

**CCS/NRM/GEOG 493 SYLLABUS
COMPARATIVE FARMING AND SUSTAINABLE FOOD SYSTEMS
SPRING SEMESTER
2010
3 CREDITS**

INSTRUCTOR CONTACT INFORMATION

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Office Hours: 10:00-12:00, Friday
Class Time: 11:30-1:00, TR
Class Location: 203 Reichardt Building

PREREQUISITES

Required: ANTH 100X, ANTH 111X, GEOG 101, NRM 101, or other coursework concerning economic and social development, or cross-cultural comparisons. Enrollment is also possible with permission of instructor.

COURSE MATERIALS

On-line materials pertaining to farming and food systems research will be distributed throughout the semester. Assignments and readings will be discussed in class. Supplemental readings will be distributed electronically, and/or as “hard copy.” Background material on: (1) human-environment interactions and the role of human action in enhancing or degrading ecosystem structure and function through food consumption, collection and agricultural production activities; and (2) theoretical and applied perspectives and frameworks from sustainability science, geography, political ecology, ethnography and ecosystem and agricultural science, will be available through ERES. This is accessed through <http://eres.uaf.edu> (password: sustain).

REQUIRED TEXTS

Ingram, John, Polly Erickson, and Diana Liveman, eds
2010 Food Security and Global Environmental Change. Earthscan Publishers.
Lappe, Anna
2010 Diet For A Hot Planet, The Climate Crisis at the End of Your Fork and What You Can Do About It. Bloomsbury, USA.
Nabhan, Gary,
2009 Where our Food Comes from: Retracing Nikolay Vavilov’s Quest to End Famine. Island Press.
Altieri, Miguel
1995 Agroecology, The Science of Sustainable Agriculture. Westview Press, Second Edition.
Berry, Wendell
1977 The Unsettling of America, Culture and Agriculture. Sierra Club Books.

RECOMMENDED TEXTS (Selected sections will be distributed electronically)

- Friese, Kurt, Kraig Kraft, and Gary Nabhan
2011 Chasing Chiles, Hot Spots Along the Pepper Trail. (Available, February, 2011)
Costa, Temra
2010 Farmer Jane, Women Changing the Way We Eat. Gibbs Smith
Thompson, Peter
2010 Seeds, Sex and Civilization, How the Hidden Life of Plants has Changed Our World. Thames and Hudson.
National Research Council
2009 Transforming Agricultural Education for a Changing World. The National Academies Press, Washington D.C.
Pollan, Michael
2008 In Defense of Food, An Eater's Manifesto. The Penguin Press.
Sayre, Nathan
2005 Working Wilderness, The Malpais Borderlands Group and the Future of the Western Range. Rio Nuevo Publishers, Tucson.
Pretty, Jules
2005 The Earthscan Reader in Sustainable Agriculture. Earthscan.
Kloppenburg, J.R.
2004 First the Seed, The Political Economy of Plant Biotechnology, 1492-2000. University of Wisconsin Press.
Jackson, D. and L. Jackson (eds)
2002 The Fatal Harvest Reader, The Tragedy of Industrial Agriculture. Island Press.
Uphoff, Norman (ed)
2002 Agroecological Innovations, Increasing Food Production with Participatory Development. Earthscan.
Brookfield, H., C. Padoch, H. Parsons, and M. Stocking
2002 Cultivating Biodiversity, Understanding, Analyzing and Using Agricultural Diversity. UNEP, United Nations University.
Jackson, D.L., and L. L. Jackson (eds)
2002 The Farm as Natural Habitat. Reconnecting Food Systems with Ecosystems. Island Press.
Bove, Jose and Francois Dufour
2001 The World is Not For Sale, Farmers Against Junk Food. Verso, London and New York (translated from the French Original).
Pretty, Jules
1995 Regenerating Agriculture. Earthscan Publishers.

COURSE DESCRIPTION

In this course we review the basic principles of food systems geography, food and nutritional security and insecurity, work with cross cultural perspectives on culinary and dietary traditions, poverty, hunger, equity, access and distribution throughout the global, regional and local food systems. We will critically review large, medium and small scale agricultural systems, look at farming as science, art and practice through comparison of industrial, organic, natural and ecological systems, and through the contrast of historically proven crop and livestock production systems with new and innovative

strategies for developing strong and resilient/sustainable food systems at multiple scales. We will work with Alaskan and other high latitude production and food systems, including emphasis on the country food and wild game harvest within a context of the nutrition transition, a transition that includes the rural and the urban, food from the store rather than from the country or the garden, and that occurs at different times and in different places around the world.

We will also compare and contrast to other food and farming systems from around the world, and will situate this discussion in a general context of social, ecological and economic sustainability. The problems posed here are complex and require interdisciplinary perspectives if we are to define and implement integrated and well designed solutions to the problem of food production, consumption, food security and insecurity. Interdisciplinary here means the integration of concepts derived from agroecology, geography, political ecology, other relevant social sciences, ecosystem science, food and nutritional ecology.

While academic disciplines tend to fragment into one-dimensional islands of thought, I rather prefer to work toward cross-disciplinary understanding of problems through intelligent integration of ideas with applied standards of practice. Sustainability is a word that has come to mean everything and nothing through use and abuse, so we can think instead of the Japanese word---*shizen*---a word that I understand to mean a spontaneous, self-renewing sacred and natural world of which humans are inextricably a part. Through the course we will explore this idea through review and understanding of farming and food as culture, art, science and practice.

The overall problem: What can be done about “real world” food, farming and agricultural problems, where is the contemporary agroecological system strong, where is it weak with respect to restoration and renewability, how can we be better educated and more innovative in dealing with food production, distribution, access, and the promotion of ecosystem health? My own bias is toward the small-scale, local and “slow” crop and livestock production systems, and toward the development of appropriately scaled systems that promote functionally integrated farm models, strong farm economies and healthy rural communities, but I am also interested in on-farm innovation and policy barriers and constraints that promote successful farmers who are on the land, and intelligent consumption of healthy foods.

COURSE GOALS

(1) We will review and evaluate existing problems in industrial food production, look at alternatives to industrial production, including but not limited to organic, natural systems farming, perennials as opposed to annuals, the appropriate use of heirloom livestock breeds, etc., and we will analyze and discuss the problems and prospects from multiple social, historical and ecological perspectives with information and ideas drawn from many different disciplines;

(2) We will review the role of food systems and nutrition in promoting or degrading individual, community and ecosystem health;

(3) We will examine the forces/stressors (internal, external) that condition food collection/production activities in Alaska and other high latitude systems, with comparison to food and farming systems in Latin America, Africa and Asia;

(4) We will define and analyze where agricultural/farming systems are vulnerable to change in economic, socioeconomic and climatic drivers;

(5) We will review how food production enhances or degrades ecosystem services through human action and practice, examine how and under what conditions small and large-scale agroecological systems integrate or fragment ecosystems, and work toward a better understanding of how and under what conditions appropriately scaled systems that promote or degrade community viability and health are important.

STUDENT LEARNING OBJECTIVES

- To gain an understanding of the development and geographical diffusion of cultivars, cultigens and livestock; land use; and social interaction and trade in relation to food systems.
- To develop an understanding of how and why certain agricultural innovations, and food and culinary traditions develop in specific places, within a context of understanding systems of agricultural development.
- To examine the role of humans as agents of change, and to view humans as active rather than passive players on dynamic landscapes, and how and under what conditions crop and livestock production systems enhance or degrade ecosystem structure and function over short and long time scales.
- To take a broad, interdisciplinary perspective on food production activities, incorporating and synthesizing all aspects of human culture, society and geography to create a more comprehensive, holistic interpretation of how food systems are evolving globally today.
- To understand the transitions that farming and food systems have gone through in the past, to see where those transitions have brought human societies today, and to be able to develop scenarios and models, forecasts and projections about how such transitions may progress in the future.

COURSE REQUIREMENTS/EXPECTATIONS

Lecture and discussion topics are listed by week in the syllabus. Readings are assigned at beginning of each class period. You are expected to read and be prepared to discuss everything that is assigned.

There will be a take home mid term exam and a take home final. There will be weekly assignments, including discussion of the readings and oral presentations. Graduate students are responsible for leading discussion of specific readings and “mentoring” undergraduates conducting group projects.

Specific problem sets will be assigned throughout the semester, with these requiring analysis and formally written answers. There will be a group research project that we

will all be working on, with an oral presentation by the group scheduled for two weeks before the end of the semester, and final paper/analysis due the day that the final exam is scheduled. You are expected to come to class, to participate, to do all readings and assignments.

Final grades will be based on effort, interest, contributions to weekly discussions, performance on individual written assignments and group projects (see grade distribution below). Everyone has an A going in; it is your job to maintain it. You are expected to turn in assignments on time. If you have to miss class, be late, leave early, etc., you need to let one of us know.

GRADE DISTRIBUTION

UNDERGRADUATE

Weekly Problem Sets	20%
Mid-Term Exam	20%
Final Exam	20%
Contributions to class discussion	20%
Final Paper/Presentation	20%

GRADUATE

Weekly problem sets	20%
Mid-Term Exam	20%
Final Exam	20%
Contributions to class discussion	20%
Define topic, present and lead	10%
Class discussion; oral presentation	
Final Paper	10%

A NOTE ON FINAL RESEARCH PAPER: This pertains to both graduates and undergraduates. The final paper should not be more than 20 pages in length, and this does not include references cited, maps, figures, tables, flow charts, graphs, etc. Appropriate citations and appropriate use of referenced material is a key component, and beware of an over emphasis on citations from the web. All tables, graphs, maps, statistical analyses, etc. are included within text and are included within the page length. Shorter is fine if problem coverage is sufficient, but this requires efficiency in scoping the outline and in the writing. All research topics for the final written research paper must be discussed with and approved by me within the first two weeks of the class.

A written abstract and overview of the project is due within the first two weeks of the class.

WEEKLY TOPICS AND SCHEDULE

Week 1

Introduction: Comprehensive overview of course, goals, objectives, expectations, and grading system. Frameworks for analysis of food systems and agricultural/farming systems defined and discussed.

Week 2

From chilies to chocolate and where our food comes from: Pre-Columbian exchange and food production systems, crop and crop complexes, global review of centers of crop and livestock domestication and production.

Reading: Gary Nabhan, “Where Our Food Comes from: Retracing Nilolay Vavilov’s Quest to End Famine.” Island Press

Week 3

The cultural, ecological and political economy of the global food system: Local, regional and global food security problems; hunger, poverty, agricultural overshoot, vulnerabilities in the global food supply. The first principles of food system analysis outlined, and discussion of what we eat, how we eat, nutrition and health.

Reading: Michael Pollan, “In Defense of Food, An Eater’s Manifesto. The Penguin Press

Week 4

A review of traditional farming, gardening and agricultural systems, and the value of indigenous/local farmer knowledge in understanding how farm systems work to promote or degrade ecosystem structure and function. Overview of the historical context for the contemporary food and agricultural situation.

Reading: Wendell Berry, *The Unsettling of America, Culture and Agriculture*. Sierra Club Books

Week 5

Agroecology and the science of sustainable agriculture: Principles reviewed. The meaning of sustainability reviewed.

Reading: Miguel Altieri, *Agroecology, The Science of Sustainable Agriculture*. Westview Press, Second edition

Week 6

Mode of production typology: Review and evaluation of industrial agriculture, including discussion of agroecosystem degradation, problems with agricultural economic and industrial models rooted in western food production, food quality, etc.

Week 7

Alternative Modes of Production: Review and evaluation of organic systems of production, natural systems farming, economies of small, biodiversity and the farm, community supported agriculture, urban and community gardens, farmer's markets, indigenous cooperative movements;

Week 8

Take home Mid-Term handed out and discussed.

Week 9

Comparative review of traditional, small-scale agricultural production systems: culture and ecology of tropical and temperate swidden systems, and selected dry-land systems.

Week 10

The Farm as Natural Habitat: Reconnecting Food Systems with Ecosystems. Farming with the wild, enhancing biodiversity, rediscovering the cultural in agricultural, looking at ways to renew healthy farm communities, strong local economies, and healthy ecosystems.

Reading: Jackson and Jackson, *The Farm as Natural Habitat: Reconnecting Food Systems with Ecosystems*. Island Press

Mid-term handed in

Week 11

Agropastoral/agroecological systems: human-livestock, livestock-grass, grass-soil, soil-livestock-livestock-human, human-ecosystem, and biophysical and cultural health interactions as expressed through a better understanding of the historical ecology of food system traditions and distributions (North America and Africa). Modeling agropastoral systems (South Turkana Ecosystem Project, the Malpais Borderlands, etc).

Reading: Nathan Sayre, Working Wilderness, The Malpais Borderlands Group and the Future of the Western Range. Westview Press.

Week 12

Farming with the Wild. Enhancing biodiversity, ecosystem and community health, and enhancing profit margins on farms and ranches

Final Exam handed out

Week 13

Final exam handed out and discussed

Weeks 15/16

Class Presentations

Week 16

Final Exam and final paper handed in

UAF POLICIES

You are expected to read, understand and adhere to the academic code of honor detailed in the UAF Catalog. If you have a disability or for any reason need special consideration, let us know and we accommodate your special needs as appropriate. There is an elevator in Signer's Hall that provides access to the third floor of Eielson. Priority seating is available according to need. A note on "borrowing": remember-copying one author without attribution is plagiarism; using the results of many with attribution is research.

DISABILITIES SERVICES

The University of Alaska is committed to providing equal access for students with "disabilities." The Office of Disabilities Services implements the Americans with Disabilities Act (ADA) to ensure that all students have equal access to campus and course materials. We will work with this office to provide reasonable accommodation to students with disabilities. Please advise in advance in writing if you need special consideration. (The ADA defines disabilities and this is the guideline; insomnia, irritability, nutritional deficit disorder, etc., are not included.)

CELL PHONES AND IN CLASS COMPUTER USE

It is not a good idea to let your cell phone ring during class, and you are expected to use your computer appropriately.
