FRSHWTR 510

Water Resource Policy

Center for Water Policy, School of Freshwater Sciences and WATER Institute

Water Resource Policy

FRSHWTR 510: Economics, Policy and Management of Water

Center for Water Policy, School of Freshwater Sciences and WATER Institute
University of Wisconsin-Milwaukee
Syllabus for Spring 2013

Instructor: J. Kehl, Ph.D.

Couse: FRSHWTR 510, 45134: Economics, Policy and Management of Water
Schedule: Wednesdays 9:00-11:40am, SFS GLRF 365
Office hours: SFS GLRF 110A, Wednesdays 1:30pm-3:30pm and by appointment

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Course Description

The distribution of vital water resources is interdependent with prosperity, power asymmetry, geography, development, and sustainability. As water resources are challenged by an increasing number of demands, competing interests, and diminishing quality and quantity, we are faced with decisions about how to manage the resources. The study of policy is the study of how our society makes decisions to succeed or fail. In the context of water resources, policy consists of the decisions and strategies we employ to succeed or fail in managing water resources, based on our incentives, constraints, and priorities. The course Water Resource Policy explores these complex interdependencies at the domestic and international levels.

The course is structured to provide a logical progression from fundamental concepts to sophisticated analyses. The course will emphasize critical thinking and intellectual development. The required books and articles are listed below, and the course requires three papers and two written exams. The topics include water-use efficiency, food security, energy, commodification, infrastructure, elasticity, public health, environmental discrimination, globalization, technology, and climate change. The course concludes with a discussion of the most urgent and contentious water disputes, and the variables that will determine the future of conflict, cooperation, and trajectory of sustainability.

Required Readings

Books

Smith, J.; Gleick, P.; Cooley, H.; Allen, L.; Vanderwarker, A.; Berry, K. 2012. ***A Twenty-First Century U.S. Water Policy*.** New York: Oxford University Press.

Barlow, M; Clarke, T. 2002. ***Blue Gold****: The Fight to Stop the Corporate Theft of the World's Water*. New York: The New Press, W. W. Norton and Company.

Articles

Alley, W. 2006. "Tracking U.S. Groundwater: Reserves for the Future?" *Environment*, Vol. 48, No. 3, April.

Boyd, J. 2008. "The Geography of Ecosystem Services." *Resources*, Fall.

Collier, P. 2008. "The Politics of Hunger." *Foreign Affairs*, November/December.

Dumas, D. 2008. "Landfill-on-Sea." *The Ecologist*, February 7, 2008.

Fedoroff, N., *et al*. 2010. "Radically Rethinking Agriculture for the 21st Century." *Science*, February 12, 2010.

Hardin, G. 1968. "The Tragedy of the Commons." *Science*, Vol. 162, No. 3859: 1243-1248.

Jones, B; Keen, M.; Strand, J. 2008. "Paying for Climate Change." *Finance and Development*, Vol. 45, No. 1, March.

Klare, M. 2007. "Global Warming Battlefields: How Climate Change Threatens Security." *Current History*, Vol. 106.

McKibben, B. 2009. "Climate Change." *Foreign Policy*, January/February.

Morrisette, J; Borer, D. 2005. "Where Oil and Water Do Mix: Environmental Scarcity and Future Conflict in the Middle East and North Africa." *Parameters*, Vol. Winter 04-05.

Morrison, J. 2005. "How Much is Clean Water Worth?" *National Wildlife*, February/March.

Ostrom, E. 2009. "Beyond Markets and States: Polycentric Governance of Complex Economic Systems." Nobel Prize in Economic Science lecture. Excerpts from *Governing the Commons*,

Cambridge University Press; and *Rules, Games and Common-Pool Resources*, University of Michigan Press.

Olmstead, S. 2010. "The Economics of Managing Scarce Water Resources." *Review of Environmental Economics and Policy*, Vol. 4, Issue 2: 179-198.

Pearce, F. 2009. "Consumption, Not Population Is Our Main Environmental Threat." *Yale Environment 360*, April.

Peterson, T.; Connolley, W.; Fleck, J. 2008. "The Myth of the 1970s Global Cooling Scientific Consensus." *American Meteorological Society*, September.

Peterson, E.; Posner, R. 2010. "The World's Water Challenge." *Current History*, January.

Rockstrom, J., *et al*. 2009. "A Safe Operating Space for Humanity." *Nature*, Vol. 461, September, 24.

Smil, V. 2011. "Global Energy." *American Scientist*, Vol. 99, No. 3, May/June.

Solomon, S.; IPPC; *et al* (eds). 2007. "IPCC: Summary for Policymakers." In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge and New York: Cambridge University Press.

Course Requirements and Grade Apportionment

1. Water Policy Paper 1	……	15 %
2. Water Policy Paper 2	……	15 %
3. Water Policy Paper 3	……	20 %
4. Active and productive participation in class	……	10 %
5. Presentation of relevant event	……	5 %
5. Written Midterm Exam:	……	15 %
6. Written Final Exam	……	20 %
	Total	100%

University Policies

The Secretary of the University web site contains the university policies, the link is: *http://www4.uwm.edu/secu/SyllabusLinks.pdf*

1. *Students with disabilities. Special accommodations are provided to meet learning and testing needs in a timely manner. http://www4.uwm.edu/sac/SACltr.pdf*

2. *Religious observances. Accommodations for absences due to religious observance should be noted. http://www4.uwm.edu/secu/docs/other/S1.5.htm*

3. *Students called to active military duty. Accommodations for absences due to call-up of reserves to active military duty should be noted. Students: http://www4.uwm.edu/current_students/military_call_up.cfm Employees: http://www4.uwm.edu/secu/docs/other/S40.htm (Editorially Revised, 3/25/09)*

4. *Incompletes. A notation of "incomplete" may be given in lieu of a final grade to a student who has carried a subject successfully until the end of a semester but who, because of illness or other unusual and substantiated cause beyond the student's control, has been unable to take or complete the final examination or to complete some limited amount of term work. http://www4.uwm.edu/secu/docs/other/S31.pdf*

5. *Discriminatory conduct. Discriminatory conduct will not be tolerated by the University. It poisons the work and learning environment of the University and threatens the careers, educational experience, and well-being of students, faculty, and staff. http://www4.uwm.edu/secu/docs/other/S47.pdf*

6. *Academic misconduct. Cheating on exams or plagiarism are violations of the academic honor code and carry severe sanctions, including failing a course or even suspension or dismissal from the University. http://www4.uwm.edu/acad_aff/policy/academicmisconduct.cfm*

7. *Complaint procedures. To be addressed by the academic unit in which the complaint occurred or the appropriate university office responsible for enforcing the policy. http://www4.uwm.edu/secu/docs/other/S49.7.htm*

8. *Grade appeal procedures. Procedures are available in writing from the respective department or the Academic Dean of the College/School. http://www4.uwm.edu/secu/docs/other/S28.htm*

9. *The final exam requirement, the final exam date requirement. http://www4.uwm.edu/secu/docs/other/S22.htm*

Course Schedule

January 23	Challenges facing the world's water
January 30	Water governance, political economy, common pool resources Readings due: Peterson, E.; Posner, R. 2010. "The World's Water Challenge." *Current History*, January. Will be emailed prior to class. Hardin, G. 1968. "The Tragedy of the Commons." *Science*, Vol. 162, No. 3859: 1243-1248. http://www.cs.wright.edu/~swang/cs409/Hardin.pdf Ostrom, E. 2009. "Beyond Markets and States: Polycentric Governance of Complex Economic Systems." Nobel Prize in Economic Science lecture. http://www.nobelprize.org/nobel_prizes/economics/laureates/2009/ostrom_lecture.pdf
February 6	Water law, institutional frameworks, Clean Water Act, Safe Drinking Water Act, Great Lakes Compact, Kyoto Protocol Readings due: *21st Century US Water Policy*, Chapter 1: Water of the U.S. *21st Century US Water Policy*, Chapter 2: Legal and Institutional Framework Rockstrom, J., *et al*. 2009. "A Safe Operating Space for Humanity." *Nature*, Vol. 461, September, 24. https://ezproxy.lib.uwm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=44295613&site=ehost-live
February 13	Environmental justice, environmental discrimination, water and global public health, the world's largest mass poisoning Readings due: *21st Century US Water Policy*, Chapter 3: Water and Environmental Justice *21st Century US Water Policy*, Chapter 4: Tribes and Water Dumas, D. 2008. "Landfill-on-Sea." *The Ecologist*, February 7, 2008. https://ezproxy.lib.uwm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=sch&AN=26378867&site=ehost-live

February 20	Municipal water use, urban issues, infrastructure, mega cities, e-waste Readings due: *21st Century US Water Policy*, Chapter 5: Water Quality *21st Century US Water Policy*, Chapter 6: Protecting Freshwater Ecosystems *21st Century US Water Policy*, Chapter 7: Municipal Water Use Pearce, F. 2009. "Consumption, Not Population Is Our Main Environmental Threat." *Yale Environment 360*, April. http://w.bcise.com/Perspectives/CONSUMPTION-DWARFS-POPULATION.pdf
February 27	Special Event Assignment due: First paper due at the start of the class session.
March 6	Economics of efficiency, elasticity, supply and demand, commodification, privatization, large-scale water infrastructure financing, corruption Readings due: *Blue Gold*, Chapter 1: Red Alert *Blue Gold*, Chapter 2: Endangered Planet *Blue Gold*, Chapter 3: Dying of Thirst Morrison, J. 2005. "How Much is Clean Water Worth?" *National Wildlife*, February/March. http://scholar.googleusercontent.com/scholar?q=cache:rnpgiE7ecMQJ:scholar.google.com/+how+much+is+clean+water+worth%3F+national+wildlife&hl=en&as_sdt=0,50

March 13	Economics of efficiency, elasticity, supply and demand, commodification, privatization, large-scale water infrastructure financing, corruption Readings due: *Blue Gold*, Chapter 4: Everything for Sale *Blue Gold*, Chapter 5: Global Water Lords *Blue Gold*, Chapter 6: Emergent Water Cartel *Blue Gold*, Chapter 7: Global Nexus
March 20	Spring Break
March 27	Economics of efficiency, elasticity, supply and demand, commodification, privatization, large-scale water infrastructure financing, corruption Readings due: *Blue Gold*, Chapter 8: Fightback *Blue Gold*, Chapter 9: The Standpoint *Blue Gold*, Chapter 10: The Way Forward Olmstead, S. 2010. "The Economics of Managing Scarce Water Resources." *Review of Environmental Economics and Policy*, Vol. 4, Issue 2: 179-198. https://ezproxy.lib.uwm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eih&AN=53442797&site=ehost-live
April 3	Special Event Assignment due: Second paper due at the start of the class session.

April 10	Water-use efficiency and agricultural sector, production and consumption, drought, food and water riots, population growth, virtual water Readings due: *21st Century US Water Policy*, Chapter 8: Water and Agriculture Fedoroff, N., *et al*. 2010. "Radically Rethinking Agriculture for the 21st Century." *Science*, February 12, 2010. http://www.sciencemag.org/content/327/5967/833.full.pdf Collier, P. 2008. "The Politics of Hunger." *Foreign Affairs*, November/December. http://www.jstor.org/stable/20699372
April 17	Water and energy sector, hydroelectric power, mining Readings due: *21st Century US Water Policy*, Chapter 9: Water and Energy Smil, V. 2011. "Global Energy." *American Scientist*, Vol. 99, No. 3, May/June. https://ezproxy.lib.uwm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=60367208&site=ehost-live
April 24	Political economy of climate change Readings due: *21st Century US Water Policy*, Chapter 10: Water and Climate Klare, M. 2007. "Global Warming Battlefields: How Climate Change Threatens Security." *Current History*, Vol. 106. http://faculty.maxwell.syr.edu/rdenever/IntlSecurity2008_docs/Klare_GlobalWarmingBattlefields.pdf McKibben, B. 2009. "Climate Change." *Foreign Policy*, January/February. http://www.foreignpolicy.com/articles/2009/01/05/think_again_climate_change?page=full

May 1	Political economy of climate change Readings due: *21st Century US Water Policy*, Chapter 11: US International Water Policy Jones, B; Keen, M.; Strand, J. 2008. "Paying for Climate Change." *Finance and Development*, Vol. 45, No. 1, March. https://ezproxy.lib.uwm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bft&AN=510770293&site=ehost-live Solomon, S.; IPPC; *et al* (eds). 2007. "IPCC: Summary for Policymakers." In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the 4th Assessment Report of the Intergovernmental Panel on Climate Change.* Cambridge and New York: Cambridge University Press. http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf
May 8	Climate change, threats and opportunities, trajectory of challenges facing the world's water Assignment due: Final paper due at the start of the class session. Readings due: *21st Century US Water Policy*, Chapter 12: Conclusions and Recommendations