

Climate Change: Science and Society
FOR 295 / EVST 295 / GEOG 295
Spring 2009

INSTRUCTORS: Dr. Steve Running, CHCB 428, swr@ntsg.umt.edu
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CLASS MEETING: Tuesdays & Thursdays 3:40 – 5:00 p.m.,
 Gallagher Business Building, Room 122

OFFICE HOURS: By appointment

TEXTBOOK: Robert Henson. *The Rough Guide to Climate Change* (Rough Guides, 2008)

ADDITIONAL READINGS:

You can download the:

- the IPCC Working Group I Summary for Policymakers at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf> and
- the Pew Center's Climate Change 101 at http://www.pewclimate.org/global-warming-basics/climate_change_101.

Additional readings will be posted in the Online Deliberation Center (ODC).

Course Description and Objectives: This is a foundational course on the scientific and social dimensions of global climate change. The goal of this course is to provide students with a basic understanding of the fundamental scientific, social, political and technological issues arising from rapid climatic change. To fulfill this goal the course has three major objectives. Students will be able to: (1) demonstrate an understanding of the basic science of climate change, (2) articulate and discuss the important ethical, social and political issues arising from global warming, and (3) critically analyze and discuss possible reactions and solutions to the threat of human-caused climatic change.

Class Format: Each week we will discuss different topics related to climate change science and policy. There will be assigned readings from the textbook and the literature. The class will include presentations by invited speakers who have expertise in specific areas of climate change science, policy, and solutions.

Grading: There will be two exams, one mid-semester and one during finals. There will also be one group project due at the end of class with specified “checkpoints” throughout the semester. During this project, your group will create a Wiki page on the Online Deliberation Center (ODC) containing information about a specific solution to global climate change. Your participation grade will depend on regular attendance as well as contribution to the ODC's contributors page, discussions, legislative report, and final evaluation. Details on all assignments will be provided separately. *You will not be penalized for your personal beliefs in this class. However, you must support your statements with the most current, best available evidence.*

Point Distribution	Due Date	Credit
Exam #1: Science and Impacts	March 5	25
Exam #2: Ethics, Policy and Solutions	May 12	25
Online Deliberation Center (OCD) Project	March 25: First draft May 5: Final	25
Participation		
Attendance		5
ODC Contributors page	February 17	5
ODC Threaded discussions (2 total)	February 24; March 12	5
ODC Legislative report	April 14	5
ODC Evaluation of solutions pages	May 14	5
Total		100

Email policy at UM

According to the new University email policy effective on 1 July 2007, an “employee must use *only* UMM assigned student email accounts for all email exchanges with students, since such communication typically involves private student information.” This means that you *must* send any correspondence through your GrizMail account. For more information on setting up and using your GrizMail account, please go to <http://www.umt.edu/it/email/studentemail.htm>.

Academic Misconduct and the Student Conduct Code:

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at <http://www.umt.edu/SA/VPSA/index.cfm/page/1321>.

Date	Topic	Rough Guide Readings	Additional Readings	Speaker
Jan 27	Introduction to Climate Change			Dr. Dane Scott, Center for Ethics
Jan 29	Report from Poznan, COP-14 & Introduction to the ODC	The Basics, pp. 3-42	http://climateethics.org read: 12/29/08,12/16/08,1/11/09 Andrew Light, Dispatches from Poznan http://wonkroom.thinkprogress.org/2008/12/11/poznan-american-problem/ UNCCC, Poznan (just look around) http://unfccc.int/meetings/cop_14/items/4481.php	Dr. Dane Scott, Center for Ethics
Feb 3	Principles of the Global Climate	Keeping track, pp. 171-192	IPCC, Working Group I, Summary for Policymakers	Dr. Steve Running, Forestry
Feb 5	Current Climate Change Trends	The Symptoms, pp. 45-57; 75-105; 128-146.		Dr. Steve Running, Forestry
Feb 10	Logging into the ODC Paleoclimatology	The Long View, pp. 193-220		Dr. Anna Klene, Geography
Feb 12	Climate Change of the Last 2000 years	The Long View, pp. 220-226		Dr. Faith Ann Heinsch, Forestry
Feb 17	Contributors Page due The Other CO2 Problem: Ocean Acidification and Coral Reefs	The Symptoms, pp 106-127	T BA	Dr. George Stanley, Geosciences
Feb 19	Climate Change and Forest Dynamics	The Symptoms, pp 147-168	T BA	Dr. Cory Cleveland, Forestry
Feb 24	Threaded Discussion due Impacts of Climate Change on Global Water Resources	The Symptoms, pp 58-74		Dr. Sarah Halvorson, Geography
Feb 26	Impacts of Climate Change on Human Health and Disease		IPCC, Working Group II, Impacts, Adaptation and Vulnerability, Chapter 8, pp. 392-419	Dr. Curtis Noonan, Biomedical and Pharmaceutical Sciences
March 3	Projected Climate Change/Wedge Solution	Circuits of change, pp. 227-244	A Plan to Keep Carbon in Check , Socolow and Pacala	Dr. Steve Running, Forestry
March 5	EXAM #1: CLIMATE CHANGE SCIENCE & IMPACTS			

Date	Topic	Rough Guide Readings	Additional Readings	Speaker
March 10	Introduction to the ODC & Ethics Abusing Science in the Climate Change Debate	The Predicament, pp. 273-285	Scott, "Ethics Education through Deliberation" Reading: TBA	Dr. Dane Scott, Center for Ethics
March 12	Threaded Discussion due Distributive Justice and Climate Policy		PEW, "Equity & Global Climate Change"	Dr. Dane Scott, Center for Ethics
March 17	Chinese Perspectives on Climate Change		TBA	Dr. Terry Weidner, Mansfield Center
March 19	Economics of Climate Change – Kyoto, Cap and Trade, Carbon Tax	Political solutions, pp. 286-300	TBA	Dr. Derek Kellenberg, Economics
March 24	Intergenerational Justice and Climate Policy		H. Shue, "Responsibilities to Future Generations and Technological Transition"	Dr. Dane Scott, Center for Ethics
March 26	Solutions Page – First draft due The Ultimate Techno Fix: Ethics and Geoengineering		TBA	Dr. Dane Scott, Center for Ethics
March 31	SPRING BREAK			
April 2	SPRING BREAK			
April 7	European Union Perspectives on Climate Change	Political solutions, pp. 300-305	Climate Change 101: International Action	Dr. Ulli Kamp, Geography
April 9	National Politics of Climate Change	Political solutions, pp.300-305; 335-337	TBA	TBA
April 14	Legislative Report due Local / State Politics of Climate Change		Climate Change 101: Local Action and State Action	Nicky Phear, Forestry
April 16	Business and Climate Change		Climate Change 101: Business Solutions	Lisa Swallow, Accounting Technology
April 21	Greening the Electrical Grid	Technical solutions, pp. 314-317	Brown, "Turning to Renewable Energy" pp. 237-261	Bill Drummond, Western MT Electric Generating and Transmission Cooperative
April 23	Building Energy Efficiency	Technical solutions, pp. 317-319	Brown, "Raising Energy Efficiency" pp. 213-236	Steve Loken, Green Builder (invited)
April 28	Biofuels and Transportation	Technical solutions, pp. 322-327	TBA	Dr. Brian Kerns, Alternative Energy Technology Program
April 30	Forests in Climate Change and Energy Independence		TBA	David Atkins, Fuels for Schools

Date	Topic	<i>Rough Guide Readings</i>	Additional Readings	Speaker
May 5	Solutions Page – Final due Nuclear / Algae	Technical solutions, pp. 320-322	TBA	Dr. Steve Running, Forestry
May 7	New State Legislative Policies		TBA	Montana State Legislator, TBA
May 12	3:20-5:20 p.m. EXAM #2: CLIMATE CHANGE ETHICS, POLICY AND SOLUTIONS			