

Water Resource Management Fall 2007

16:450:491 & 16:450:510
 Professor: Trevor Birkenholtz
 Place: LSH-B266
 Time: M-Th: 10:20 – 11:40
 Office: Lucy Stone B218
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 Office Hours: M-Th: 12-1:30 or By Appointment

Whisky is for drinkin'; water is for fightin'.
 - - Mark Twain

Water is H₂O, hydrogen two parts, oxygen one, but there is also a third thing, that makes water and nobody knows what that is.
 - - D.H. LAWRENCE

Course Description & Goals

This course examines the social, political and economic dimensions of water-supply development. The course introduces students to hydrologic science (and draws on these concepts), but focuses on the intersection of water development and the social relations of power that mediate access to this contentious resource, including recent privatization efforts. The course introduces water as a physical and social phenomenon, discusses management frameworks and then applies these concepts to US and international contexts.

There are two main goals for the course are to: 1) Develop critical reading, analytical, and (oral and written) communication skills; and 2) Develop a theoretical skill-set for investigating and understanding the confluence of ecological, social and political processes by examining the historical development of water use and conflict.

Required Materials

- Cech, Thomas. 2005. *Principles of Water Resources: History, Development, Management, and Policy*. 2nd Edition. Wiley.
- Kaika, Maria. 2005. *City of Flows: Modernity, Nature, and the City*. New York and London: Routledge.
- Koepfel, Gerard. 2000. *Water for Gotham*. Princeton: Princeton University Press.
- Reisner, Marc. 1993. *Cadillac Desert: The American West and Its Disappearing Water*. New York: Penguin.
- Other Readings: Journal Articles and Book Chapters will be available electronically.

Student Evaluation

3 Response Papers	(50 points)	=	150
Final Paper	(150 points)	=	150
Class Participation	(50 points)	=	<u>50</u>
TOTAL		=	350 points

Response Papers:

Students will write three response papers throughout the semester, which correspond to the three parts of the course. Each paper should be three to four pages in length. Each paper will cover any single day’s reading or topic, unless you are responding to a book, in which case the response paper can cover the entire book and hence multiple days of discussion. You should begin each paper with a short summary (less than one page) of the main issues addressed in the reading/topic in question. Then, in the paper you should go on to respond, critique and discuss the reading, drawing upon your own informed opinions about the material.

Paper Due Dates:

- Part I: TBA
- Part II: TBA
- Part III: TBA

Final Research Paper:

Each student is responsible for completing one research paper of approximately twelve to fourteen pages in length and will give a concise, ten minute presentation to the class based on their project. The paper will be completed in phases, making the project one that also enhances writing ability. I will be giving a handout on this. **Due noon on December 18, 2007. No late papers; no exceptions.**

Class Participation:

To facilitate class participation, each student will submit to the professor, via email by 9 am on each class day, 2 discussion questions. I will synthesize and organize these talking points and bring them to class in a hand-out form.

Special Needs

All efforts will be made to accommodate students with special needs. However, students are responsible for making their needs known to me and for seeking assistance in a timely manner. Please contact me to privately discuss your personal requirements.

Plagiarism or other academically inappropriate behavior will not be tolerated

Topic and Reading Schedule

Part I: Water Science & Legal Institutions

9/6

Course Introduction

How much water is there, where is it and how is it used?

9/10

The Hydrologic Cycle & Surface Water Hydrology

Cech Ch. 2 & Parts of Chapter 3

9/13

Groundwater Hydrology

Cech Ch. 4

(Schlager 2005)

9/17

Drinking Water and Wastewater Treatment

Cech Ch. 11

Article: TBA

9/20

No Class

9/24

Climate Change and the Hydrologic Cycle

(Huntington 2006); Karl and Trenberth 2003

9/27

Management Institutions: Riparian Waterways & Prior Appropriation

Cech Ch. 8: "Water Allocation Law"

Riparian:

Rogers Ch. 3, 45-73

Prior Appropriation (short article):

(White and Kromm 1996)

Part II: The US Experience – Engineering the American West

10/1 & 10/4 & 10/8

Water Flows Uphill Towards Social Power and Money

Cadillac Desert

10/11

No Class

10/15**The Politics of Water Scarcity I: Public Good / Public Trust**

Cech: Ch. 13, "The Economics of Water"

Public Trust:

(Davis 2001)

Glennon Ch. 8, 113-126: "A Game of Inches for Endangered Chinook Salmon"

10/18**No Class****10/22****The Politics of Water Scarcity II: State Managerialism or Self-Governing Institutions**

(Emel and Roberts 1995)

(Wagner and Kreuter 2004)

Glennon Ch. 6, 87-98: "The Tourist's Mirage"

3 (short) Articles on Boone Pickens (2001, 2001, 2006)

10/25**The Politics of Water Scarcity III: Water Markets and Efficiency**

Gleick Ch. 3, 45-77: "Water Privatization Principles and Practices"

Water Quality and Perverse outcomes: (Prudham 2004)

10/29 & 11/1**Water in Our Backyard**Koeppel, Gerard. 2000. *Water for Gotham*. Princeton: Princeton University Press.***Part III: International Water, Privatization & the Way Forward*****11/5****Transboundary Waters & Interstate Disputes**

Surface Water:

(D'Souza 2002)

(Sneddon and Fox 2006)

Groundwater:

(Jarvis et al. 2005)

11/08**Privatizing Water/Neoliberalizing Nature**

(Goldman 2005)

(Page 2005)

(Bakker 2005)

11/12**Non-Private Solutions: Decentralized Governance or Local Institutions?**

Is Decentralization for Real?: (Wilder and Lankao 2006)
Embedded Markets as Local Institutions: (Dubash 2004)

11/15

No Class

11/19

Non-Private Solutions: Gender Trouble

(O'Reilly 2006)

Article #2: TBA

11/22

No Class – Thanksgiving Recess

11/26, 11/29

Project Presentations

12/3 & 12/6

Social-Nature, Water and the Modern City

Book: *City of Flows* by Maria Kaika (Kaika 2005)

12/6 (12/12 Last Class Day for University)

Summing Up and Moving Forward

Blue Gold Final Chapter???

Final: 12 to 3 pm, Tuesday December 18, 2007

Bibliography

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Davis, S. K. (2001). "The politics of water scarcity in the Western states." *Social Science Journal* 38(4): 527-542.

Dubash, N. K. (2004). Water, markets, and embedded institutions in Western India. *Liberation Ecologies: Environment, Development, Social Movements. Second Edition*. R. Peet and M. Watts. London & New York, Routledge: 218-243.

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