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GPHY 335.01: Water Policy

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GEOGRAPHY 335: WATER POLICY

The University of Montana, Fall 2014

Tuesdays & Thursdays 2:10-3:30 p.m., Stone Hall 217

SYLLABUS, August 24, 2014

Instructor:

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COURSE DESCRIPTION

The purpose of this course is to provide an overview of the concepts, issues, and regulatory frameworks that shape water resource policy and management in the American West. Building upon a geographical perspective, the course will explore what it means to pursue sustainable water management. We will evaluate water-related issues, problems, and solutions as they have evolved over time in the West; study the scales of water control and influence (e.g., household, local, state, regional, tribal, national, and international); and establish spatial linkages between actions in places and impacts in others.

I have long been engaged in research, scholarship, and teaching in western water and related natural resource issues—always emphasizing the real-world policy implications of my findings and recommendations. Over the course of my career, I've spent a lot of time thinking about the values and choices that shape our laws and policies governing water, so those questions will arise in many of our class discussions. You will be challenged to think creatively about the issues, to look critically at diverse sources of information, and to develop an informed perspective to guide current and future learning and involvement in water policy and management.

OBJECTIVES & LEARNING OUTCOMES

A major objective of this course is to develop a framework for understanding and analyzing water-related goods and services, patterns of water-related problems, and policy challenges in the arid western landscape. Through this effort, you will develop skills in identifying a range of governance

structures and behavioral choices/alternatives that might result in more fair, equitable, and sustainable uses of scarce resources such as water. I expect that you will come away from this course seeing water policy as more complex and multi-layered than you thought previously, but also—I hope—a topic you are eager to explore further.

This is an approved General Education upper-division writing course. As such, a major objective of the course is providing experience in scientific research, writing and communication through the composition of a range of high-quality written works and through in-class discussion and presentation. You will demonstrate your learning and ability to synthesize new information and concepts by engaging in frequent and regularly scheduled writing of reflections of/on assigned readings, and in the development of a research paper on a theme or topic germane to the course.

Upon completion of this course, you should be able to:

- ✓ Describe the hydrologic cycle in terms of its components and linkages.
- ✓ Describe the manner in which different physical factors (i.e., climate, topography, landforms) shape the distribution of water resources in time and space.
- ✓ List and describe the various water related goods and services desired by humans, and the manner in which they are provided by water resource managers.
- ✓ Discuss how the cultural, social, and economic characteristics of different places affects the demand for water related goods and services.
- ✓ Discuss the manner in which different human groups have modified the workings of the hydrologic cycle in order to produce water related goods and services.
- ✓ Discuss the ways in which western states have established policies and institutional arrangements, and the nature of these, to aid in the creation and delivery of water-related goods and services.
- ✓ Discuss how different levels of government have authority for water resources management, describe their management activities, and explain key features of Montana's system for allocating and enforcing water rights.
- ✓ Discuss how "water agreements" are made between states, states and tribes, and between federal agencies and states.
- ✓ Describe how interstate and international waters are managed by the U.S. and its neighbors.
- ✓ Discuss how structural economic change and demographic shifts influence water policy.
- ✓ Describe the elements of integrated water management.
- ✓ Identify a range of governance structures and behavioral choices/alternatives that might result in more fair, equitable, and sustainable uses of scarce resources such as water.
- ✓ Compose the following high-quality works: reviews, essays, and a research paper.
- ✓ Identify different styles of writing and research for different audiences.
- ✓ Engage in scholarly writing, using style conventions appropriate to the field of Geography, which relies on the analysis of primary and secondary sources.

READINGS AND RESOURCES

Required Texts:

Cech, Thomas V. 2009. *Principles of Water Resources: History, Development, Management and Policy, third edition*. Hoboken, New Jersey: John Wiley & Sons. This is also available as an e-book from the publisher's website.

Turabian, Kate L. 2013. *A Manual for Writers of Research Papers, Theses, and Dissertations, 8th Edition*. Chicago: The University of Chicago Press.

Note: These texts have been ordered from the University Bookstore. You might find used copies through a website. You may use a previous edition of the Cech text, but be sure to purchase the 8th edition of the Turabian manual.

Supplemental Texts and Resources:

In addition to the above texts, supplemental readings and handouts will be placed on the course's Moodle site. I will be announcing the dates of these readings in class; some of the links to supplemental readings are included in the Course Schedule below.

Resources for Background and Paper Research:

Clark Fork Coalition <http://www.clarkfork.org/>

Clark Fork River Basin Task Force <http://clarkforktaskforce.com>

High Country News – water archives <http://www.hcn.org/>

Montana Department of Natural Resources and Conservation – Water Resources Division
<http://dnrc.mt.gov/wrd/default.asp>

Montana Water Center <http://water.montana.edu/default.asp>

Mountain West News – regular coverage of water issues

<http://mountainwestnews.org/Index.aspx>

Transboundary Freshwater Dispute Database

<http://www.transboundarywaters.orst.edu/database/>

Universities Partnership for Transboundary Waters <http://waterpartners.geo.orst.edu/>

The Water Channel <http://www.thewaterchannel.tv/index.php>

Water Culture Institute <http://www.waterculture.org/>

Water Culture Institute Online Newsletter <http://waterethicsnetwork.blogspot.com>

The Water Report – back issues available in full text <http://www.thewaterreport.com/>

WaterWired <http://aquadoc.typepad.com/waterwired/>

World Water Forum's Platform of Solutions <http://solutions.worldwaterforum6.org/>

COURSE REQUIREMENTS & ASSESSMENT

Attendance and Participation:

In short: Read the assigned material and come to class prepared.

Students are expected to attend each scheduled class session, since the lectures, presentations, films, and guest speakers will often cover material that is not found in the assigned readings. If you are unable to attend a class session, then you are responsible for contacting your fellow classmates to get the notes on the material covered during that session.

One of the objectives of the class sessions is to stimulate a meaningful exchange of ideas and thoughtful discussion; therefore, active involvement of students is expected. Class sessions should be regarded as opportunities for you to share your ideas and views on key issues raised by course material. I expect you to take responsibility by showing up every class period prepared to learn and engage. Taking notes in class is strongly urged to supplement the readings and to assist in the preparation of assignments.

It is extremely disruptive to have students arrive late and/or leave before class is finished. I know that you have nothing else on your schedule during the class period; therefore, your presence during the entire class period is expected and is the best way to gain the most benefit from this course.

Examinations:

There will be two exams, which will cover the assigned readings, lecture material, films, and class discussions, including guest lectures. The exams will require written essay responses to short and long essay questions.

In-Class Worksheets:

We will be fortunate to enjoy the special expertise of several guest speakers, as indicated on the course schedule. To maximize the learning experience, I will distribute a short in-class worksheet to be completed and turned in at the end of each class session featuring a guest speaker. You will need to have completed the assigned reading and pay attention to the lecture to be able to successfully fill out each worksheet; you may only turn this in for credit if you are present for the class.

Essays:

You will have the opportunity to practice your essay writing skills in conjunction with your reading of selected items so that you may engage in more personal reflection. We will discuss each assignment and I will post specific guidelines on Moodle approximately a week before each paper's due date; please submit hard copies with double-spaced text on the due date. Because

these are intended as reflection essays, they should articulate your own **informed** opinions, views, and ideas—not simply a summary of the assigned readings. For each essay, you should develop and defend a central thesis or view that concerns or follows from the material you have digested. Cite material as appropriate using the Turabian author-date style (see Chapter 18 and 19).

Research Paper and Presentation:

Research Paper: This is an approved writing course at UM, which implies that it is a writing-intensive course and the bulk of your grade is based on written work. As such, you are required to devote considerable energy to the preparation of a paper and will be provided with considerable feedback on a draft of the paper prior to your submitting a final version for a grade. In keeping with these expectations, we will devote some attention to the general topic of writing, you will be directed to the Writing Center for assistance in the mechanics and organization, and we will have an orientation to the library's resources for research.

As explained in more detail in the Research Paper Guidelines posted on Moodle, your term paper should be 2,000-2,500 words in length, carefully composed, printed in double-spaced 12-point font, and fully referenced using Turabian author-date style. At the beginning of the semester you will be requested to identify a research topic focused on a water issue or problem of relevance to the American West. In order to help you carry out this project, you will be asked to submit your topic and research question, a prospectus, a reference list, and an outline of your paper in advance of the deadline for the first draft of the paper (see the course outline for due dates). The first draft will be due on **November 6**. The paper will be evaluated and returned for revision no later than November 18. The revised paper, together with the first draft, is to be submitted by **December 4**. Research for the paper should cite at least six peer-reviewed scholarly articles, one contemporary news article, and one personal interview; your paper must include at least one map appropriate to the topic chosen. More details on this assignment will be provided in class, and we will have one class period devoted to social science research in Mansfield Library.

Evaluation of Writing: All of your writings will be read and critically reviewed with respect to spelling, grammar, composition, voice, and strength and depth of research (where appropriate). Critiques will include comments and corrections so that you can work to improve your reading, analysis, research, and writing skills as you progress through the course. You are expected to incorporate any corrections and/or suggestions for revision into future work with the aim of improving your writing skills. You should refer to the Turabian manual in reviewing the corrections and/or suggestions for revision, and are encouraged to visit with the instructor and TA to discuss your reviewed works.

In-Class Research Presentation: Using appropriate visual aids (PowerPoint, overhead, etc.) students will provide a short and well-organized (15-minute maximum) summary/overview of their research results. Specifically, each student is to highlight what the research objective was, where she/he found relevant information and data, what results were discovered, and the conclusions drawn from the work. Grades will be assigned based on thoroughness and rigor of the research conducted as well as the professionalism of the presentation—and points will be

deducted for going over the allocated time, so advance preparation is essential. Everyone is expected to attend all presentation sessions, as this is both respectful to your fellow classmates and an important opportunity to deepen and apply your understanding of water policy. For that reason, you will receive a separate grade for your attendance at the presentations sessions (50 pts for attending all seven sessions; 30 pts if you miss one; 20 pts if you miss two; and no credit if you miss three or more classes during the presentation period).

Grading Summary:

The course grading breakdown to be employed is as follows:

Assignment	Point Value	Percentage
Exams (2 @ 100)	200 points	20%
Reflection Essays (2 @ 100)	200 points	20%
In-class worksheets (5 @ 20)	100 points	10%
Term Paper Research Project:		
Prospectus and references	50 points	5%
Annotated outline	50 points	5%
First Draft	150 points	15%
Final Draft	150 points	15%
Presentation	50 points	5%
Attendance at Presentations	50 points	5%
Totals		
Final Grade	1000 points	100%

I will be grading using the plus/minus system as based upon the following percentages of the total points possible for the course as weighted by the criteria specified in course requirements. The best individual strategy to ensure that you receive a grade you can live with is to work to meet and/or exceed course requirements. Remember, A's are rewards for Superior Performance, B's for Above Average Performance, and C's for Average Performance. *This class carries traditional grading and cannot be taken CR/NC.*

A = greater than 93.0%	A - = 90.0-92.9%	
B+ = 87.0-89.9%	B = 83.0-86.9%	B- = 80.0-82.9%
C+ = 77.0-79.9%	C = 73.0-76.9%	C- = 70.0-72.9%
D+ = 67.0-69.9%	D = 63.0-66.9%	D- = 60.0-62.9%
F = less than 59.9%		

Additional Policies:

Work is due at the start of class on day specified. Late work will lose one-half a letter grade (i.e., A to A-) for each weekday late. Please do not make excuses for late work – I will need advance

notification of any factors that will affect your ability to turn in work on time and/or to meet other course requirements. Brief or occasional absences for reasons of illness, injury, family emergency, religious observance or participation in a University sponsored activity (for example, field trips, ASUM service, music or drama performances, and intercollegiate athletics) may be excused. Absences for reasons of military service, wildfire duty, or mandatory public service will be excused. I will not extend deadlines for individuals unless timely notice of the absence is given beforehand. Be prepared to provide **documentation** for events leading to absences if you wish extensions or to make up missed work. Similarly, makeup exams can only be administered if you have a legitimate and documented excuse for an absence or situation that constrains your ability to be present on exam day.

Please first take questions to our TA, Sophia Albov, as she will mostly likely be able to resolve your issue. You may also visit with me during my office hours or schedule an appointment for another time.

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, available for review online at http://life.umt.edu/vpsa/student_conduct.php. Note in particular that the Student Conduct Code defines plagiarism as “representing another person's words, ideas, data, or materials as one's own.” Assigned readings in Turabian also provide guidance on proper citation of sources.

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommason Center 154 or 406-243-2243. I will work with you and Disability Services to provide an appropriate modification.

Finally, although I hope you will share my enthusiasm for this subject and will be excited to deepen your knowledge of water policy throughout the semester, I need to let you know that **Sept 15, 5:00 PM**, is the 15th day of classes and the last day to register for classes, add classes with override slip/electronic override, change credits in variable credit courses or drop classes with a refund on CyberBear or with an override slip/electronic override. For additional relevant dates, please see Important Dates and Deadlines <http://www.umt.edu/registrar/PDF/ImportantDatesFall2014.pdf>.

COURSE SCHEDULE

(subject to revision; watch Moodle for announcements!)

DATE	TOPIC	READINGS & ASSIGNMENTS
Aug. 26	T: Overview and expectations for the course; water challenges and choices. We will also discuss the writing emphasis of this course—sources, style, and an overview of assignments.	T: Review syllabus and resources posted on Moodle
Aug. 28	R: Water in the American West: History, law and policy	R: Cech Ch. 1; Turabian Ch. 1
Sep. 2	T: Hydrologic cycle and freshwater availability; how water is used today; assignment for Reflection Essay #1	T: Cech Ch. 2; Estimated Use of Water in the United States in 2005 , pp. 4-15, 42-45; “Yet Another ‘Footprint’ to Worry About: Water,” (WSJ 2/17/09)
Sep. 4	R: Hydrology, freshwater ecology, and restoration of the Jocko River; <i>Explore the River</i> DVD	R: Cech Ch. 3; Turabian Ch. 2; complete in-class worksheet during presentation (turn in at end of class)
Sep. 9	T: Water development for human use; policy choices and their consequences	T: Cech Ch. 6 and 7; Ch. 9, pp. 294-312
Sep. 11	R: Recap and discussion of term paper topics and sources	R: Turabian Ch. 3-4 Reflection Essay #1 due at start of class Sep. 11
Sep. 16	T: Water allocation systems: Eastern vs. Western U.S.; federal, state, and tribal authority	T: Cech Ch. 8 (pp. 249-77); Water in the U.S. American West
Sep. 18	R: Guest Speaker: John Ferguson, Ferguson Law Office, Missoula: Montana water rights and administration	R: Water Rights in Montana ; complete in-class worksheet during presentation (turn in at end of class)
Sep. 23	T: Pending issues in Montana water policy, focused on exempt wells; assignment for Reflection Essay #2	T: Cech Ch. 4; Water Policy Interim Committee (brochure); Ground water, exempt wells, and enforcing a water right through a call (memo to WPIC)
Sep. 25	R: Film: TBA	R: Paper prospectus due at start of class Sep. 25: one page maximum, with problem statement, research question, intended format (summary outline), and list of at least five references

Sep. 30	T: Guest Speaker: Karen Jaskar , Social Science Librarian, Mansfield Library: Library resources and search tips for term paper research project	T: Turabian Ch. 15
Oct. 2	R: Geographic scales of water management and overlapping legal mandates	R: Cech Ch. 10 and 12; T: Reflection Essay #2 due at the start of class Oct. 2
Oct. 7	T: Water quality issues and policy choices	T: Cech Chs. 5 and 13
Oct. 9	R: Guest Speaker: Dr. Chris Brick , Clark Fork Coalition: Restoring the Upper Clark Fork River	R: "Introduction" chapter, <i>The River We Carry With Us</i> , pp. 7-16; complete in-class worksheet during presentation (turn in at end of class) Annotated term paper outline due at start of class, Oct. 9: 1-2 page outline with relevant references listed to support each major area of inquiry
Oct. 14	T: Guest Speakers: Dr. John Shurts , General Counsel, and Pat Smith , Montana Member, Northwest Power and Conservation Council: Columbia River Basin management challenges across state and national boundaries	T: Cech Ch. 8, pp. 277-82; review Ch. 12, pp. 428-33; State of the Columbia River (NPCC 2013), pp. 6-9, 28-29, 33; complete in-class worksheet during presentation (turn in at end of class)
Oct. 16	R: Mid-Term Exam	R: Exam will cover all materials assigned to date, including guest speakers' presentations
Oct. 21	T: Federal and Indian reserved water rights; assignment for reflection essay #3	T: Review Cech Ch. 8, pp. 286-287; "Protecting Indigenous Rights and Interests in Water" chapter, <i>In Search of Sustainable Water Management</i>
Oct. 23	R: Guest Speaker: John Carter , Attorney, Confederated Salish & Kootenai Tribes of the Flathead Indian Reservation	R: Report on the Proposed Water Rights Compact (MT Water Reserved Water Rights Compact Commission, Jan. 2014), pp. 3-12; "Water Rights Tear at an Indian Reservation" (NYT, 4/21/13); complete in-class worksheet during presentation (turn in at end of class)
Oct. 28	T: Watershed governance and other old ideas worth revisiting	T: "What if . . . the United States of America were based on watersheds?" (<i>Water Policy</i>); "Mapping by Watersheds," (<i>Mountain West News</i>); "Some Irreverent

Oct. 30	R: Reflection and discussion: Water policy and water ethics for a sustainable future	Questions About Watershed-Based Efforts” chapter in <i>Across the Great Divide</i> R: Cech Ch. 15; “Reclaiming freshwater sustainability in the Cadillac Desert” (PNAS, 2010); “Local Water” chapter in <i>Blue Revolution</i>
Nov. 4	T: Election Day (VOTE!) – <i>no class</i>	
Nov. 6	R: Student Presentations	R: First draft of term paper due at start of class, Nov. 6; to be returned with comments at class on Nov. 18
Nov. 11	T: Veterans Day – <i>no class</i>	
Nov. 13	R: Student Presentations	
Nov. 18	T: Student Presentations	
Nov. 20	R: Student Presentations	Paper revision
Nov. 25	T: Student Presentations	Paper revision
Nov. 27	R: Thanksgiving Holiday – <i>no class</i>	
Dec. 2	T: Student Presentations	Paper revision
Dec. 4	R: Student Presentations	R: Final draft of term paper (submit together with your first draft) due at start of class, Dec. 4
Dec. 8 3:20- 5:20 PM	M: Final Exam	<i>Exam will draw from entire course but will emphasize materials presented subsequent to the mid-term, including guest speakers.</i>