

## **Geography 344. The American West. Spring 2015.**

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Office Hours: 1-2PM, Wednesday; 11:00AM-12 Noon, Thursday; or by appointment.

**Introduction to the course.** This is an introduction to the geography of the western United States. While we could look at that geography from all kinds of perspectives, this course focuses mainly on the complex human-environment interactions in the West, how they have changed in the recent past, and how they are continuing to change today. The American West is a region where it is often easy to see humans and their impact on the landscape as almost insignificant, compared to the region's mountain ranges, canyons, and vast desert basins. Yet anyone taking this course has probably heard of at least one or two of the many contentious issues related to human impacts on the landscapes of the West: Have we changed the frequency or the intensity of forest fires, has cattle grazing irreversibly damaged rangelands, should we allow new mining operations when they have caused major environmental damage in the past? At the same time, people who live in the West or travel there often think more about how the environment affects them: It is inspiring, but also harsh and unforgiving; it is a land of opportunity but also puts severe constraints on all kinds of human activities. Of course, in some ways the American West is not really that different from the American Midwest or any other part of the country—think about issues typically covered in human geography courses: political and economic geography, issues of race and ethnicity, etc. Those are all important in the West as well, but they come into play in some distinctive ways and are often interconnected with environmental issues.

**Major topics and goals of the course.** In a single semester, we have to be selective and focus on some especially distinctive and important issues in the geography of the West. One of my most important goals in this course is to familiarize you with basic concepts and tools for understanding those issues, partly through lectures but also by giving you experience in using those concepts and tools. One important set of concepts comes from physical geography: the basic science that helps us understand the landforms, climate, natural vegetation, river systems and groundwater of the West. Physical and biological science can also help explain a lot about geography of human land use in the West as well: Why are oil fields, gold mines, forest product industries and ski resorts located where they are, and how does that setting affect the environmental issues associated with them? How do climate and forest management affect fires, and how much is settled scientifically about that and how much is still debated? How do major water systems of the West (dams, canals, etc.) work, why are they located where they are, and how are they connected to natural river systems?

We'll also cover basic--but often poorly understood--practical aspects of the geography of the West. What is a water right, how is it defined in different parts of the West, how does it affect water use issues? Why is so much land in the West federally owned, how is it managed, and what are important questions to ask about how it's managed in a local area? With that background, we can start to consider broader issues that also require us to consider questions that are basic to human geography. For example, at the end of the semester you should be able to explain why conflicts over water use are common in the West and why they are likely to loom even larger in the future. I hope you will also be able to ask questions about how decisions on allocating scarcer water will be made. Who will play a role, who will gain or lose, how much will depend on science, and how much on politics?.

**Geographic focus.** We will use an arbitrary but long-standing definition of the American West: It is the part of the United States lying west of the 100<sup>th</sup> meridian. At times we will also need to look at connections with Mexico and western Canada. Because of time limitations, we will leave out Alaska and Hawaii altogether, though they are really part of the American West in a broad sense.

**Course website.** Go here and log in to access the password-protected UW Moodle site:  
<http://ay14-15.moodle.wisc.edu>

Material posted here will include copies of the syllabus, links to information sources, outlines of exam topics, and slides shown in lecture. There will be a dropbox for turning in each assignment, and an online gradebook will also be updated through the semester. Changes in the reading schedule, to fit changes in lecture timing, will be posted on the course home page.

**Communication:** Any course-related announcements will be sent to the class email list, which uses your UW email account (.wisc.edu). Check that account regularly to make sure you don't miss any announcements.

#### **Organization of the course.**

- 1) I will lecture on Tuesdays and during part of the class period on most Thursdays, with some time for brief discussions and questions.
- 2) Each Thursday except for the first and last weeks of the semester, at least part of the class period will be devoted to an **activity and/or discussion**. We'll usually discuss assigned sections in the book, and look at additional information on the same topic using online information sources, photos, Google Earth, etc. I will often use this time to demonstrate resources and tools for getting more information about land use and land management, geology, water resources and rights, and so forth.
- 3) At the end of this activity and/or discussion on Thursdays, I will give **you a short assignment**, based on what we've covered, to be completed by the next Thursday. Examples of assignments would be to look up information, or write a couple of paragraphs in response to a question. **There will be 13 assignments in all, and you will need to complete 11 for full credit.** Assignments will be turned in online, and **will not be accepted after the due date** (if some circumstance prevents you from completing one, that can be one of the two you skip).

**Grading.** The course grade will be based on three exams (56% of total grade, Exam 1 = 16%, Exam 2 = 20%, Exam 3 = 20%), and the weekly assignments (44% total for the 11 of 13 that you have to turn in). The exams will include a combination of short essays, short-answer and multiple-choice questions, related to lecture material and required readings. Exam 1 is shorter and covers less lecture material than the other two. Before each exam, I will provide an outline of the topics to be covered.

**Required book and other required readings.** *How to Read the American West: A Field Guide*, by William Wyckoff (2014), University of Washington Press, ISBN 978-0295-99351-5. This is not a typical textbook, but it fits very well with goals and organization of this course. It is organized as a field guide, with short articles that will help you learn to recognize and understand distinctive aspects of the geography of the West. **Several sections will be assigned for most weeks, and you should read them before class Thursday when we'll refer to them as part of an activity or**

**discussion.** There are several articles or book sections that will be assigned through the semester, in addition to the book by Wyckoff. These are also important for activities or discussions.

### **Lecture and exam schedule.**

The **exam dates listed are fixed**, but the schedule of lecture topics and readings may be adjusted somewhat over the semester. Check your UW email or the course home page for announcements of any changes in the reading schedule. “Wyckoff” is the required book. **Readings are only listed through 3/19; those for the rest of the semester will be announced later**, but the overall reading load will be about the same through the semester.

**1/20. Introduction to the course.** What sets the West apart from the rest of the U.S., and what does it have in common with other regions? Overview of course topics and organization

**Read during first week:** Wyckoff, Introduction (p. 3-23)

**1/20, 1/22, 1/27, 1/29. Landforms and Landscapes.** A *brief* overview. Great Plains, Rocky Mountains, Colorado Plateau, Basin and Range, Snake River Plain and Columbia Plateau, Sierra Nevada and Central Valley, Cascadia. Important landforms of many western landscapes: Alluvial fans, closed basins and playas, stream terraces, mesas and tablelands.

**Read by 1/29:** Wyckoff, Nature’s Fundament (p. 30-35), 4. Layered Rocks (p.42-43), 5. Igneous Landscapes (p. 44-45), 6. High Country (p. 46-48).

**2/3, 2/5. Climate.** Atmospheric circulation and moisture sources. Summer-wet and winter-wet climates. Lapse rates. Orographic precipitation and rain shadows. Selected examples of past climate change and great droughts (*current and future climate change and its impacts are covered later in the semester*).

**Read by 2/5:** Wyckoff, 9. Dry Lakes (p. 58-59), 12. Dust Storms and Dust Devils (66-67), 25. Vineyards and Wineries (p. 114-117).

**2/10, 2/12, 2/19. Biogeography.** Biomes and life zones. The importance of elevation. The deserts: Chihuahuan, Sonoran, Mojave, and Great Basin. Long-term and recent vegetation change and human impacts, especially invasive species.

**Read by 2/12:** Wyckoff, 13. Cacti and Joshua Trees (p. 68-71), 14. Sagebrush (p. 72-73), 15. Conifers (p. 74-77), 17. Exotic and Invasive Plants (p. 80-830).

**Read by 2/19 (not covered on Exam 1):** M. Kat Anderson, Michael G. Barbour, and Valerie Whitworth, “A World of Balance and Plenty: Land, Plants, Animals, and Humans in a Pre-European California. *California History*, vol. 76, p. 12-47. (**available on course website**)

**2/17 Exam 1 (covers lecture material from start of course through 2/12)**

**2/24, 2/26. Fire.** Background on wildfire and factors influencing it. Fire regimes and fire-adapted vegetation. Debates about the prehistoric human impacts on fire regime. Climate change and fire.

**Read by 2/26:** Wyckoff, 16. Wildfire, 78-79. Emily Guerin, Fire Scientists Fight over What Western Forests Should Look Like, *High Country News*, Sept. 17, 2012.

<http://www.hcn.org/issues/44.16/fire-scientists-fight-over-what-western-forests-should-look-like>, Emily Guerin, Are Big, Severe Wildfires Normal? *High Country News*, the Goat Blog, July 27. 2102. <http://www.hcn.org/blogs/goat/are-big-severe-wildfires-normal>

**3/3, 3/5. Land.** Disposition of Native Americans, Spanish and Mexican land grants, Homestead Act and other federal land laws.

**Read by 3/5:** Wyckoff, 38. Indian Country (168-173), 39. Hispano Plaza Towns (p. 174-175), 58. Township-and-Range Survey System (p. 246-249). Richard White, "Chapter 6. Distributing the Land, p. 137-154 in *"It's Your Misfortune and None of My Own."* *A History of the American West. Available on course website.*

**3/10, 3/12. Mining and fossil fuels.** Geography of mineral resources, water use by miners, landscapes left by mining and fossil fuel extraction, mineral resource law and management.

**Read by 3/12:** Wyckoff, Landscapes of Extraction (p. 124-131), 28. Surface Mining: Gold and Copper (p. 132-135), 29. Underground Mining: Gold, Silver, and Copper (p. 136-137), 30. Metals Milling, Processing, and Refining (p. 138-139), 31. Mining Towns (p. 140-145), 36. Oil and Natural Gas (p. 154-157).

**3/17, 3/19, 3/24. Farming, ranching, immigration into and out of the rural West.** Overview of agriculture in the West, from prehistoric period to the present. Dry farming, floodwater farming, and irrigation. Reasons for irrigation and types of irrigation. Large-scale farming, farm labor, and immigration. Ranching systems. Grazing and browsing and their effects on vegetation. The Changing Mile.

**Read by 3/19:** Wyckoff, Farms and Ranches (p. 88-95), 19. Isolated Farmsteads (p. 96-97), 20. Cattle Ranching (p. 98-103), 21. Dry farming (p. 104-105), 23. Field Irrigation Systems (p. 108-111), 26. Farm Towns (p. 118-121), 27. Farmworker Settlements (p. 122-123).

**[Readings from this point on will be announced later]**

**3/26. Water, Part 1.** Natural river systems and groundwater in the West. Importance of mountain snowpack. .

**4/7. Exam 2 (covers lecture material from 2/19 through 3/26)**

**4/9, 4/14. Water, Part 2.** Water systems as modifications of the natural stream network. Water rights and water law. Reclamation Act, Winters Decision and Colorado River Compact. The New Deal and big water projects.

**4/16. Forests and logging.** Logging in the Pacific Northwest. Establishment of the National Forests and concept of multiple use management.

**4/21, 4/23. Cities.** 20<sup>th</sup> century population growth and changing geography of western cities. Similarities and differences relative to urban geography in other parts of the U.S. Water and city growth.

**4/28. Recreation, parks, and wilderness.** Tourism, ski resorts, and outdoor adventure. National parks and monuments: Changing concepts of purpose and management. Wilderness movement and origins of the national wilderness system.

**4/30, 5/5. The looming future.** Climate change, water scarcity, ecosystem changes, and future physical and human geography of the West

**5/7. Exam 3 (covers lecture material from 4/9 through 5/5  
[no exam during finals week])**