

**The Ohio State University**  
**Anthropology 4597.03H**  
**Models of Sustainability and Resilience, Lessons from the Past**  
**Course #xxxx**  
**Spring Semester, 20xx**

**Instructor**

Professor Richard W. Yerkes  
Office: 4008 Smith Laboratory  
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**Office Hours**

Wednesdays: 1:00 - 3:00 PM  
**E-mail: yerkes.1@osu.edu**

**Class Hours**

Mondays, 2:15-5:00 PM  
4025 Smith Laboratory  
174 West 18th Ave.

*The Ohio State University occupies ancestral lands called Ohi:yo by the Onodowaga and other First Nations, including the Shaawanwa lenaki, Twightwee, Lenni Lenape, and Wendat. This is where the skenq-tq (Scioto) and Olentangy Rivers have flowed since time immemorial. Treaties with the USA in 1768, 1784, 1785, 1795, and 1818 forced all First Nations people to cede this territory. This history of colonization informs our shared future of collaboration and innovation. Today, Ohio State University respects the inherent sovereignty of the First Nations of Ohio.*

This course can be used to fulfill the GE Sustainability Theme requirement for Honors students and also for students who are not in the Honors program, and it may be used as an Archaeology or Cultural Anthropology elective course for Anthropology majors (BA or BS) and minors.

**GE Goal and Expected Learning Outcomes for Sustainability Theme courses:**

**GOALS:** Successful Students will (1) analyze sustainability at a more advance and in-depth level than in the foundations; (2) integrate approaches to sustainability by making connections to out-of-classroom experiences with academic knowledge or across disciplines and/or work they have done in previous classes and that they anticipate doing in the future; and (3) analyze and explain how social and natural systems function, interact, and evolve over time; how human wellbeing depends on these interactions; how actions have impacts on subsequent generations and societies globally; and how human values, behaviors, and institutions impact multi-faceted, potential solutions across time.

**Expected Learning Outcomes:** Successful students are able to: (1.1) engage in critical and logical thinking about sustainability; (1.2) engage in advanced, in-depth, scholarly exploration of sustainability; (2.1) Identify, describe and synthesize approaches or experiences as they apply to sustainability; (2.2) Demonstrate a developing sense of self as a learner through reflection, self-assessment and creative work, building on prior experiences to respond to new and challenging contexts; (3.1) describe elements of the fundamental dependence of humans on Earth and environmental systems and on the resilience of these systems; (3.2) describe, analyze and critique the roles and impacts of human activity and technology on both human society and the natural world, in the past, currently, and in the future, and (3.3) devise informed and meaningful responses to problems and arguments in the area of sustainability based on the interpretation of appropriate evidence and an explicit statement of values.

## **COURSE SYLLABUS**

**Course Goals:** To study the relationships between prehistoric environments and climates and early agricultural and engineering systems that were sustainable and resilient. Ancient systems may be more appropriate models for modern sustainable and resilient agricultural systems and resource management strategies than technologies that are based on fossil fuels and imported materials. The focus will be to (1) understand the causes and consequences of recent and ancient environmental disasters that transformed the world's ecosystems and affected human societies, (2) to learn how ancient humans responded to those environmental crises, and (3) to illustrate how lessons from the past can be used in modern responses to catastrophic droughts, hurricanes, tornadoes, and other environmental crises that may have been triggered by anthropogenic climate change.

**Class Format:** Seminar topics and other information can be found on the course Carmen page. **There is no class on MLK day, Jan. 18<sup>th</sup>.** Students will meet in **4025 Smith Lab.** for two hours and 45 minutes (with breaks) on Mondays. In the seminar, (1) we will review basic principles of human ecology, ecosystems, niche construction, resilience, and sustainability, (2) methods used to reconstruct past environments and climates will be outlined, (3) each student will present oral and written summaries of case studies of human responses to: (3a) modern natural disasters and (3b) past episodes of sudden climate and environmental change, (4) each Student will also prepare a final paper that describes a sustainable and resilient agricultural and resource management system developed in ancient times. For the methods and principles topics (week 3, week 4, week 5 and week 6), each student will prepare two questions on the assigned reading that will be discussed in class that day. We will debate whether disasters triggered by human actions destroyed ancient civilizations, and discuss the lessons learned from the past case studies to learn how they can help us response to modern environmental crises.

**Required Texts:**

(1) *Floods, Famines, and Emperors: El Niño and the fate of Civilizations* (2009) by Brian Fagan (revised edition) Perseus Books (ebook) [GC296.8.E4 F34 2009eb](#) OSU Library call number

(2) *Surviving Sudden Environmental Change* (2012) Payson Sheets and Jago Cooper, eds. University Press of Colorado. <https://www.jstor.org/stable/j.ctt1wn0rbs>

**Assigned Reading:** The textbooks and PDFs contain materials that serve as a prelude and foundation for the class discussions. **Students must complete the assigned readings by the date listed on the course outline below and come to class with questions that will be discussed in depth.**

**Grading:** Final grade is based on:

Discussion questions:	40 points
Case Study presentations:	75 points
Final Paper on ancient sustainable system:	100 points
Class Attendance and Participation:	<u>25 points</u>
<b><u>TOTAL:</u></b>	<b>240 points</b>

## COURSE OUTLINE

<i>DATE</i>	<i>TOPIC AND READING ASSIGNMENTS</i>
January 11	<b>Week 1: Introduction to seminar, case studies, and final paper</b>
January 18	<b>Martin Luther King Day – No Class Meeting</b>
January 25	<b>Week 2: Discussion of 1<sup>st</sup> Assignment: Modern Case Studies of Human Responses to Natural Disasters. Also Read: eReserve A Human Ecology in Anthropology by Michael Little; and eReserve B, The Research program of Historical Ecology by William Balée.</b>
February 1	<b>Week 3: Human Behavioral Ecology and Niche Construction Theory: Read: eReserve C Human Behavioral Ecology at 25 by Bruce Winterhalder and Eric Alden Smith; and eReserve D Ecological consequences of Human Niche Construction, by Nicole Boivin <i>et al.</i></b>
February 8	<b>Week 4: Sustainability and Resilience: Read: eReserve E Models, Metaphors, and Measures by Jane E. Buikstra; and eReserve F Should sustainability and resilience be combined or remain distinct pursuits? By Charles L. Redman.</b>

**DATE TOPIC AND READING ASSIGNMENTS**

- February 15** **Week 5: Reconstructing past environments and climates and studying ancient disasters: Read: eReserve G** Climate Change: evidence and our options by Lonnie G. Thompson; and **eReserve H** Climate Changes: Evidence and Causes. **Also read:** Introduction and Chapters 9 and 10 in *Surviving Sudden Environmental Change*.  
**Visit this link:** <https://www.neefusa.org/weather-and-climate/climate-change>  
**Understanding Climate Change:** look at the short videos and read the answers to common questions about climate change.
- February 22** **Week 6: El Niño and Archaeology: Read:** Preface and Chapters 2, 3, and 12 in *Floods, Famines, and Emperors*
- March 1** **Week 7: Case Studies: Hunter-Gatherers in the Arctic Kuril Islands and the European Mesolithic Read** Chapter 5 in *Floods, Famines, and Emperors*, Chapter 1 in *Surviving Sudden Environmental Change*, and Case Study PDF 1 Schulting (2019) Success and Failure of Resilience in European Mesolithic.
- March 8** **Week 8: Case Studies: Villages and cities in Southwestern USA & Northern Mexico Read** Chapter 9 in *Floods, Famines, and Emperors*, and Chapter 8 in *Surviving Sudden Environmental Change*.
- March 15** **Week 9: Case Studies: South American states, Moche and Inka/Tiwanaku Read** Chapter 7 in *Floods, Famines, and Emperors*, and Case Study PDF 2 Ortloff & Kolata (1993) Agro-Ecological Perspectives on the decline of the Tiwanaku state.
- March 22** **Week 10: Case Studies: Mesoamerican civilizations Read** Chapter 8 in *Floods, Famines, and Emperors*, Case Study PDF 3 Kennett *et al.* Development and Disintegration of Maya Political Systems in response to Climate Change, and Case Study 4 Scarborough Archaeology of Sustainability: Mesoamerica.
- March 29** **Week 11: Case Studies: Mesopotamian and Egyptian states Read** Chapter 6 in *Floods, Famines, and Emperors*, Chapter 7 in *Sudden Environmental Change*, and Case Study PDF 5 Collapse as Adaptation to Abrupt Climate Change in Ancient W. Asia and E. Mediterranean.
- April 5** **Week 12: Case Studies: Ancient states in China, and summary discussion. Read** Case Study PDF 6 Dong (2017) Environmental Struggles and Innovations in China, and Case Study PDF 7 Rosen *et al.* (2015) Historical Ecology of landscape changes in northern and eastern China.
- April 12** **Week 13: Lessons from the Past: Agriculture and Resource Management Read:** **eReserve I** Prehistoric Agricultural Methods as Models for Sustainability by William M. Denevan; **eReserve J** Water and sustainable land use at Tikal by Vernon L. Scarborough *et al.*; and **eReserve K** Ancient and current resilience in the Chengdu Plain by Daniel B. Abramson.
- April 19** **Week 14: Lessons from the Past: the fate of Cities: Read:** **eReserve L** Cahokia: Urbanization, Metabolism, and Collapse by Joseph A. Tainter; and **eReserve M** Archaeology and Contemporary Dynamics for More Sustainable, Resilient Cities in the Peri-Urban Interface by David Simon and Andrew Adam-Bradford; and **Chapter 13** in *Floods, Famines, and Emperors*
- April 28** Please E-mail me your **Final Paper by 5:00 PM, Friday April 30th**

### **Disability Services**

**The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through OSU's [request process](#), managed by Student Life Disability Services (SLDS). If you anticipate or experience academic barriers based on your disability, (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, register with SLDS then meet with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. Contact SLDS at: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12<sup>th</sup> Avenue.**

### **Academic Misconduct**

All students should become familiar with the rules governing academic misconduct, especially as they pertain to plagiarism and cheating. Ignorance of the rules is not an excuse and all alleged cases of academic misconduct will be reported to the Committee on Academic Misconduct (COAM). It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: any activity that tends to compromise the academic integrity of the University or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. **Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct.** It is important that students review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct <http://studentlife.osu.edu/csc/>. Failure to follow the rules and guidelines established in the University Code of Student Conduct and this syllabus may constitute Academic Misconduct. Instructors shall report all instances of alleged academic misconduct to the committee. If the Committee on Academic Misconduct determines that a student violated the University's Code of Student Conduct (i.e., committed academic misconduct), **the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.**

### **PLEASE TAKE CARE OF YOURSELF (Mental Health Statement):**

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities.

The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting [ccs.osu.edu](https://ccs.osu.edu) or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at <https://suicidepreventionlifeline.org/>

### **Sexual Misconduct and Relationship Violence**

Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation. To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity: **Online reporting form at [equity.osu.edu](https://equity.osu.edu), Call 614-247-5838 or TTY 614-688-8605, Or Email [equity@osu.edu](mailto:equity@osu.edu)**

### **Diversity**

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

**Please Note:** In case of unexpected instructor absences information will be posted on the web site (below). This site should be consulted during inclement weather to check for class cancellations or delays. Do not call the department, check the web site: <https://anthropology.osu.edu/>