The Archaeology of Climate Change
ANT 324L-57 (Unique #31310) and
GRG 356 (Unique #37390)
Spring 2017

Dr. Arlene Rosen
Office: CLA 4.402

Office Hours: Tuesdays 2:00pm – 3:00pm;
Wednesdays 2:00 pm – 3:00 pm, or by appointment
amrosen@austin.utexas.edu

Class Teaching Assistant: Ms Camille Weinberg cdsweinberg@utexas.edu

Time: Tuesday and Thursday, 11:00 am – 12:30 pm

Location: BUR 224

Course Description: Climate change has impacted human societies over the course of human existence on the planet. It has played a role in everything from hominin evolution to the rise and fall of civilizations through to the present day economic and ethical decision-making. In this course we will examine why climate changes, the methods for recording climate change, and discuss case studies of the varied responses of past human societies to climate change in different geographic regions and time periods with varying socio-political and economic systems. We will explore aspects of resilience and rigidity of societies and issues of environmental sustainability in the past as well as the present. Finally we will compare and contrast modern responses to climate change on a global scale with those of past societies.

Goals: To familiarize students with the evidence for climate change and methods of climate change research; to increase their understanding of the social, economic and technological issues human societies faced in the past when dealing with climate change. To understand what were adaptive and maladaptive human strategies. To help students evaluate the modern politics and social responses to climate change. On successful completion of this course a student should understand how climate change is recorded and the basic climatic record for the period of human occupation of the earth. To be familiar with current debates about how human societies adapt to climate change. To be able to think critically about issues and arguments proposed in the literature, and to write a coherent essay arguing a point of view.

Flags:
Ethics and Leadership
This course carries the Ethics and Leadership flag. Ethics and Leadership courses are designed to equip you with skills that are necessary for making ethical decisions in your adult and professional life. You should therefore expect a substantial portion of your grade to come from
assignments involving ethical issues and the process of applying ethical reasoning to real-life situations.

Global Cultures
This course carries the Global Cultures flag. Global Cultures courses are designed to increase your familiarity with cultural groups outside the United States. You should therefore expect a substantial portion of your grade to come from assignments covering the practices, beliefs, and histories of at least one non-U.S. cultural group, past or present.

Requirements: The class will have regular lectures and class discussions; student participation is required. Students are expected to regularly attend all classes, complete the assigned readings in advance of class, and come ready to discuss readings or topics.

In addition to consistent classroom attendance and active participation, each student must complete all of the following:

1) Two in-class tests (15% each = 30% total) (Dates: Feb 14th and April 20th 2017)
2) A short (5-minute) in-class presentation concerning the impact of climate change on past societies, and ethics of adapting to climate change (20%) (April 25th, April 27th, May 2nd, and May 4th – attendance mandatory for all students).
3) A one or two-page written review of a “peer-reviewed” article or book chapter – not an unpublished Internet article from the web – on a topic related to archaeology and climate change (10%). DUE DATE: Friday, February 10th, 2017.
4) A five-page Term Paper on a topic concerning ethical issues of combating global climate change, past, present or future (30%). DUE DATE: Friday, April 14th, 2017.
5) Class participation (i.e. active involvement in discussions, attendance, etc.) will count for 10% of the final grade. Please Note. Attendance is considered to be part of class participation and is Mandatory for each class session, unless you are excused by the instructor.

Policy on late assignments: A late assignment will only be accepted with prior approval from the instructor. In this case, only a one-week extension of the deadline will be granted and 50% of the points possible may be deducted from the final assignment grade, at the discretion of the instructor.

Grading Scale: A = 94-100; A- = 90-93; B+ = 87-89; B = 84-86; B- = 80-83; C+ = 77-79; C = 74-76; C- = 70-73; D+ = 67-69; D = 64-66; D- = 60-63; F = 0-59.
Schedule and Assigned Readings
Subject to change

Theme 1: Tools for Understanding the Human Face of Climate Change

1) January 17: Introduction to the Class: Course organization, assignments and objectives;
Historical and Theoretical Background: Historical background to the discovery that climates
change; Theoretical Perspectives: Climatic Determinism (the ‘zip-code lottery’ of climate and
2) January 19: Why does the climate change? Earth’s Climates in the Past, Present, and
Factor.
   Freeman, New York, Chapter 7, pp. 119-136.
3) January 24: Reconstructing Past Climate Change: How do we learn about climate
change in the past? Isotopic Records from Sea and Ice Cores; Pollen Studies; the Terrestrial
Geological Record.
   Oxford, Chapter 2, pp. 8-54.
4) January 26: In Class Exercise: Building and Interpreting a Climatic History
Read the following chapter. Come to class prepared to use the data described in this chapter to
construct a climatic sequence graph. Please bring graph paper, pencils, erasers, etc. You will
work together in small teams.
   Reading: Menking, Kirsten M. (2000). A Record of Climate Change from Owens Lake
   Sediment. In The Earth around Us: Maintaining a Livable Planet, edited by J. S.
5) January 31: The Anthropocene: Human-caused Climate Change, Biodiversity, Quaternary
Extinctions, Sea Level Rise, and the Ethics of Climate Change.
6) February 2: The Impact of Climate Change on Human Communities: Human Responses
to Climate Change; Perception of Climate Change; Scales of Change; Adaptation; Resilience;
Sustainability.
   Reading: McIntosh, R. J., J. A. Tainter and S. K. McIntosh. 2000. Climate, history, and
by R. J. McIntosh, J. A. Tainter and S. K. McIntosh, pp. 1-42. Columbia University
Press, New York.

Recommended but not required:

Theme 2: Climate Change, Human Origins and Colonization of the Globe

7) February 7: Climate Change and our Early Ancestors; How did global climate change and a catastrophic volcanic blast help shape us?

8) February 9: Climatic influences on human environments from the Late Pleistocene to the Middle Holocene. Hunter-gatherer adaptations to fluctuating climates; how changing landscapes and coastlines influenced migrations and human adaptations.

9) February 14: In Class Quiz

Theme 3: The Role of Climate Change in the Origins and Spread of Agriculture

10) February 16: Did climate change force the origins of agriculture? The critical importance of agriculture for the origins of civilization and complex societies. What was the role of climate change in the beginnings of cultivation?


12) February 23: The Desert vs the Sown: Farmers and pastoral nomads in marginal lands.


13) February 28: Discussion Topic: Perceiving and Managing Risk, is it better to be a farmer or forager when climates change? One article-reading assignment will be handed out to each discussion group in the previous week. Groups will assemble in-class and prepare a discussion. Articles to be confirmed (Smith 2001; Asouti and Fuller, Zeder, Bar-Yosef; Rosen, Arlene M. (2010). Natufian plant exploitation: Managing risk and stability in an environment of change. *Eurasian Prehistory* 7(1):117-131.)

Theme 4: Climate Change and the Collapse of Civilizations (Nature pleads “not guilty”)

14) March 2: The Rise and Collapse of Early Bronze Age cities of the Near East (Climate or Culture, Who is to blame?)


15) March 7: China’s Sorrow: Feast and Famine along the Yellow River.


16) March 9: Death on the Nile (in class video)

March 13 – 17: Happy Spring Break!

16) March 21: Roman Expansion into the Desert: Better Climate or Good Organizational Skills?

17) March 23: Southeast Asia: Climate Change and the Demise of Angkor, Cambodia

18) March 28: Easter Island

19) March 30: The Impact of Climate Change on the Ancient State Societies of the Peruvian Andes
   Reading: To be determined.

20) April 4: Student-Led Class Discussion: Maya Collapse, Did Climate Change Play a Role? One article-reading assignment will be handed out to each discussion group in the previous week. Groups will assemble in-class and prepare a discussion.


**21) April 6: The Political Ecology of Drought Cycles in Native America:** Cahokia, Native Anasazis, Colonial Spaniards and the Pueblo Revolt.


**22) April 11: The Little Ice Age and its impact on the Greenland Norse populations.**


**23) April 13: Student Discussion: Societal Responses to Climate Change in Recent History**


**24) April 18: The Ethics of Climate Change in our Modern Age:** The impact of global climate change on localities today, how climate change is represented in the media – are there hidden messages behind the coverage? Who controls information about climate
change in politics and education? Who will be the ‘winners’ and who the losers with global warming? Global climate change: What Lies Ahead?


25) April 20: In Class Quiz

26) April 25: Student Presentations:

**Attendance is mandatory for all sessions of presentations; 5% subtracted if absent without acceptable excuse (my definition)**

27) April 27: Student Presentations;

28) May 2: Student Presentations;

30) May 4: Student Presentations;

UNIVERSITY POLICIES

Use of E-mail for Official Correspondence to Students: All students should be familiar with the University’s official e-mail student notification policy. It is the student’s responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University--related communications, recognizing that certain communications may be time--critical. The complete text of this policy and instructions for updating your e-mail address are available at [http://www.utexas.edu/its/policies/emailnotify.html](http://www.utexas.edu/its/policies/emailnotify.html).

Religious Holy Days: A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform the instructor as far in
advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence.

**Students with Disabilities:** You will need to provide documentation to the Dean of Student’s Office so the most appropriate accommodations can be determined. Specialized services are available on campus through Services for Students with Disabilities (SSB 4.104, 471-6259). Any student who requires special accommodations must obtain a letter that documents the disability from the Services for Students with Disabilities area of the Division of Diversity and Community Engagement (471-6259 voice or 471-4641 TTY for users who are deaf or hard of hearing). Present the letter to the professor at the beginning of the semester so that needed accommodations can be discussed. The student should remind the professor of any testing accommodations no later than five business days before an exam. For more information, visit [http://www.utexas.edu/diversity/ddce/ssd/](http://www.utexas.edu/diversity/ddce/ssd/).


**Policy on Scholastic Dishonesty:** Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. For further information, please visit the Student Judicial Services web site at [http://deanofstudents.utexas.edu/sjs/](http://deanofstudents.utexas.edu/sjs/).

**University of Texas Core Values and Honor Code:** The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community. As a student of the University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity. *UT Honor Code (or statement of ethics) and an explanation or example of what constitutes plagiarism:* [http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html](http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html).