

## OCN 105 - Sustainability in a Changing World

### Physical Science Room 217

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Office Hours (by appointment)

**Course Website:** <https://lulima.hawaii.edu> – MAN OCN-105/SUST-115 [SP19]

**Pre-class required readings, assignments, activities** can be downloaded on the Lulima course page, under the “**Resources**” tab on the left side panel, in the folder “**Class Materials**”.

**Lecture Notes:** After each class, class slides will be available in the “**Resources**” section of each class under “**Lecture Notes**”.

**Goals:** This course addresses the need for the students to understand the concepts of sustainability and the history of sustainable practices across a wide range of cultures; this knowledge will allow you to be informed, active participants in efforts to address future global environmental change and to develop sustainable solutions.

This course focuses on the use of scientific tools to study how past civilizations and cultures impacted both the environment and environmental resources through their use of environmentally sustainable or non-sustainable practices.

There are three areas of focus for the course: (1) investigation of historical case studies to demonstrate how cultures and societies from pre-historic times to near-present-day have used resources in sustainable or unsustainable ways; (2) discussion of general sustainability concepts and how they apply to discussions of how past societies and cultures impacted and controlled their environments; and (3) consideration of the tools and data used to determine past environmental change (both human-induced and non-human-related forcings such as natural climate change).

**Student Learning Objectives:** Upon successful completion of this course, students will be able to:

1. Provide a simple and clear definition of societal sustainability.
2. Explain the underlying principles of societal sustainability and resilience, particularly with regards to environmental change prior to the year 1500.
3. Explain the major means by which societies have been undermined by both humanly induced and natural environmental change, and provide examples of such occurrences from before the year 1500.
4. Explain the factors commonly responsible for societal collapse, and provide examples from before the year 1500.
5. Discuss the major features of global environmental change over the past 200,000 years (with a focus on the interval between 15,000 to 1,500 years before present) and how these changes affected people and societies.
6. Critically read and evaluate quantitative and qualitative information (such as figures and graphs) presented at the public level concerning issues of climate, environmental change, and the sustainability and resilience of cultures, societies, and resources.

**Institutional Learning Objectives:**

- 1a. Breadth and Depth of Knowledge -- General education
- 1c. Breadth and Depth of Knowledge -- Understand Hawaiian culture and history
- 2a. Intellectual and Practical Skills -- Think critically and creatively
- 3b. Personal and Social Responsibility -- Respect for people and cultures, in particular Hawaiian culture
- 3c. Personal and Social Responsibility -- Stewardship of the natural environment

**How to do well:** Everyone can do well in this class. It simply requires effort and participation.

These suggestions probably apply to all of your classes:

1. Read assigned material *\*before\** class and be prepared for the quiz. Was anything unclear in the reading? Did any of the issues or concepts bother you on a personal level? If so, raise your questions and concerns in class (NOT to the instructors privately). You'll earn participatory credit and, more importantly, will learn a lot more because the simple act of participating will cause you to be much more focused and engaged. Your participation will help others learn too.
2. Form study groups. Try to form these with your fellow classmates to discuss class materials. If you can teach the material to others, then you know it. If you can't, then benefit by being around those that know the material and by discussing it with them.

**Course Grade:** Your course grade is determined as follows:

- 40% for in-class (quiz questions on both assigned readings and in-class lecture content along with class assignments and participation)
- 60% Exams (20% each for Midterm I, Midterm II, and the Final Exam)

The final course grades are subject to a curve.

There is no extra credit since the course is curved.

**Missed Assignments, Unexcused absences, and excused absences:** There will be no makeup opportunities for any missed assignment, including all quizzes, exams (midterms and final), and class participation, except for truly exceptional circumstances.

Except for medical emergencies or circumstances beyond your control, excuses must be submitted for consideration and be approved BEFORE the day of the exam or the assignment due-date. Note that submitting an excuse does not guarantee it will be approved.

We understand there might be circumstances that make it impossible to attend class (e.g., severe illness). Your lowest three in-class grades (combined attendance, quizzes, assignments) will be dropped from your final in-class grade calculation.

Athletes who will miss an exam due to approved athletic commitments, etc. should inform the TA two weeks prior to the exam.

**Final Exam:** If you miss the final exam due to an excuse approved by the lead course instructor, you will have to take a make-up final exam at a later date agreed upon by both student and instructor. This date may be after final course grades are submitted.

If the make-up exam is taken after final course grades are submitted to the university, the student will receive an incomplete grade of "IF" for the class. The incomplete grade changes to an "F" if the make-up final exam is not taken in the allotted time per university rules.

If you miss the final exam without a valid excuse, you will receive a failing grade.

The final exam will not be given before the UHM scheduled time and date for the course.

Missing the UHM scheduled final exam time due to travel schedule (e.g., scheduling a flight to go home for break prior the final examination time) is not a valid excuse.

**Grading of Exams:** Exams will be graded and returned within a week. If you have concerns about a specific question on the exam, contact the lead instructor.

Exams are two-stage. The first stage is individual (80% of your total exam grade) and the second stage is group (20% of total exam grade). If a student scores higher on their individual versus their group exam, then their individual exam grade is their total exam grade.

**In-class quiz questions, assignments, and class participation (40% of total grade):** In-class quizzes comprise a significant share of your grade and include iClicker quizzes that pertain to reading assignments and materials covered during the class (these can occur at any time in class, so be prepared to stay the entire class).

Class participation includes interaction and involvement in classroom activities, discussions, and online forums. We understand there might be classes when circumstances make it impossible for you to attend class or make you late, or that during class your iClicker breaks or its battery runs out, etc. Thus we automatically drop your lowest 3 in-class scores from your final in-class grade calculation.

**Class Info:** <https://lulima.hawaii.edu> – MAN OCN-105/SUST-115 [SP19]

**Communication:** All course communication, updates, etc. will be announced via Lulima and your UH email account.

**Classroom Conduct:** Show up to class on time and be ready to actively participate.

Bring your iClicker to every class

Do not take someone else's iClicker to class and click for them. This is a violation of academic integrity for both of you, and all individuals involved will be held accountable.

If you need to leave prior to the end of class, notify the professor before class begins. You will still be accountable for any missed course materials and quizzes.

Turn off cell phone ringers before class begins.

**Discussion Groups and Conduct:** Everyone's opinion is important and deserves to be heard. In discussion, whether with another individual, in a small group, or with the entire class, we will observe the right for everyone to be heard and to articulate their thoughts and opinions. It is also critical that you come prepared to participate in the discussions (by having done the reading, watched any required videos, etc.).

**iClicker:** This class requires the use of an iClicker. During each class period you will be asked several questions that will require you to respond with your registered iClicker. **Your iClicker must be registered by Tuesday, January 15.** Register your iClicker at the MAN OCN-105/SUST-115 [SP19] Lulima course page.

**Disability Access:** If you have a disability or related access need, the course instructors will make every effort to assist and support you. For confidential services, students are encouraged to contact the Office for Students with Disabilities (known as "KOKUA") located on the ground floor (Room 013) of the Queen Lili'uokalani Center for Student Services:

KOKUA Program • 2600 Campus Road • Honolulu, Hawaii 96822 • Voice: 956-7511 • Email: [kokua@hawaii.edu](mailto:kokua@hawaii.edu) • Website: [www.hawaii.edu/kokua](http://www.hawaii.edu/kokua)

**Spring 2019 OCN 105 Class Schedule and Readings**

Class Period	Date	T/Th	Location & Instructor	Themes	Required Readings (in Laulima under "Resources")
1	1/8	T	PHY 217 – MG	Class Introduction & Geologic Time	Course Syllabus
2	1/10	TH	PHY 217 – MG	Theories & Hypotheses; Interpreting Historic Data	How Science Works
3	1/15	T	PHY 217 – CK	Climate and Evolution (Time Series Interpretation)	deMenocal (2014) Climate Shocks
	1/15	T	Last day to register/add courses/change grading option (4pm deadline) & iClicker registration deadline for OCN 105		
4	1/17	TH	PHY 217 – CK	Climate and Evolution (cont.) (Out of Africa)	No Reading
5	1/22	T	PHY 217 – CK	Climate and Migration (Population of the Americas)	Tracking First Americans, (2015)
6	1/24	TH	PHY 217 – CK	Climate and Extinction (Megafauna)	Nat Geo Megafauna extinction (2001)
7	1/29	T	PHY 217 – MG	Hunger Game: Resource Management	Social Sustainability
	1/30	Wed	Last day to drop course/switch sections without "W" grade		
8	1/31	TH	PHY 217 – MG	Hunger Game: Resource Management	Diamond (2005) Prologue p. 1-19
9	2/5	T	PHY 217 – CK	Climate and Agriculture (Mesopotamia)	Ruddiman (2005)
10	2/7	TH	PHY 217 – CK	Megadroughts (North & Central America)	Vanished: A Pueblo Mystery, NYT (2008)
11	2/12	T	PHY 217 – CK	Climate and Famine: Lessons from the Little Ice Age (Europe)	Interview w/ Geoffrey Parker (2013); Mann, Little Ice Age (2002)
12	2/14	TH	PHY 217 – MG	Midterm #1	
13	2/19	T	PHY 217 – MR	Economics & Social Behavior: Population and Economic Growth	Clark, Chap. 1 (2007); Solow (1991)
14	2/21	TH	PHY 217 – MR	Managing Commons: Market and Non-market mechanisms	Ostrom, Ch. 1 (1990); Krugman (2010)
15	2/26	T	PHY 217 – BP	From Hunter-Fisher-Gatherer To Agriculture	Diamond. GGS. (1999) Chapter 6
16	2/28	TH	PHY 217 – BP	Development of Agriculture	1) Tollefson (2011) The 8,000-yr-old climate puzzle; 2) Solomon (2010) Water-Farming. 3) Butler, (2006)
17	3/5	T	PHY 217 – BP	SW Asia – Mesopotamia and Persia	1) Diamond. GGS (1999) Fertile Crescent; 2) Solomon (2010) Water-Mesopotamia.

**Spring 2019 OCN 105 Class Schedule and Readings (cont.)**

Class Period	Date	T/Th	Location & Instructor	Themes	Required Readings (in Laulima under "Resources")
18	3/7	TH	PHY 217 -BP	SW Asia – Ancient Egypt	1) Solomon (2010) Water-Egypt; 2) Solomon (2010) Water-Islam.
19	3/12	T	PHY 217 – BP	Ancient Greece	1) Runnels (1995); 2) Hughes (1975) Greeks
20	3/14	TH	PHY 217 – BP	Midterm #2	
Spring Break – 3/18 to 3/22 (NO CLASSES)					
3/25 - Last Day to Withdraw from Course with "W" Grade					
Kuhio Day – Tuesday- 3/26 (NO CLASSES)					
21	3/28	TH	PHY 217 – MG	The Maya – Part I	Diamond (2005): Collapse CH. 5 p. 157 to 168
22	4/2	T	PHY 217 – MG	The Maya – Part II	Diamond (2005): Collapse CH. 5 p. 168 to 177
23	4/4	TH	PHY 217 – BP	Ancient Rome – Part I	Hughes (1975) (Romans)
24	4/9	T	PHY 217 – BP	Ancient Rome – Part II	TBA
25	4/11	TH	PHY 217 – BP	Rapa Nui – The Traditional View	Diamond (2005): Collapse CH. 2 p.79-119
26	4/16	T	PHY 217 – SQ	Rapa Nui – A Second Look	Hunt (2006) American Scientist Hunt & Lipo (2009)
27	4/18	TH	Lo'i O Kānewai – RA	Hawai'i: Lo'i	Kikuchi (1976)
28	4/23	T	Lo'i O Kānewai – RA	Hawai'i: Lo'i	Kikuchi (1976)
29	4/25	TH	PHY 217 – RA	Hawai'i: High islands, ahupua'a, managed resources	Maly, Hawaiian Cultural Landscapes
30	4/30	T	PHY 217 – BP	Opposite Paths to Success	Diamond (2005): Collapse CH. 9 p. 277-308
31	5/2	TH	PHY 217 – BP	The Great Debate	No Reading
32	5/7	T	PHY 217 – BP	Final Exam	12PM to 2PM