

Agroecosystems Analysis
Sustainable Agriculture 509, Agronomy 509, Sociology 509, Anthropology 509
Fall Semester 2009, Field Component: July 31 - August 14
Rm. 1151 Jischke Honors Building

Instructors:

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Catalog description: Experiential, interdisciplinary examination of Midwestern agricultural/ food systems emphasizing field visits, with some classroom activities. Focus on understanding multiple elements, perspectives (agronomic, economic, ecologic, social, etc), and scales of operation. This course is co-listed as AGRON 509 SOC 509 and ANTHRO 509.

Course objectives:

- to provide a grounding in the complexity, subsystems, components, and historical and cultural roots of the dominant agricultural and food system
- to provide a common set of experiences to facilitate analysis and appreciation of the complexity, diversity and importance of agroecosystems
- to build appreciation of the complex variety of pathways and trade-offs involved in food's journey from field to fork to human and ecosystem health
- to introduce a spectrum of thought—from readings, speakers, site hosts—on the history, successes, challenges, and future of agriculture in the Midwest, the United States and beyond
- to develop competence and confidence in methods of assessing and evaluating dominant and alternative agroecosystems
- to facilitate student development by:
 - increasing learners' willingness to investigate personal beliefs, worldviews and preconceptions
 - increasing learners' appreciation of the beliefs, worldviews and preconceptions of others
 - sharing responsibility for managing and facilitating the course
- to put the idea of "community" to practical use within the class, academically and socially.

Learning objectives (as a result of taking the course, students will have):

- participated in a variety of field, classroom and group experiences that increase understanding of the components and the complexity of agroecosystems
- engaged in field research for the purpose of investigating central questions facing agriculture, especially the agriculture of the Midwest
- increased competence and confidence in reading and analyzing agricultural landscapes, especially the landscapes of the Midwest
- identified forces constraining and facilitating systemic change in agriculture, especially the agriculture of the Midwest

Required Readings:

We expect to see evidence of students having read and thought about the readings both in class discussions and in the journals.

Mainstream Agriculture and Food Systems—Issues and Concerns

- Babbitt, Bruce. 2005. "What's the matter with Iowa?" (pp. 97–114). *Cities in the Wilderness: a New Vision of Land Use in America*. Washington, DC: Island Press.
- DeVore, Brian. 2002. "Why Do They Do It?" (pp. 107-118) in Jackson, Dana L. and Laura L. Jackson (eds). *The Farm as Natural Habitat*. Washington DC: Island Press.
- Olmstead, Julia. 2006. "What About the Land? A look at the impacts of biofuels production in the US and the world". *Grist*. December 5. <http://www.grist.org/article/index/olmstead/PALL>
- Olmstead, Julia. 2006. "The Balancing Act: How experts measure the energy balance of alternative fuels". *Grist*. December 5.
- Pollan, Michael. 2007 "You Are What You Grow". *The New York Times Magazine*. April 22.
- Pollan, Michael. 2002. "An Animal's Place". *The New York Times Magazine*. November 10: (pp.58-65).
- Shapin, Steven. 2006. Paradise Sold. *The New Yorker*. May 15. (pp. 84-88).

Water

- DeWitt, Jerry. 2008. A firsthand look at the Iowa floods. Leopold Center Newsletter: <http://www.leopold.iastate.edu/pubs/nwl/2008/2008-2-leoletter/director.html>
- Flora, Cornelia Butler. (July, 1998). "Water: The Urban-Rural Connection".

The Farm Bill and Commodity Payments

- Ikerd, John E., "It's Time to Dismantle Failed Farm Programs". [http://web.missouri.edu/~ikerdj/papers/SFT-Farm%20Policy%20\(1-07\).htm](http://web.missouri.edu/~ikerdj/papers/SFT-Farm%20Policy%20(1-07).htm)
- Jackson, Wes and Wendell Berry. 2009. A 50-year Farm Bill New York Times Opinion. Jan 4. : http://www.nytimes.com/2009/01/05/opinion/05berry.html?_r=1&scp=1&sq=wes%20jackson&st=cse
- Marlow, Scott. 2005. The Non-Wonk Guide to Understanding Federal Commodity Payments. Pittsboro, North Carolina: Rural Advancement Foundation International.

Alternative Visions of Agriculture, Food Systems and the Economy

- Costanza, Robert. 2009. Toward a Sustainable Economy. *Real World Economics Review*. March 26. <http://www.commondreams.org/view/2009/03/26-10>
- Diamond, Jared. 1987. The Worst Mistake in the History of the Human Race. *Discover* (May): 64-66.
- Ikerd, John E., "Reclaiming the sacred in food and farming" <http://web.missouri.edu/~ikerdj/papers/Sacred.html>
- Jackson, Dana. 2002. The Farm as Natural Habitat. Pp 13-26 in Jackson, Dana L. and Laura L. Jackson (eds). *The Farm as Natural Habitat*. Washington DC: Island Press.
- Leopold, Aldo. 1999. "The Farmer as Conservationist" in J. Baird Callicott and Eric T. Freyfogle. *For the Health of the Land*. Washington DC: Island Press.
- Liebman, Matt et al. 2008. Agronomic and Economic Performance Characteristics of Conventional and Low-External-Input Cropping Systems in the Central Corn Belt. *Agronomy Journal* 100 (3): 600-610.
- Tagtow, Angie. (2008). "A Vision for 'Good Food' for Iowa: Linking Community-Based Food Systems to Healthy Iowans and Healthy Communities". Kellogg Foundation Food and Society Fellows Publications. <http://www.foodandsocietyfellows.org/publications.cfm?refID=102826>

Developing a Handle on Sustainability

- Meadows, Donella, 1998. Indicators and Information Systems for Sustainable Development. The Sustainability Institute. Hartland 4 Corners, VT.
- Meadows, Donella. [Leverage Points. Places to Intervene in a System](#). Sustainability Institute, Hartland Four Corners VT.

Reed, Mark S., Evan D.G. Fraser & Andrew J. Dougill. 2006. An adaptive learning process for developing and applying sustainability indicators with local communities. *Ecological Economics* 59: 406-418.

Observation and Communication

Cayer, Mario. 2005. The Five Dimensions of Bohm's Dialogue. Pp. 161-189 in B. Banathy and Jenlink (eds.), *Dialogue as a Means of Collective Communication*. New York: Kluwer Academic/Plenum.

Leopold, Aldo. Illinois Bus Ride. Pp. 117-119 in *Sand County Almanac*.

Preparations for travel:

Iowa in August is typically hot and humid. Wear comfortable clothes and functional walking shoes. (Though cool, sandals are not the best choice for walking farm fields.) Bring a water bottle (we won't carry disposable cups), sunscreen and a hat that will provide sun protection. Bring long pants and closed-toe shoes, as they are required for certain visits. Though we will be wearing plastic boots for most farm visits, please bring shoes/boots you have **not** worn on other farms to address biosanitary concerns.

Please inform us of any health issues we should be aware of (asthma, insect allergies, etc.), and if you have special dietary restrictions or needs, so that we can do our best to choose appropriate foods and stops. Review the food responsibility chart (we will append this when our travel itinerary is completed) and prepare to pack food as needed for meals on the road. Each van will have a shared cooler with ice.

We will be spending a fair amount of time in close quarters, especially when traveling in the vans. To make the situation as comfortable as possible for everyone, we ask that folks minimize the amount of personal belongings they carry as best they can and take special care with personal cleanliness and hygiene.

Photos are a vivid way to record your experiences, and we encourage you to bring a camera. *Make sure, however, that you ask permission to take pictures when we are on visits.* **Note:** The GPSA often uses photographs from SusAg 509 on its website, in printed promotional material and for presentation of the program to the public. The photos that are used are selected to highlight the students and the activities of the program. If you have objections to your image being used for these purposes, please inform the program's coordinator, Charles Sauer (csauer@iastate.edu) in writing.

We will make assignments for several individual tasks: (1) introducing the class to site visit hosts and guest presenters; (2) green team responsibilities; and (3) thank you letters. The teaching team will model the first two tasks on the first day of class.

- (1) **Introductions** At the beginning of each visit or prior to a guest presentation, one student will introduce the people we are visiting (or the guest speaker) to the class. Doing this will require reviewing the schedule for the day, seeking clarifications from the teaching team, and talking briefly with hosts (or guest presenters) upon arrival to get their names, and the names of family members or other supporting individuals present. The student will then introduce the hosts or presenters to the class and provide a short overview of what the class is all about. Then students and instructors will then introduce themselves, typically in round robin fashion as we will usually be gathered in a circle.
- (2) **Green team.** The second task is to pick up trash/recyclables, dispose of disposables, etc. in meeting rooms, whether on campus or in the field, at picnic sites, or in the vans. If booties are worn for a visit, green team members should make sure that they are gathered and disposed of properly. The assigned students should inspect both vans in the evening, gathering litter and sweeping out debris, and checking the status of the cooler in terms of orderliness, cleanliness, and ice (and reordering, cleaning, and adding ice as needed). Of course, everyone should be responsible for the litter and trash

they create (perhaps itself a learning experience in sustainability) but beyond that, a daily tidying goes a long way to making us all comfortable traveling together for two weeks.

- (3) Thank you letters. Every student will write at least one thank you letter to a guest speaker or site host. Thanks-you letters are always enhanced with a mention of something specific that was memorable or personal about that visit. Therefore, it's useful to think about keep some of these specifics in mind.

Expectations for site visits

During your two weeks in the field, you will (1) interact directly with the people, activities and settings making up various agroecosystems; (2) reflect upon and test your observations and judgments; and (3) envision and propose improved or alternative models of agroecosystems, informed by the insights and learning derived from course activities.

To interpret sustainable agriculture, you must understand and be able to critique agriculture as a whole. To be credible, effective, and pose informed conclusions, this critique must be based on an understanding of the forces that have shaped modern agriculture. To that end, we will visit settings that illustrate how humans engage in providing food for people in contemporary industrial society, and we will provide opportunities to understand first-hand the realities and worldviews of people who participate in the various roles in contemporary agroecosystems.

At each stop, you should feel free to interact with our hosts and to probe for insights into the facts, reasons, beliefs, rationale and worldview underlying their various agricultural practices. However, at all times be respectful of their dignity and integrity and refrain from instantaneous and public judgments of their roles and beliefs. View the field visits as data-collection activities; we will provide more appropriate settings to examine and discuss the data collected, express opinions, deconstruct and understand the worldviews expressed, and formulate hypotheses based on aggregate data collected throughout the course.

Course Grading:

- 35%: Journal
- 25%: Participation
- 15% Food Investigation Project
- 25%: Final Presentation (at GPSA Colloquium)

A. Journaling (35% of grade)

Students will keep a personal record of observations, thoughts, expectations, reactions and learning throughout the course. You are free (and encouraged!) to develop your own journaling style and format. However, we expect journaling to be methodical, substantive and introspective; and the journals to be intelligible to an outside reader – as the journal will be a key measure used to assess and evaluate your class performance. We expect you to incorporate insights from the assigned readings. Strive to update this journal at least once daily. The following questions might help structure journaling:

- What were your expectations?
- What questions did you anticipate asking?
- How did the actual experience compare with expectations?
- Were your questions answered?
- Did new questions arise? If so, why and what were they?
- How might you pursue these questions (during or after the course)?
- Viewing each visit as a data-collection activity, what patterns are you seeing emerge? (Or what prior beliefs are starting to disintegrate?)
- How might the day's experience and reflections bear upon subsequent course visits or experiences?
- What has the day brought to your own conceptions and preconceptions? What did you learn? What did you unlearn?

You are free to use any form of inscription for journaling during the class; however to save the eyesight and dispositions of those reading and assessing the journals later on, submit them their final form electronically as a Word document. Journals will be due early in the semester, at a date to be determined.

Criteria for evaluating journal:

- *Substance*: connecting visits to specific subject-matter points made in presentations and discussed and developed during reflection sessions, demonstration of how data collected during field visits affected insights and conclusions drawn. Must incorporate insights and references from the required readings
- *Thoroughness*: as evidenced by frequency of entries and coverage of range of subject matter discussed, developed, and presented field visits and on campus sessions.
- *Introspection*: demonstrate how existing thoughts and preconceptions affected approach to visits and subject matter discussed during reflection sessions and in interactions with hosts and fellow classmates.
- *Insights*: document development of novel thoughts and insights resulting directly from experiences or observations during visits or discussions. How did specific visits or the course experience as a whole contribute?
- *Breadth*: Evidence of incorporating assigned readings.

B. Participation: (25% of grade)

We expect three kinds of participation from every student: discussion, reflection and co-creation of the course. Scheduled time is provided for reflection, which involves collective review, analysis, discussion and extraction of meaning from the day's activities. These sessions are critical for synthesis and capture of novel insights and ideas. Some will be student moderated.

Sample criteria for evaluating participation:

- Quality:
 - Was the student's participation constructive in terms of helping to overcome collective mental barriers, or providing an environment for the discussion of different perspectives?
 - Were the student's comments and ideas conducive to greater understanding and/or creative thinking?
 - Did the student on occasion integrate reference to the assigned readings into reflection sessions and other class activities?
- Uniqueness:
 - Did the student's specific contributions provide group insights and benefits that would have been lacking in the student's absence?
 - Did the student's particular background perspectives benefit the group's understanding?
- Shared responsibility:
 - Did student contribute to co-structuring the class?
 - Did student accept class responsibilities (i.e. for managing reflection, group activities, etc...)

C. Food Investigation Exercise (15% of grade)

This exercise will take place Sunday, August 9th, with a class picnic at Brookside Park, Maple Shelter. More details will come in a supplemental handout.

Sample criteria for evaluating food investigation

- Working together as a team: division of responsibilities and work; contribution to the final presentation and written overview
- Evidence of thought in determining the choice of foods and wrestling with the issues and concerns of sustainability and their implications for the foods we acquire and eat
- Inclusion of a clear explanation of your group's food choice(s) for the meal
- Creativity in the presentation

- Clarity of the written overview
- Submission of each member's peer evaluation

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| Presentation | 10% |
| Write-up | <u>5%</u> |
| Total | 15% |

D. Final presentations: Indicators in Action (25% of grade)

Students will work small groups to synthesize insights and learning from readings, field visits and discussion and reflection sessions. The venue for these presentations will be two sessions of the GPSA Colloquium during the first weeks of fall semester

We will spend much of the course talking about ways in which we understand and assess sustainability. We will adopt an “indicators of agricultural sustainability” approach to organize this discussion and the final presentations. As a class, we will consider a variety of frameworks for organizing indicators of sustainability, and issues that commonly surface in applications of indicators of sustainability. Our discussions will entail coming to grips with the vision of sustainability that is underlying the future to which the indicators are pointing, the values that inform this vision, and the potential consequences and downstream effects of moving toward that vision.

We will move toward selecting topics during the second week of class, and form groups before the end of field portion of the class. Each group will select some locus of sustainability from the different faces of the agricultural and food system of Iowa, identify indicators for assessing progress, and propose a strategy for collecting, organizing, and communicating this information. We will allocate time during the last day of class for groups to do “first runs” of their presentations so that they benefit from the critique and feedback from the class. We will also select dates for final presentations.

Criteria for evaluating presentation

Groups:

- Explanation of choice of indicators, including the vision of sustainability addressed
- The potential effectiveness of the indicators in measuring the qualities identified and the feasibility of methods proposed for collecting information
- Using the resources of the class to good advantage: showing evidence of having learned from the readings and the collective expertise of fellow students, instructors, and hosts.
- Using the resources of the group to good advantage: considering and utilizing team members' unique abilities, perspectives and skills.

Individuals:

- Student showed comprehension and creativity in conceptualizing and communicating issues addressed in the course
- Student made a fair contribution to the content, coordination, leadership, and presentation of group work.
- Student participated in, or supported, group interaction and discussion with the audience of each presentation.

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| Content: | 20% |
| Cohesiveness | 5% |
| Creativity/interest | <u>5%</u> |
| Total | 30% |

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SOCIOLOGY CODE OF ETHICS FOR HUMAN RELATIONS: *The Department of Sociology is committed to providing a professional and educational environment that is free of discrimination and harassment. The department's Code of Ethics for Human Relations and the Procedures for Filing Complaints of Discrimination or Harassment are posted on the bulletin boards on all five floors of East Hall.*

