



**Waters, Michael R. (1997) *Principles of Geoarchaeology, A North American Perspective*. University of Utah Press, Tucson. ISBN 0-816-51770-3.**

This textbook is required. It provides more in-depth information on landforms and associated processes than what is contained in our primary text. It is also very inexpensive, provides additional information on several of the topics we'll cover in class, and is an overall excellent reference for North American geoarchaeology that can be a big help toward guiding your term paper research.

**Buying the texts:** The texts are available at the bookstore, or you can support the USU Anthropology Museum by ordering it through Amazon. Here's how: Ordering new and used textbooks through [Amazon.com](http://Amazon.com) often nets students a competitive price on textbooks. If the link is made through Utah State's Museum of Anthropology website ([www.usu.edu/anthro/museum](http://www.usu.edu/anthro/museum)), the museum receives a percentage of the purchase price (of the textbook and anything else in your shopping cart).

To facilitate buying books through Amazon, we have created links for all Sociology, Social Work & Anthropology (SSWA) courses. To buy this way, go to the museum homepage, click on "Help fund the museum," look up the text title, click on the book, place it in your Amazon shopping cart, make your purchase, and voila—your book is shipped to you and the museum gets a commission on the sale (even of used copies). Amazon offers free shipping on all purchases over \$25. As of this writing, the first textbook (Rapp & Hill) costs \$38.00 new at Amazon; they have used copies starting at \$28.59. The second (Waters) costs \$27.95 new at Amazon; they have used copies starting at \$8.99.

Please keep in mind that any time you plan to make a purchase from Amazon, if you go to their website via a Museum of Anthropology link (by clicking, for example, on any featured book, whether or not you want to buy it—just don't put it in your shopping cart once you're directed to Amazon), the museum will receive a small commission on everything you do buy. It's a nice way for the museum to fund programs for Cache Valley families, undergraduate internships in the museum, and other initiatives.

**Readings on Blackboard:** Some of your reading consists of articles or chapters from other textbooks. These are stored in PDF format and are available on *Blackboard*. You will need to log in, download and print each article, or simply read the electronic version on-screen. Most of these readings are required, just as the textbook is required. I may post additional, supplementary readings should there be an expressed interest on the part of the students.

**Note on reading and note taking:** Your success in this course will depend in no small part upon completing assigned readings thoroughly and on time. Readings will form the basis for lectures, class discussions, and exams (detailed below). You are unlikely to succeed in this course if you do not read.

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**COURSE REQUIREMENTS:**

Term Paper Proposal, Field Trip & Write-Up; Midterm Exam; Dating Quiz; Term Paper; Final Exam.

<u>Your Grade</u> is based on:	<u>Points</u>
Term Paper Proposal	5 points
Field Trip & Write-Up	15 points
Geomorphology Midterm	20 points
Dating Quiz	10 points
Term Paper	20 points
Final Exam	30 points

100 points possible in class: 90-100 = A; 80-89 = B; 70-79 = C; 60-69 = D; < 59 = F

**Term Paper Proposal:** This is a one-paragraph description of the term paper you propose to write, focusing on a specific research question you hope to answer through your research. Potential topics include: (1) soils and sediments in archaeological sites; (2) landscape reconstruction; (3) dating and sedimentary chronology; (3) paleoenvironmental reconstruction; and (4) geoarchaeological predictive modeling. We will go over this assignment in greater depth the second week of instruction.

**Field Trip and Write-Up:** Fieldwork and geomorphological analysis are essential to conducting geoarchaeological research. Because of this, class will meet to describe and map the stratigraphy and/or geomorphology of a local geomorphic setting. A 1-2 page write-up presenting the results of the interpretations you make in the field will be due the following week. There are no make ups for this activity: attendance is therefore mandatory.

**Dating Quiz:** Instead of a second midterm, we will have a short (1/2 class period) test of your knowledge of geoarchaeological dating techniques the ninth week of class.

**Term Paper:** Your term paper will consist of research and formal write up of one of the topics described under the heading *Term Paper Proposal*. It is due the 13<sup>th</sup> week of instruction.

**Examinations:** Will cover lectures, class discussions, the field trip, and readings. You are responsible for all materials. Exams will consist of short answer and short essay questions.

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**ASSISTANCE:** Please ask questions in class, by e-mail, or during office hours. I will be glad to discuss anything that will help you succeed in this class or your academic career. Although I will not lend out class notes (consult a classmate for these), I will do my best to help you understand material that may be unclear in class or in the texts and reading.

### ***Americans with Disabilities Act***

Qualified students with disabilities may be eligible for reasonable accommodations. 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 **and me** as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

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## **CLASSROOM POLICIES**

**Attendance:** Class attendance is not mandatory. In my experience, however, student performance is closely tied to attendance (in other words, if you only show up to about 60% of lectures, you can probably expect a D or worse for your final grade). The decision, however, is up to you. Attendance of the field trip is, however, mandatory and can't be made up.

**Tardiness.** Late arrivals distract me and other students. If you cannot arrive on time, please do not come to class. If you arrive late, I will note this. Excessive tardiness will affect your final grade.

**Missed in-class exams.** If you know you will miss an in-class exam, you must notify me of this *prior to your absence*. Even if you are bedridden by illness, you must contact me to explain the situation prior to your absence. If you follow this protocol, you may make up the exam in the next three days at a time convenient for us both. **If you fail to follow this protocol, you may not make up the exam.** This has happened before, and students have learned the hard way that this policy is not negotiable. I recommend using e-mail to contact me, and keep a copy of the "sent message" as a record that you notified me of your absence in a timely fashion.

**Turning in assignments.** Late assignments will not be accepted. You know the due date for this well in advance (see your syllabus). Plan to turn in your assignment during class on the due date, and understand that any time after the beginning of class that day is late—too late. You may turn in assignments **early** if you know you must miss class on the day it is due (or because you're done and want to be rid of it). You may also send a hard copy in with another student on the day the assignment is due if you are sick. You *may not* e-mail your exam to me; printing turning in a hard copy is your job.

**Extra credit.** None is offered, so please do not ask.

**Email policy:** Please email all questions, concerns, etc. But please do not bombard me with repeated emails; think your questions through and send one, rather than three or four. You and your classmates will receive better and faster responses if you think through your questions before sending email. You should expect a response (usually) within 24 hours on weekdays (but only if sent during business hours). Weekends are more hit-or-miss, so don't expect a response until Monday for an email sent after 5 PM on Friday night (though oftentimes I will send responses over the weekend--it's just not guaranteed). Finally, don't expect more than a short paragraph answer to your questions—if you have a complex issue that requires my assistance, please come by and talk to me in office hours—we can cover much more in a 15 minute meeting than in two hours of sending emails back and forth.

**Classroom civility.** Utah State University supports the principle of freedom of expression for both faculty and students. The University respects the rights of faculty to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede the learning process. Disruptive classroom behavior will not be tolerated. An individual engaging in such behavior may be subject to disciplinary action. So, during class, please do not talk to others, allow your cell phone to ring, snap your gum, read the newspaper, make obnoxious comments, or engage in other rude activities. If your behavior disturbs your peers or me, I will take disciplinary action as outlined in Utah State University's "Classroom Civility Policy." You may review the complete policy and possible sanctions at <http://www.usu.edu/stuserv/SCode/civility.html>. Note that the consequences of uncivilized behavior include (but are not limited to) immediate removal from the classroom.

**Academic dishonesty.** All students must abide by Utah State University academic standards, including the Utah State "Honor Pledge." This outlined in Section V of the *Code of Policies and Procedures for Students*. Section VI of the document explains penalties for violating university standards, and they can be severe (up to and including expulsion from USU). Please familiarize yourself with these policies as academic dishonesty will be dealt with in accordance with them.

**Plagiarism.** Plagiarism includes knowingly "representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgement. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials" (*Code of Policies and Procedures for Students*, Article V, Section 3A.1). Penalties for plagiarism include "(1) warning or reprimand and (2) grade adjustment" (Article VI, Section 1A). Other penalties may be imposed at the Dean's discretion and include probation, suspension, expulsion from Utah State University, withholding of transcripts, denial or revocation of degrees, referral for psychological counseling, and other disciplinary actions. Never, never, *never* plagiarize. If you work with a friend on your reading exam and turn in substantially similar work, I *will* notice, and will take strong and immediate action in accordance with USU policy.

**Student privacy.** In compliance with the Family Education Right to Privacy Act (FERPA), the Anthropology program maintains the confidentiality of your records.

### Daily Schedule

<b>Date</b>	<b>Topic</b>	<b>Reading*</b>
<b><u>Week 1—Course Introduction; Archaeology and the Earth Sciences</u></b>		
Jan. 5	Course Introduction	Rapp & Hill, Preface; Waters, Preface
Jan. 7	Earth Sciences & Archaeology	Rapp & Hill, Ch. 1, pp 1-24
Jan. 9	Introductory Lab/Discussion	Waters Ch. 1, pp. 3-14
<b><u>Week 2 – The Archaeological Matrix: Sediments &amp; Soils</u></b>		
Jan. 12	Geoarchaeological Foundations: Sediments	Rapp & Hill, Ch. 2, pp. 25-38; <i>Birkland 1984a</i> **
Jan. 14	Geoarchaeological Foundations: Soils	Rapp & Hill, Ch. 2, pp. 38-59; <i>Holliday 1990</i>
Jan. 16	Soils Lab & Discussion	Waters Ch. 2, pp. 15-59
<b><u>Week 3 – Site Formation &amp; Introductory Geomorphology</u></b>		
Jan. 19	<b>MLK Day – No Class</b>	None
Jan. 21	Site Formation Processes; Landforms	Rapp & Hill, Ch. 3, pp. 60-63; <i>Schiffer 1976</i>
Jan. 23	Site Formation, landform, & process discussion	<i>Peterson 1981; Butzer 1982</i>
<b><u>Week 4—Landforms and Processes 1</u></b>		
Jan. 26	Alluvial Landforms & Processes	Rapp & Hill, Ch.3: 67-78; Waters Ch. 3: 115-184
Jan. 28	Terrestrial Landforms & Processes	Rapp & Hill, Ch. 3, pp. 81-90;
Jan. 30	Alluvial and Terrestrial Lab <b>Term Paper Proposal Due</b>	Waters, Ch. 5, pp.215-220 & 230-248
<b><u>Week 5—Landforms and Processes 2</u></b>		
Feb. 2	Desert & Aeolian Landforms & Processes	Rapp & Hill, Ch. 3, pp. 64-67; Waters Ch.4:185-213
Feb. 4	Postdepositional Processes	Rapp & Hill, Ch. 3, pp. 98-102;
Feb. 6	Disturbance lab, term paper assistance	Waters Ch. 7, pp.291-316; <i>Schiffer 1996</i>
<b><u>Week 6 – Landforms and Processes 3</u></b>		
Feb. 9	Lacustrine & Coastal Landforms & Processes	Rapp & Hill Ch.3:78-80 & 90-98; <i>Will &amp; Clark 1996</i>
Feb. 11	Midterm Review	Waters Ch 6, pp. 249-290; Ch. 5, pp. 220-230
Feb. 13	<b>GEOMORPHOLOGY MIDTERM</b>	None
<b><u>Week 7— Interpreting Stratigraphic Sections and Profiles</u></b>		
Feb. 17	Archaeology in profile	Waters, Ch. 2; pp 60-114
Feb. 18	<b>Field Trip—Attendance Mandatory</b>	<i>Birkland 1984b; Stein 1990</i>
Feb. 20	<i>Guest Speaker—Attendance mandatory</i>	None
<b><u>Week 8 – Geological Approaches to Dating</u></b>		
Feb. 23	Dating - Stratigraphy, Paleosols, Tephrochronology	Rapp & Hill, Ch. 5, pp. 132-144;
Feb. 25	Dating - Dendrochronology & <sup>14</sup> C Calibration	Rapp & Hill, Ch.5, pp. 144-159;
Feb. 27	Dating lab & Discussion <b>Field Trip Write-Up Due</b>	<i>Nash 2002; Madsen et al. 1998; Fiedel 1999</i>

<b>Date</b>	<b>Topic</b>	<b>Reading*</b>
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**Week 9—More Geological Approaches to Dating**

Mar. 2	Dating-Patination & Obsidian Hydration	Rapp & Hill, Ch. 5, pp. 160-164; <i>Skinner &amp; Thatcher 2008</i>
Mar. 4	Dating—Optically-Stimulated Luminescence	Rapp & Hill, Ch. 5, pp. 156-159; <i>Huntley et al. 1985; Murray &amp; Olley 2002</i>
Mar. 6	Term Paper Assistance & <b>Dating Quiz</b>	None

**Mar. 9-13 SPRING BREAK**

**Week 10 --- Archaeological Geology: Lithic Identification & Basic Mineralogy**

Mar. 16	Sedimentary & Metamorphic Rocks	Rapp & Hill, Ch. 7, pp. 195-221 (entire week)
Mar. 18	Igneous Rocks	Reading Break – Catch Up
Mar. 20	Lithics Raw Material Lab	None

**Week 11 – Provenance Studies & Trace-Element Analysis**

Mar. 23	Provenance Studies-Rocks & Minerals	Rapp & Hill, Ch. 8, pp. 222-235
Mar. 25	Provenance Studies-Sediments & Shell	Rapp & Hill, Ch. 8, pp. 235-243
Mar. 27	Sourcing Lab & Discussion	<i>Jones et al. 2003; Eerkens et al. 2005</i>

**Week 12 – Paleoenvironmental Reconstruction**

Mar. 30	Paleoenvironment – Pollen & Plants	Rapp & Hill, Ch. 6, pp. 165-176
Apr. 1	Paleoenvironment – Animals & Soils	Rapp & Hill, Ch. 6, pp. 176-183
Apr. 3	Paleoenvironment Discussion Section	<i>Mead et al. 1983</i>

**Week 13 – Paleoenvironment and Paleoecology**

Apr. 6	Paleoenvironment - Chemistry & Isotopes	Rapp & Hill, Ch. 6, pp. 183-194
Apr. 8	Modeling Paleoenvironment-Human Interaction	<i>Jones et al. 1999</i>
Apr. 10	Human Paleoecology & Paleoenvironment	None
	<b>Term Paper Due</b>	

**Week 14 – Predictive Models and GIS**

Apr. 13	GIS, Vegetation Cover, Geologic & Soils Maps	Rapp & Hill, Ch. 9, pp. 244-272;
Apr. 15	Settlement Patterns and Predictive Models	<i>Connolly &amp; Lake 2006/TBA</i>
Apr. 17	Predictive Patterns Discussion	<i>Rosenthal &amp; Meyer 2004</i>

**Week 15 – Overview, Summary & Review**

Apr. 20	Course Summary & Review	Rapp & Hill, Ch. 10, pp. 273-275
Apr. 22	TBA	None
Apr. 24	In Class Final Review	None

**MONDAY, APRIL 27, 9:30-11:20 AM FINAL EXAM -- NO EARLY EXAMS**

\* Reading should be completed by the class period for which it is listed; readings in *italics* are available on *Blackboard*.

\*\*Readings in *italics* are stored as PDF files on Blackboard under Course Content/Reading Assignments. Readings from the course texts are in standard font