Background and course description
Geoarchaeology is an interdisciplinary field aimed at reconstructing environments and their interaction with past human societies. Archaeology studies past societies, whereas geoarchaeology puts them in an environmental context. Geoarchaeological research incorporates field and laboratory methods, as well as archival and archaeological research.
Geoarchaeology has strong ties with geography due to the spatial and temporal aspects of the environment-human relations. Because of its interdisciplinary nature, geoarchaeology incorporates scientists with backgrounds in the earth and life sciences as well as anthropology and history.
This course reviews the theoretical and methodological aspects of geoarchaeology and typical cases of interdisciplinary research in different geomorphic contexts and cultural groups (early hominids, hunter gatherers, agriculturalists, and urbanites) from around the world.

Pre-requisites
There are no pre-requisites for this course. The main textbook (Goldberg and Mcphail, 2006) is designed to get students started from a beginner level and cover any deficiency in earth sciences and physical geography.

Textbooks and readings

Part 1 Basic reading:

Part 2 Basic reading:
4. Additional readings provided in class by the instructor
Undergraduate course grading

<table>
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<th>Percent of final grade</th>
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<tr>
<td>Mid-term exam (take-home)</td>
<td>30</td>
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<tr>
<td>Research paper</td>
<td>70</td>
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<td>Total</td>
<td>100</td>
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Grading scale
Letter grades will be assigned on the following basis:
A  >90%
B  80%
C  70%
D  60%
F  <60%

Mid-Term exam
Take home exam. The student will be given a topic and a series of questions to answer based on the contents of class and readings.

Research paper
This paper should include an original research topic related to the class. Graduate students are encouraged to write papers on topics for their theses or dissertations if they relate to the course topics. The paper should include a clear problem statement, objectives, and methodology. The paper should be between 4000 and 6000 words. See undergraduate research paper above for rules on style and references.

Topics and Weekly Schedule

* Asterisk means that the instructor will be absent

**Week 1**

**Tue** An introduction to geoarchaeology. Review of textbooks and readings

**Th** Interpreting the landscape: geoarchaeology as a forensic science (Briggs)

**Week 2**

**Tue** Measuring time and interpreting landscape change.

**Th** The peopling of the Americas: Theories, controversies and recent research
**Week 3**

**Tue** The meteor theory and the extinctions at the end of the Pleistocene (Firestone)

**Th** Dr. Alex Simms (geology) presentation*

**Week 4**

**Tue Th** The meteor theory and the extinctions at the end of the Pleistocene (NGS video)*

**Week 5**

**Tue** No class.

**Th** Introductory concepts in geoarchaeology: sediments, stratigraphy, and soils (Goldberg and MacPhail)

**Week 6**

**Tue** Soils in geoarchaeology (Goldberg and MacPhail)

**Th** Geoarchaeology in the Great Plains I (Holliday)

**Week 7**

**Tue** Slopes and slope deposits: and the meaning of ‘stability’ (Goldberg and MacPhail)

**Th** The Arroyo Problem in the American Southwest (TBA)

**Week 8**

**Tue** Rivers, lakes, swamps and marine coasts: coping with rapidly changing environments I (Goldberg and MacPhail).

**Th** Rivers, lakes, swamps and marine coasts: coping with rapidly changing environments II (Goldberg and MacPhail).

**Week 9**

**Tue** Aeolian environments: windblown sand and dust and what it means to humans (Goldberg and MacPhail).

**Th** Climatic and human impacts on the landscape (Goldberg and MacPhail).

**Week 10**

**Tue** Geoarchaeology of cave deposits (Goldberg and MacPhail).
Th A look into Hall’s Cave (Toomey and others).

Week 11

Tue Geoarchaeological fieldwork.

Th Geoarchaeology and civilizations of Mesoamerica: Central Mexico (A. Borejsza).

Week 12

Tue Geoarchaeological labwork (Goldberg and MacPhail).

Th Geoarchaeology and civilizations of Mesoamerica: The Maya Region (Beach)

Week 13

Tue The Aztec and Early Colonial transformation of Central Mexico (Cordova and Parsons)

Th The Geoarchaeology in the American Southwest (Sandor)

Take-home exam given on Thursday

Week 14

Tue Geoarchaeology and volcanism (TBA)

Th Environmental crisis at the end of the 3rd Millennium BC (Cordova)

Take home exam due

Week 15

Tue The Azraq Oasis Project (Cordova et al.)

No class on Thursday. Fall Break-Thanksgiving Holiday

Week 16

Tue On becoming a geoarchaeologist

Research papers due
Field trip: Date to be determined. Possible destinations: Council Grove, KS/Western OK and NE New Mexico.