

ECON 1107. Economies, Nature and the Environment.
spring 2013. Prof. O. Morand
M/W/F 9:00 - 9:50

1. **Course description.** This course first addresses the impact of nature on human societies and their development by looking into the effect of climate, geographic factors, natural resources on economic growth the level of development of countries. Existing worldwide differences in well-being are shown to be correlated with various geographic and climate variables, as well as with measures of natural resources, using data collected primarily by geographers and economists. The possible mechanisms underlying these correlations will be examined, as well as the impact of natural disasters on economies. Adopting a historical perspective will also help explain current differences in well-being, but through more complex mechanisms by which nature and the environment has affected the birth, development, and sometimes collapse of past societies. In particular, we will follow the broad scenario of Diamond's book *Guns, Germs and Steel: The Fate of Human Societies*, piecing together contributions from historians, ecologists, anthropologists, biologists and geographers. We will also review some of the criticisms of Diamond's work. The second part of the course recognizes that, from the domestication of fire to our globalized world, humans have constantly affected and modified their environment. Taking a global perspective, we will identify a set of serious current environmental problems. Students will learn how economic theory may be used to explain why most of these problems exist in the first place, and will discover how the human impact on the biosphere may be quantified. By examining some of the evidence concerning the collapse of several past societies, we will find that many of today's environmental problems are not new, and that environmental damage, climate change, and society's responses to its environmental problems have been major determinants of past collapses. The course ends with a discussion of the concept of sustainable development, a concept widely embraced but rarely translated into policies, and of the idea of a multidisciplinary and scientific study of the coevolution of socio-natural systems.
2. **Required reading.** Papers on the reading list are chosen from journals in various fields (including *Science*, *Nature*, *The American Economic Review*, *The European Economic Review*, *Quaternary Science Review*, *Geographical Review*). All papers (or book chapters) listed in this syllabus are available on the HuskyCT Web site for this course. In addition, students are required to obtain and read the following book:
 - Diamond, Jared (1997) *Guns, Germs, and Steel: The Fate of Human Societies*, W.W. Norton & Company, New York, London.
3. **Grading.** Grading will be based on the combined performance of students on a book review, 2 group projects, a number of quizzes, and in-class participation.
 - Essay. Your essay is a book review (5 to 7 pages) of a book you have read during the semester which relates to the interactions between economies and their environment. You may choose one of the suggested book (but make sure it is available from the library at that time), or you may ask the instructor the permission to review a particular book not listed below. Your review is due on the last class of the semester.
 - Group projects. 2 group projects (groups of students (4) will be formed during the first week). All members of the group get the same grade on a given project.
 - Project 1. is an applied project in which you construct your own Human Development Index. Go to the web page <http://hdr.undp.org/en/data/build/>
 - (a) Build your own index, and export your results as a pdf file.
 - (b) On this same web site, use HDI TRENDS to generate a graph of the HDI trend for your top 10 countries.

- (c) Write a report (2 pages max) in which you explain your choices of indicators and their weights and discuss your findings. Attach to this report your results to (a) and (b).
- Project 2 is a presentation of your analysis of the environmental issue/problem assigned during the first week of class. You should (a) inform the class of the nature and magnitude of the problem/issue, (b) explain its causes and consequences, and (c) state some possible courses of actions. Each group will present its analysis and findings to the class in a 35 minutes presentation/debate. Any picture shown in your presentation must be your own.
- Note: It is essential that you complete the reading assignments before coming to class. All articles and papers are available on the HuskyCT web site for this class. Uninformed class participation can only affect your grade negatively.

4. Syllabus: Topics and readings

Reading assignments may change, so please check the HuskyCT site for updates and links to all the readings anytime.

- **Week 1. Introduction.** Course outline. Group formation, major environmental problems. The scientific method. Examples of applications of the scientific method.
 - Reading: Religion09.
- **Week 2. Nature and the inequality puzzle.** Comparing societies. National income accounting. Measuring the impact of nature on development.
 - Reading: Nordhaus05, Geography-poverty.
- **Week 3. Nature and the inequality puzzle.** Apply project: Index construction (due on Thursday). The resource curse.
 - Reading: Gylfason01, Brunn-Bulte08.
- **Week 4. Long-term economic growth (Part1).** Natural disasters. Very long term economic growth. The four types of capital.
 - Reading: Clark1.
- **Week 5. Nature and the inequality puzzle.** Domestication of fire, birth of agriculture, spread of agriculture.
 - Reading: Diamond, CH 1, 5, 6, 7, 8, 10, Diamond97, Diamond02, Gopher00.
- **Week 6 and 7. Nature and the inequality puzzle.** From food production to complexity.
 - Reading: Diamond, CH 11, 12, 13, 14.
- **Week 8, 9. Global environmental issues.** Group presentations.
- **Week 10. Human impact.** Supply and Demand. Introduction to the theory of externalities. Human impact on the environment.
 - Reading: Hardin68, Ostrom03; Vitousek86.
- **Week 11. The valuation of ecosystem services.**
 - Reading: Costanza97.
- **Week 12. Long-term economic growth (Part 2).** Malthusian regime and modern growth.
 - Reading: Ruddiman05.
- **Week 13. Impact of humans in the future.**
 - Reading: Cohen03, Cohen2005; CCholocene, Weiss01.
- **Week 14. Summary of the course.**

- Reading: Arrow95

5. **Suggested books to review.** Most of the following books are available from the Uconn library. However, you may decide to review a book not listed below, in which case I must first approve of your choice.

(a) **Climate Change:**

- Calvin, William H. *A Brain for all Seasons: Human Evolution and Abrupt Climate Change*, University of Chicago Press, 2002.
- Ruddiman, W.F. *Plows, Plagues, and Petroleum: How Humans took Control of Climate*, Princeton University Press, 2005.
- Cox, John D. *Climate Crash: Abrupt Climate Change and what it means for our Future*, Joseph Henri Press, 2005.
- Fleming, James Rodger *Historical Perspective on Climate Change*, New York: Oxford University Press, 1998.
- Fagan, Brian *The Long Summer: How Climate Changed Civilization*, Basic Books, New York, 2004.
- Fagan, Brian *The Little Ice Age: How Climate made History, 1300-1850*, Basic Books, New York, 2000.
- Fagan, Brian *Floods, Famines, and Emperors: El Nino and the Fate of Civilization*, Basic Books, New York, 1999.
- Anything by BRIAN FAGAN
- Wigley, T.M.L., M.J. Ingram, and G. Farmer *Climate and History: Studies in Past Climate and their Impact on Man*, Cambridge University Press, 1981.
- Flannery, Tim F. *The Weather Makers: The History and Future Impact of Climate Change*, Penguin Books, 2006.
- Linden, E. *The Winds of Change*, Simon and Schuster, 2006.
- Archer, David *The Long Thaw: How Humans are Changing the Next 100,000 Years of Earth's Climate*, Princeton University Press, 2009.

(b) **Geography/History:**

- de Blij, Harm *Why Geography matters: Three Challenges facing America*, Oxford University Press, 2005.
- Diamond, Jared *Collapse: How Societies choose to Fail or Survive*, New York: Allen Lane, 2005.
- Diamond, Jared *The Third Chimpanzee: The Evolution and Future of the Human Animal*, Harper Perennial, 1992.
- Wade, Nicholas *Before the Dawn*, Penguin, 2006.
- Wells, Spencer *The Journey of Man*, Random House, 2003.
- Cavalli-Sforza, Luigi Luca *Genes, Peoples, and Languages*, University of California Press, 2000.
- Ponting, Clive *A New Green History of the World: The Environment and the Collapse of Great Civilizations*, New York: St Martin's Press, 2007.
- McNeill, J.R. *Something New under the Sun: An Environmental History of the Twentieth-century World*, W.W. Norton, 2000.
- Pomeranz, Kenneth *The Great Divergence: China, Europe, and the Making of the Modern World Economy*, Princeton University Press, 2000.
- Cochran, G. and H. Harpending *The 10,000 Year Explosion: How Civilization Accelerated Human Evolution*, Basic Books, 2010.
- Anthony, D.W. *The Horse, the Wheel and Language: How Bronze-Age Riders from the Eurasian Steppes Shaped the Modern World*, Princeton University Press, 2010.

(c) **Biodiversity and Others:**

- McKibben, Bill *The End of Nature*, Random House, Inc. New York, 1989.
- Wilson, Edward O. *Consilience: The Unity of Knowledge*, Vintage Books, 1998.
- Wilson, Edward O. *The Diversity of Life* (second edition), W.W. Norton Company, 1999.
- Wilson, Edward O. *The Future of Life*, Vintage Books, 2003.
- Pollan, Michael *The Omnivore's Dilemma*, Penguin Press, 2006.
- McKibben, Bill *Deep Economy: The Wealth of Communities and the Durable Future*, Holt Paperbacks, 2008.
- Mitchell, Melanie *Complexity: A Guided Tour*, Oxford 2009.
- Wells, Spencer *Pandora's Seed: The Unforeseen Cost of Civilization*, Random House, 2010.
- Harris, Sam *The Moral Landscape: How Science can Determine Human Values*, Free Press, 2010.

(d) **Ecoliterature and related:**

- Any 2 books by EDWARD ABBEY.
- Any book by JOHN MUIR.
- Carson, Rachel *Silent Spring*, Houghton Mifflin Company 2002.

(e) **New England:**

- Wessels, Tom *Reading the Forested Landscape: A Natural History of New England*, The Countryman Press, Woodstock, Vermont, 1997.
- de Boer, Jelle Zeilinga *Stories in Stone: How Geology Influenced Connecticut History and Culture*, 2009.
- Thorson, Robert *Stone by Stone: The Magnificent History in New England's Stone Walls* Walker and Company, 2004