

## **ANTH 3010 Geoarchaeology**

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### **Office hours:**

### **Course Description:**

This course is designed to give students a thorough introduction to geoarchaeology as a contextual framework for human paleoecology. Major topics include description and interpretation of sediments in which archaeological remains are found, consideration of the natural processes that create the archaeological record, and reconstruction of landscapes on which ancient people lived. You will learn about climate change, and the effects of these changes on biota; the various types of landforms on which archaeological sites are found; and how the processes of erosion, deposition, soil formation, and biological and human activity affect archaeological deposits in fluvial, eolian, lacustrine, and other depositional environments. Other topics include: methods of dating archaeological sites; and geological sourcing of artifactual materials.

### **Required text:**

Dincauze, D. 2000. Environmental Archaeology: Principles and Practice. 2<sup>nd</sup> edition. Cambridge University Press. 620 pp.

### **Evaluation:**

Midterm: **25%**

Lab assignments (n = 9): **25%**

Research paper: **25%**

Final exam: **25%**

Research paper should be 10-15 pages in length (typed, double-spaced). The topic of your research paper may cover any aspect of Geoarchaeology, should be well-referenced, scholarly, and based entirely on peer-reviewed sources. Please follow a standard style guide for the social sciences such as MLA when formatting your paper ([http://www.tru.ca/library/pdf/socscistyle\\_ol\\_2005.pdf](http://www.tru.ca/library/pdf/socscistyle_ol_2005.pdf)).

### **Letter grades and their numerical equivalents:**

<b>A+</b>	90-100%	<b>B</b>	70-79%	<b>D</b>	50-59%	<b>F</b>	0-39%
<b>A</b>	80-89%	<b>C</b>	60-69%	<b>E</b>	40-49%		

Students are responsible for ensuring that they are properly registered in this class.

See the LU Calendar for information on academic integrity, examinations, grade appeals, and other important regulations of which you should be aware.

\*\*\* There will be no “make-up” lab periods for individual students, unless absence from the normal lab period is documented by a note from a physician, therapist, or other healthcare professional.

\*\*\* Unless otherwise stated by your instructor, all lab assignments are due at the end of the scheduled

lab period. Late assignments will be subject to a 10% grade deduction per day.

\*\*\* Late term papers will be deducted 10% per day from the final grade for that assignment. The first 10%, however, will be waived if you complete the course (instructor) evaluation.

### **Outdoor Labs**

There are two outdoor "labs" in this course. These little excursions will take place on the LU campus. Please wear boots or old shoes with good ankle support; long pants (no shorts); rain gear (depending on weather). You will also need to bring some paper and a pen to record your observations.

### Lecture and Lab Schedule:

<b>Module</b>	<b>Major Lecture Topics</b>	<b>Readings</b>	<b>Lab</b>
<b>1</b>	Introduction; Sediment classification; Weathering;	Dincauze ch.11&12	Cancelled
<b>2</b>	Sediment transportation; Physical properties of sediments; Sedimentary structure; Chemical/ biochemical deposition;		Identifying sediment transport from particle shape <b>Assignment #1</b>
<b>3</b>	Organic matter; Soils and buried soils; Slope deposits		Soils lab <b>Assignment #2</b>
<b>4</b>	Rivers and lakes	Dincauze ch. 9	<b>Outdoor lab #1</b>
<b>5</b>	Eolian environments; Coastal settings	Dincauze ch. 9 & 10	<b>Outdoor lab #2</b>
<b>6</b>	Caves and rockshelters; Postdepositional processes & the formation of the archaeological record;		
<b>7</b>	Mechanisms underlying climate change; Human responses; Sedimentary records of climate change;	Dincauze ch. 1-4, 7 & 8	<b>Midterm exam Oct. 24</b>
<b>8</b>	Pollen analysis;	Dincauze ch. 13 & 14	Pollen lab <b>Assignment #3</b>
<b>9</b>	Plant macrofossils; Diatoms		Plant macrofossil lab <b>Assignment #4</b>
<b>10</b>	Phytoliths; Invertebrates; Isotopes;	Dincauze ch. 15-17	Phytolith & starch lab <b>Assignment #5</b>
<b>11</b>	Geological sourcing: select methods		Mineralogy lab <b>Assignment #6</b>
<b>12</b>	Radiocarbon dating; Thermoluminescence and OSL dating; Other methods	Dincauze ch. 5 & 6	Radiocarbon calibration lab <b>Assignment #7</b>
	<b>Term papers due: last class</b>		
	<b>Final exam: TBA (scheduled by University)</b>		

