshelters and Caves READING: Waters (1992):185-213; 240-247 |
| Week 11 November 3-7, 2014 | Soils: Taxonomy READING: Waters (1992):40-60; Holliday (1990) |
| Week 12 November 10-14, 2014 | Soils: Geography READING: Mandel and Bettis (2001) |
| Week 13 November 17-21, 2014 | Site Formation: Natural READING: Schiffer (1983); Waters (1992):291-316 *Research Paper Due Thursday November 20, 2014 |

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| Week 14 November 25-29, 2014 | Site Formation: Cultural READING: Schiffer (1983); Waters (1992):291-316 THANKSGIVING BREAK, NO CLASS Thursday NOVEMBER 27, 2014 |
| Week 15 December 1-5, 2014 | Quaternary Geochronology READING: Kelly and Thomas (2012):117-146 |
| FINAL EXAM— THURSDAY DECEMBER 11, 2014, 1:30-3:20, OLD MAIN 119 | |

ADDITIONAL READINGS

Baker, V. (1988). Geological Fluvial Geomorphology. *Geological Society of America Bulletin* 100:1157-1167

Birkeland, P. (1999). *Soils and Geomorphology* 3rd edition. Oxford University Press, Oxford.

Boggs, S. (2011). *Principles of Sedimentology and Stratigraphy* 5th edition. Prentice Hall, Upper Saddle River, New Jersey.

Chamberlain, T.C. (1890). The Method of Multiple Working Hypotheses. *Science* 15:92-96. 1965 Reprint.

Holliday, V. T. (1990). Pedology in Archaeology. In *Archaeological Geology of North America*, edited by N. P. Lasca, and J. Donahue, pp. 525-540. Geological Society of America, Boulder.

Holliday, V. T. (2001). Quaternary Geoscience in Archaeology. In *Earth Sciences and Archaeology*, edited by P. Goldberg, Vance T. Holliday, and C. Reid Ferring, pp. 3-36. Kluwer Academic/Plenum, New York.

Kelly, R.L., and D.H. Thomas (2012). *Archaeology*, 6th edition. Cengage Learning, Belmont, California.

Mandel, R. D., and E.A. Bettis III (2001). Use and Analysis of Soils by Archaeologists and Geoscientists: A North American Perspective. In *Earth Sciences and Archaeology*, edited by P. Goldberg, Vance T. Holliday, and C. Reid Ferring, pp. 173-204. Kluwer Academic/Plenum, New York.

Pipkin, B.W., D.D. Trent, R. Hazlett, and P. Bierman (2005). *Geology and the Environment*. West Group.

Schiffer, M. B. (1983). Toward the Identification of Formation Processes. *American Antiquity* 48:675-706.

IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA), qualified students with disabilities may be eligible for reasonable accommodations. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

IN COMPLIANCE WITH THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA), it is the policy of the Department of Sociology, Social Work & Anthropology at Utah State University to maintain the confidentiality of students' records. When it is not feasible to distribute exams, papers, and other assignments to students individually (e.g., in large-enrollment classes), the instructor may obtain from students a signed waiver of confidentiality regarding class assignments so exams, papers, and other academic exercises may be placed out during class or during other group sessions for students to pick up. A general waiver may be sought from each student at the beginning of the academic term with the understanding that the waiver may be rescinded, in writing, during the academic term if the student chooses. If a student does not sign a waiver, then assignments must be returned to that student confidentially.