

Geography 435 / 635
Conservation of Natural Resources
Fall Semester 2009

Time: Wednesday 5:30pm-8:15pm
Room: MS 321
Professor: Jeffrey Underwood
Office: MS-226
Phone: 784-6999
Email: jeffu@unr.edu

Course Description

Materials and activities in this course will provide information regarding current and future problems and methods of conservation of renewable and nonrenewable resources. Prerequisite: one of the following: (1) junior (or higher) standing; or (2) at least 3 credits of work in geography or geology or a biological science (Same as RES 435, 635).

Course Goals

After completing this course students should be able to discuss, in some detail, the following:

- 1) *Critical issues of resource use and conservation*
- 2) *Changing nature of resource use and policy*
- 3) *Complexity of system operations*
- 4) *Emerging ideas for resource management*
- 5) *Major resource-based disasters in the US*

Required Texts

Cutter and Renwick, 2004. *Exploitation, Conservation, Preservation*, 4th edition, J. Wiley & Sons, USA.

Walker and Salt, 2006. *Resilience Thinking*, Island Press.

Egan, T., 2006. *The Worst Hard Time*, Mariner Books.

Course Requirements (435)

1. Examinations (2) (50%)
2. Research Paper (1) (30%)
3. Weekly Reviews and Discussion (20%)

Course Requirements (635)

1. Examinations (2) (40%)
2. Research Paper (1) (30%)
3. Weekly Reviews and Discussion (20%)
4. In-class Presentations (2) (10%)

Grading for the Course (A/ F +/-)

Class Policies

Policies concerning behavior in class and issues of academic dishonesty can be reviewed in the [2009-2010 Graduate Catalog](#) and [2009-2010 Undergraduate Catalog](#). All academic dishonesty issues will be handled according to the University policy. Students with disabilities will be given full access to this course as discussed in the [Undergraduate](#) and [Graduate Catalogs](#)

Course Schedule

August 26: Introduction to course. Discussion and Assignments

September 2: Natural Resources -- Fundamentals

Readings for discussion:

- a) Cutter and Renwick Chapter 1
- b) Cutter and Renwick Chapter 2
- c) Cutter and Renwick Chapter 3
- d) Olsen et al. 1999, Statistical Issues for Monitoring Ecological and Natural Resources in the US, *Environmental Monitoring and Assessment*, Vol. 54, pp. 1-45.

In-class video

September 9: Ecological Perspectives on Natural Resources

Readings for discussion:

- a) Cutter and Renwick Chapter 4
- b) Walonick, D., 1993, General Systems Theory, Essay. available on WebCampus
- c) Hardin, G., 1968. The Tragedy of the Commons, *Science*, Vol. 162, pp. 1243-1248.
- d) Gylfason, T. 2007, The International Economics of Natural Resources and Growth, *Minerals & Energy*, Vol. 1, No. 1-2, pp. 7-17.

In-class video

September 16: The Human Population

Readings for discussion:

- a) Cutter and Renwick Chapter 5
- b) McKee et al. 2003. Forecasting Global Biodiversity Threats Associated with Human Population Growth, *Biological Conservation*, Vol. 115, pp. 161-164.
- c) Kerr, J.T. and Currie, D.J., 1995. Effects of Human Activity on Global Extinction Risk, *Conservation Biology*, Vol. 9, pp. 1528-1538.
- d) Reading: <http://search.japantimes.co.jp/cgi-bin/fe20080423sh.html>

In-class video

September 23: Agriculture and Food Production

Readings for discussion:

- a) Cutter and Renwick Chapter 6
- b) Doos, B.R., 2002. The Problem of Predicting Global Food Production, *Ambio*, Vol. 31, No. 5, pp. 417-424.
- c) Uri, N.D. 2000. Conservation Practices in US Agriculture and Their Implication for Global Climate Change, *The Science of the Total Environment*, Vol. 256, pp. 23-38.
- d) Harris J.M. and Kennedy, S., 1999. Carrying Capacity in Agriculture: Global and Regional Issues, *Ecological Economics*, Vol. 29, pp. 443-461.

In-class video

September 30: APCG Annual Conference (NO CLASS MEETING)

October 7: EXAMINATION ONE & PRESENTATIONS

October 14: Regional and Global Climate Change

Readings for discussion:

- a) Cutter and Renwick Chapter 12
- b) Mendelsohn, R., et al., 2000. Country-specific Market Impacts of Climate Change, *Climate Change*, Vol. 45, pp. 553-569.
- c) Howden, M.S., et al. 2007. Adapting Agriculture to Climate Change, Proceedings of the National Academy of Sciences, Vol. 104, No. 50, pp. 19691-19696.

In-class video

October 21: Natural Hazards, Disasters, and Natural Resources

Readings for discussion:

- a) Inyang, H.I., 2009. Impacts of Natural Disasters on Energy Systems, *Journal of Energy Engineering*, Vol. 135, No. 2, pp. 25-26.
- b) Borden, K.A. and Cutter, S.L. 2008. Spatial Patterns of Natural Hazards Mortality in the United States, *International Journal of Health Geographics*, Vol. 7, No. 64, pp. 1-13.
- c) Simpson, D.M. and Human, R.J., 2008. Large-scale Vulnerability Assessments for Natural Hazards, *Natural Hazards*, Vol. 47, pp. 143-155.

In-class video

October 28: The Worst Hard Time / The Dust Bowl

Discussion of the Novel *The Worst Hard Time*

In-class video

November 4: The Worst Hard Time / The Dust Bowl

Discussion of the Novel *The Worst Hard Time*

In-class video

November 11: Veterans Day Holiday (NO CLASS MEETING)

November 18: Resilience Thinking / Case Studies

November 25: Resilience Thinking / Case Studies

December 2: PRESENTATIONS

FINAL EXAM -- Wednesday, December 16 – 7:00 – 9:00pm

NOTE: The lecture and reading schedule below may be changed by the professor. Any changes will be announced in class.

NOTE: Journal articles can be found by using the UNR library at:

<http://www.knowledgecenter.unr.edu/ejournals/Default.aspx>