

**Environmental Studies 900**

**HISTORICAL AND CULTURAL METHODS IN ENVIRONMENTAL RESEARCH**

**(The “CHE Methods Seminar”)**

**INSTRUCTOR:** Bill Cronon, 443 Science Hall.

**Phone:** 265-6023; this has an answering machine, and I'll try to reply to messages as quickly as I can. **No calls to my home phone number, please.** Your best bet for a quick reply is almost always to email me rather than phone, at [wcronon@wisc.edu](mailto:wcronon@wisc.edu). But if by chance you don't get a response, please don't hesitate to send me a cage rattling email reminder. I typically receive 80-100 emails per day, and am always falling behind in replying. I'm therefore very happy when students whose messages have unintentionally slipped down my queue send me reminders, and I hope you'll try to be forgiving when this is necessary.

**Course Web Page:** [www.williamcronon.net/courses/chemethods.htm](http://www.williamcronon.net/courses/chemethods.htm)

**Class Meetings:** We will meet Tuesday evenings from 5:30-8:00pm in 202-204 Bradley Memorial, 1225 Linden Drive. You should generally plan to eat beforehand. Class sessions will typically be divided into two blocks, with a break occurring sometime between 6:30-7:00pm, and with different faculty guests joining us for either or both of the two blocks.

**Office Hours:** I'm not keeping regular office hours during the spring semester, but will be happy to meet by appointment at any time that is convenient for both of us. To make an appointment, email me at [wcronon@wisc.edu](mailto:wcronon@wisc.edu).

**DESCRIPTION:**

Typically offered each spring, the CHE Methods seminar is one of the most important curricular offerings of the Nelson Institute's Center for Culture, History, and Environment. It has several goals:

- It introduces graduate students from a wide array of departments and programs to different disciplinary and interdisciplinary methods for studying past environmental change and the cultural human cultural contexts within which it occurs.
- It explores the disparate forms of evidence that can be used to reconstruct past environmental change and its human meanings.
- It strives to build a strong sense of community among graduate students and faculty members at UW-Madison who share an interest in past environmental change by creating a context within which grad students from different departments and programs can work together and become colleagues while getting to know faculty members associated with CHE.
- Written assignments for the seminar are designed in part to lay the groundwork for the CHE Place-Based Workshop, an annual field trip that occurs each May. Teams of students in the seminar will produce written documents, web resources, and/or oral reports to prepare participants in the workshop for the places they'll be visiting. This year's workshop will focus on energy production, distribution, and consumption in the upper Midwest, so a key strand of the seminar will use energy-related questions to practice the disciplinary and interdisciplinary skills and methods we're exploring in the rest of the course.

Because the seminar strives to reflect and incorporate the interests of the graduate students who are taking it, and also those of the many CHE faculty members who participate in panel discussions, this syllabus is being left relatively open at the start of the semester. The syllabus will evolve as the goals and interests of seminar members become clearer, and as CHE faculty members contribute readings for the sessions in which they participate, so that the final syllabus will not be complete until the end of the semester.

## READINGS

Since the large majority of readings in this syllabus have not yet been finalized, there will be many additions as visiting CHE faculty members identify texts they want to discuss and as seminar members decide topics we would like to explore together. Some readings will reflect the evolution of our conversations together, and some will be generated by the written assignments you'll be doing as background for the CHE Place-Based Workshop in May. Whenever possible, students will be informed of readings at least a week ahead of time, and in general the total number of pages assigned in a week will be under 200 pages except when an entire book is being assigned.

The flexibility we're seeking for our reading assignments will be aided this semester by our participation in a pilot project generously sponsored by the UW-Madison Libraries. Each student in the seminar will be given as a loan at the start of the semester an Amazon Kindle DX eBook reader, onto which will be loaded (at no cost to students!) the principal books assigned for the course, all listed below. Because the Kindle DX is able to read PDF files, we will regularly distribute course readings to seminar members as PDF files delivered via email. Students can then load these PDF files onto their Kindles, saving themselves the expense of having to print them out, and (we hope) making the files more readable than they would be on a computer.

The books loaded onto each Kindle DX include the following:

Wayne C. Booth, Gregory G. Colomb, Joseph M. Williams, *The Craft of Research*, University of Chicago Press, 3<sup>rd</sup> edition, 2008.

Peter Maas, *Crude World: The Violent Twilight of Oil*, Knopf, 2009.

David JC McKay, *Sustainable Energy – Without the Hot Air*, UIT Cambridge LTD, 2009 (downloadable as PDF from <http://www.withouthotair.com/>)

David Nye, *Consuming Power: A Social History of American Energies*, MIT Press, 1997.

Students will be trained how to use their Kindles and load PDF readings during the first session of the seminar.

## WRITTEN ASSIGNMENTS

Written assignments will be defined after seminar members have brainstormed the content they would like to produce as background documents for the CHE Place-Based Workshop in May. Again, we will discuss this process at the first session of the seminar.

## QUESTIONS WE'LL ADDRESS

Although the design of the seminar is intended to be very flexible, it is not completely formless. The strategy I've adopted for trying to coordinate the interests of seminar members and those of CHE faculty participants is to frame a series of broad questions, at least two of which will be addressed in the two different parts of each seminar session. We'll review and discuss these questions at our first meeting, adding to, subtracting from, and revising them to reflect our interests, and then I'll start building a weekly outline by working to fit questions with CHE faculty members who will join us to discuss them.

I've arranged these questions into three sets. The first relates to broad understandings of academic disciplines: what they are; their strengths and weaknesses; how they affect our ability to address questions that cannot adequately be addressed by a single discipline; and how scholars and scientists with different disciplinary perspectives can best work together. The second set relates to the different analytical methods and forms of evidence that enable us to reconstruct past environmental change and its human meanings and cultural contexts. Finally, the third set will give seminar members the opportunity to apply what they're learning about interdisciplinary research to the problem of understanding the role of energy in environmental history and the sites we'll be visiting during the CHE Place-Based Workshop in May. Here are the questions I've pulled together thus far.

**Questions about Disciplines and Interdisciplinary Scholarship:**

What is a discipline, and how does one find one's bearings both within and between disciplinary spaces? (A general set of questions in the background of all discussions, but which probably won't receive individual treatment, is how our different disciplines conceive of time, space/place, and culture.)

What are the key ways we seek to know nature, both within and between academic disciplines, and in the rest of human life?

What are the most interesting questions about past environmental change that tend to fall between the cracks when a single discipline tackles them on its own? (The answer to this question will likely vary from discipline to discipline, but are there also questions that tend to fall between the cracks for all disciplines?)

What strategies are most effective when people with different disciplinary training try to work together on a common problem or project?

In studying the environmental past and thinking about its relationship with the environmental present, how can we best resolve the creative tensions between scholarship and activism?

How can we best communicate our scholarly and scientific insights beyond the boundaries of our discipline, both to our colleagues in other fields and to the larger public?

What does it mean for a particular human behavior, institution, organization, or culture to be "sustainable"?

**Questions about Methods and Evidence:**

What constitutes an interesting and important research question--and what shapes our judgment in deciding whether or not a question is "significant"?

What different skills do we need for reading different kinds of scholarly communications? How does a scientific article, for instance, differ from an article in a humanities discipline like history or literature?

What are documents, and how can we find the ones we need?

What and how can we learn from pictures?

What and how can we learn from film?

How can we make and use maps, and what are the best new digital tools for doing so?

What are the differences between quantitative and qualitative information, and what do we need to know when we start asking questions that require us to count?

How should we interview people to find out what they can tell us about their lives and their worlds?

How do we tell stories, and what are the opportunities and hazards of narrative as a rhetorical form?

How do we synthesize different analytical insights and different forms of knowledge to produce a unified argument?

**Questions about Energy:**

Why is it important to think about energy historically and culturally?

What are the most important themes, trends, and benchmark events of energy history?

How and why did coal, oil, natural gas, and other forms of fossilized carbon come to be so important to modern life?

If we were teaching a course on Electricity 101, what would we include in the syllabus?

When we think broadly about energy to understand the social and political economic its usages express themselves, what are the questions we should ask relating to human and non-human health, landscapes of labor, transnational relationships of exploitation, and other concerns that circle around the broad category of environmental justice?

As we contemplate future supplies of and demands for different forms of energy in the twenty-first century, how can energy history help us orient us to the choices that lie ahead?

What background materials—about individual sites, different forms of energy, and the technological, political-economic, social, and cultural systems they exemplify—can members of this seminar provide for participants in the CHE Place-Based Workshop on energy in the upper Midwest this coming May?

## SYLLABUS, READINGS, AND HOMEWORK

### January 19

Introduction to the CHE Methods Seminar  
Learning to use your Kindle DX  
Getting to know each other: extended introductions  
Brainstorming goals and protocols for the seminar

**READING:** None.

### January 22: CHE Director's Potluck (come if at all possible)

This annual gathering at the start of the second semester is a great way to get to know or reconnect with members of the CHE community.

### January 26

Part I: What is a discipline, and how does one find one's bearings both within and between disciplinary spaces?

Part II: What are the basic stages of the academic research process, and what skills does one need to acquire to become an effective researcher?

Part III: Initial brainstorming session about kinds of documents we'd like to produce for CHE Place-Based Workshop on energy in the Upper Midwest.

**READING:** Wayne C. Booth, Gregory G. Colomb, Joseph M. Williams, *The Craft of Research* (University of Chicago Press, 3<sup>rd</sup> edition, 2008), entire. (available on Kindle, but you may want to own)

Definitions of the word "discipline" (and "interdisciplinary" and "transdisciplinary," *American Heritage Dictionary* and *Oxford English Dictionary*. (PDF)

Review research process portions and "How We Built This Website" page of *Learning to Do Historical Research* website: [www.williamcronon.net/researching/index.htm](http://www.williamcronon.net/researching/index.htm)

### February 2

Part I: Energy 101 (guests: John Nelson, Steve Brick)

Part II: Discussion of team projects on energy for the semester

**READINGS:** David J. C. MacKay, *Sustainable Energy -- Without the Hot Air*, 2009, available on Kindle or as PDF download from <http://www.withouthotair.com/download.html> ; read Parts I and II, skim remainder.

U.S. Energy Information Administration, "Overview," *Annual Energy Review* (2008). (PDF)

Vaclav Smil, "Moore's Curse and the Great Energy Delusion," *The American* (November-December 2008). (PDF)

Gert Jan Kramer and Margin Haigh, "No quick switch to low-carbon energy," *Nature* (December 2009). (PDF)

Isabel Galiana and Christopher Green, "Let the global technology race begin," *Nature* (December 2009). (PDF)

### February 9

Part I: What constitutes an interesting and important research question--and what shapes our judgment in deciding whether or not a question is "significant"? (Text: Lamont's *How Professors Think*)

Part II: Brief discussion of how to do "extensive reading" efficiently without driving yourself crazy.

Part III: Brainstorm and set goals for energy research we'll do together this semester to lay groundwork for the CHE Place-Based Workshop on May 15 and 17-20 on energy production, distribution, and consumption in the upper Midwest.

**READINGS:** Michèle Lamont, *How Professors Think: Inside the Curious World of Academic Judgment* (Cambridge, MA: Harvard University Press, 2009), 1-21, 53-106. (PDF)

William Cronon, "Getting Ready to Do History," *Carnegie Essays on the Doctorate* (2004), 1-17. (PDF)

Wayne C. Booth, Gregory G. Colomb, Joseph M. Williams, *The Craft of Research* (University of Chicago Press, 3<sup>rd</sup> edition, 2008, review chapters 3, 4, 11. (Kindle)

**WRITTEN ASSIGNMENT:** Bring to class a single well-formed research question that you feel confident most members of your discipline would regard as valuable and significant to ask about some aspect of energy.

### February 16

Part I: What constitutes an interesting and important research question--and what shapes our judgment in deciding whether or not a question is "significant"? (guest: Nancy Langston)

Part II: Finding energy in the libraries: reports from the scavenger hunt.

Part III: Resolving our second set of projects and teams.

**READINGS:** Nancy Langston, "The Retreat From Precaution: Regulating Diethylstilbestrol (DES), Endocrine Disruptors, And Environmental Health," *Environmental History* (January 2008), 41-65. (PDF)

American Society for Environmental History, 2008 Leopold-Hidy Award Citation for Nancy Langston's "The Retreat from Precaution." (PDF)

David Nye, *Consuming Power: A Social History of American Energies*, MIT Press, 1997. (Kindle; entire)

**WRITTEN ASSIGNMENT:** For the major energy sector on which your team will be doing its background paper, each *team* should bring to class the following documents:

- 1) A contemporary map that provides an especially effective global overview of the resource (if color is important to the map's message, please print it in color).
- 2) A photocopy (no more than 2-4 pages long) excerpted from a printed document dating to before World War II relating to the supply, demand, or use of the resource and implicitly suggesting how much our relationship to the resource has changed in the intervening years.
- 3) Two brief texts, images, or graphics separated by more than 50 years that suggest how much human relationships with this resource changed in the intervening years.

At least two of these sources should come from traditional paper-based libraries rather than the Internet; and at least one should come from a library you've never or rarely used.

Finally, each *individual* member of the seminar should come to class with one vivid anecdote or factual summary (no more than 150 words long) about past energy use drawn from your reading of David Nye's *Consuming Power*, paraphrasing and citing Nye as your source, and attach to your own anecdote a photocopy of the relevant portion of the main primary source on which Nye relied in constructing that anecdote. (You will probably find it efficient to seek out this primary source at the same time you are looking for the other sources listed above.)

## February 23

Part I: The appearance and disappearance of scientific objects and their analysis: energy in mid-twentieth-century ecological science as a case study. (guest: Gregg Mitman)

Part II: The shapes and forms of academic discourse.

Part III: More on documents, and templating our background papers on energy sources.

**READINGS:** H. G. Wells, Julian Huxley, and G. P. Wells, *The Science of Life*, Doubleday, 1931, 961-967, 1027-1032. (PDF)

Raymond Lindeman, "The Trophic-Dynamic Aspect of Ecology," *Ecology* 23 (1942): 399-418

Howard T. Odum, "Power in Ecological Systems," *Environment, Power, and Society*, Wiley, 1971, 58-103. (PDF)

Peter Taylor, "Technocratic Optimism, H. T. Odum, and the Partial Transformation of Ecological Metaphor after World War II," *Journal of the History of Biology* (1988): 213-244.

Lorraine Daston, "The Coming Into Being of Scientific Objects," *Biographies of Scientific Objects*, University of Chicago Press, 2000, 1-14. (PDF)

**ASSIGNMENT:** Determine when the word "ecosystem" was first coined and came into general use in the science of ecology. If you can figure out why the term was adopted and what preceding concept it was designed to critique or replace, so much the better. To practice doing this as a group project, I've created a Google Docs file called "Origins of Ecosystems," into which you should all contribute quotations, interpretations, comments, and discussion to see if together we can deepen our collective understanding of this crucial term. Please include citations for any information you add. Have fun!

**ASSIGNMENT:** Meet with the team member with whom you are doing your background paper on a major energy source, and brainstorm major section headings into which you think the paper should be divided. To the extent that we want these papers to parallel each other, think about which section headings apply universally to all these papers, and whether there are any that apply uniquely only to your own and/or a few others. Our goal this week will be to create a basic template that we want all of these papers to follow, and think about setting deadlines for completing the two major written projects. Finally, give some thought to the comparative matrix of different energy sources that we've said all teams should contribute toward creating: if its columns are our different energy sources, what should its rows be?

## March 2

Part I: Reading a Poem Is Different from Reading a Scientific Article (guests: Sara Hotchkiss, Lynn Keller)

Part II: Finalizing the template and deadlines for our energy resource sector background papers, and a discussion of audience, voice, and style for these papers.

**READINGS:** Poems from Srikanth Reddy's *Facts for Strangers*. (PDF)

Lynn Keller, "Called Back to Earth: Ecopoetics in Reddy's *Facts for Strangers* and Wier's *Reverse Rapture*." (PDF)

Sara C. Hotchkiss, Randy Calcote, & Elizabeth A. Lynch, "Response of vegetation and fire to Little Ice Age climate change: regional continuity and landscape heterogeneity," *Landscape Ecology*, 22 (2007), 25-41. (PDF)

Sara Hotchkiss, Peter M. Vitousek, Oliver A. Chadwick, & Jonathan Price, "Climate Cycles, Geomorphological Change, and the Interpretation of Soil and Ecosystem Development," *Ecosystems*, 3 (2000), 522-33. (PDF)

## March 9: No Class for American Society for Environmental History (ASEH) Meeting This Week

## March 16

Part I: The Joys and Challenges of Working in Interdisciplinary Teams (guests: Rob Beattie, Megan Raby, Andrew Stuhl)

Part II:

**READINGS:**

**March 23**

Part I: Using buildings and material culture to understand the built environment. (guest: Anna Andrzejewski)

Part II:

**READINGS:**

**March 30: No Class, UW-Madison Spring Break**

**April 6**

Part I:

Part II:

**READINGS:**

**April 13**

Part I:

Part II:

**READINGS:**

**April 20 (No Class, Conference for 40<sup>th</sup> Anniversary of Earth Day & Nelson Institute)**

**April 27 (No Scheduled Class Readings or Assignments; Full Seminar Discussion of Team Projects)**

**May 4**

Part I:

Part II:

**READINGS:**

**May 15: Special Saturday Symposium on Energy in Upper Midwest for CHE Place-Based Workshop (all seminar members should plan to attend and participate if at all possible)**

**May 17-20: CHE Place-Based Workshop on Energy in Upper Midwest (all seminar members should seriously consider attending this series of field trips if they can)**