

# ENVS 154: Principles of Sustainable Agriculture

Spring 2008  
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Class meets: Thursdays 1:30-6:30 p.m.  
Office hours: Wednesdays 9:30-12:30; WSQ 118b

## **Course Objectives:**

As recently as 50 years ago, Silicon Valley was still known as the Valley of Heart's Delight, due to its world-renowned orchards, vineyards and meadows. Today, the majority of peaches and grapes eaten in the U.S. are imported, at great energy cost, from other countries. Insecticide, herbicide and fertilizer use, staples of California's production agricultural systems, continue to increase worldwide, but agricultural yields are dropping in the most intensified agroecosystems. More than enough food is produced for every human being on earth to be well-fed, yet millions go hungry every night.



And modern agriculture contributes some of the greatest environmental damage we see in the world today. But what about sustainable agriculture? California is home to some of the most innovative alternative agricultural practices in the world as well. Organic farming has finally been recognized by the USDA, and organic acreage is growing at an unprecedented rate worldwide. Fair-trade and biodiversity-friendly farming are on the upswing as well. But are they really sustainable?

The goals of this course are thus 1) to examine the environmental costs and benefits of conventional modern food production in California and around the world 2) to contrast these with existing, historic and experimental alternative food production methods and 3) to learn research methods from the natural and social sciences to help promote and restore the sustainability of food systems locally, nationally, and internationally.

## **Course Format:**

This course combines lecture and in-class discussion with field trips and labs. There are two major written research assignments (one individual term paper and one group field research project); each student will lead one 30-minute class discussion of readings; and a short journal entry will be handed in for each field trip. **Prerequisite:** EnvS 001 or instructor permission.

## **Required Texts:**

Gliessman, Stephen R. 2007. *Agroecology: Ecological Processes in Sustainable Agriculture* Ann Arbor Press, Chelsea, MI. 384 pp.

Gliessman, Stephen R. 2007. *Field and Laboratory Investigations in Agroecology*. Lewis Publishers, Boca Raton, Fla. 330 pp.

## **Reference Journals**

*Agricultural, Ecosystems and the Environment*

*California Agriculture*

*Ecological Applications*

*Environmental Entomology*

## **Grading**

Field trip/lab notebook (handed in 3x @ 12% ea)	36%
<b><u>Group Research Project: Lab 7 or 19</u></b>	<b>12%</b>
Final lab report	7%
poster (group)	5%
<b><u>Term Paper</u></b>	<b>34%</b>
Topic Proposal	2%
Bibliography	4%
Annotated Outline (3-5 pp)	7%
First Draft (10-15pp)	8%
Final Draft (15 pp)	10%
Presentation	3%
Discussion Facilitation	5%
Participation/freewrites	12%
<b>Total</b>	<b>100%</b>

**Readings:** Students lead discussion, and all students are expected to complete readings before the scheduled class period and to participate actively in discussions.

**Lab/Field trips:** are a mandatory component of the course and generally cannot be made up.

**Attire and preparation:** Dress to get dirty and be in the sun! You may keep a set of dirty clothes in my office if you need to, but wear sunscreen and a hat and sunglasses. LONG PANTS and closed toed shoes (ideally boots!) are important for farm safety.

**Students with disabilities:** If you need course adaptations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please see me during office hours or make an appointment, or email me.

**Withdrawal policy:** Before February 4<sup>th</sup>, you may drop a class without penalty. After that date, you must withdraw from the course. This can only be done through Counseling Services in the Administration Building, and only for serious and compelling reasons. Your instructor is not authorized to drop you after the drop date.

**Academic integrity:** We're all here to learn. We learn by listening, talking, and most importantly, doing. Presenting your own work can be really hard, and is often scary, but it is the only way to grow and learn. Please don't plagiarize. For full definitions and consequences of academic dishonesty, see <http://www.sjsu.edu/senate/S04-12>.

### **Some Useful Websites**

National organic standards

<http://www.ams.usda.gov/nop/NOP/standards/FullText.pdf>

International Federation of Organic Agriculture Movements (IFOAM) <http://www.ifoam.org/>

National Sustainable Agriculture Information Service [www.attra.org](http://www.attra.org)

Alternative Farming Systems Information Center <http://www.nalusda.gov/afsic/ofp/ofp.htm>

The UCSC Center for Agroecology & Sustainable Food Systems <http://casfs.ucsc.edu/>

Organic Materials Review Institute [www.omri.org](http://www.omri.org)

International Social and Environmental Accreditation and Labelling (ISEAL) Alliance  
Social Accountability in Sustainable Agriculture (SASA) <http://www.isealalliance.org/index.cfm?nodeid=1>

Community Alliance with Family Farmers (CAFF) <http://www.caff.org/>

Agroecology/Sustainable Ag Program at the University of Illinois <http://asap.sustainability.uiuc.edu/>

Soil and Water Conservation Society <http://www.swcs.org/>

Rodale Institute <http://fadr.msu.ru/rodale/>

Sustainable Practices for Vegetable Production in the South: North Carolina State University <http://www2.ncsu.edu/ncsu/cals/sustainable/peet/>

University of California Sustainable Agriculture Research and Education Program (SAREP) <http://www.sarep.ucdavis.edu/>  
Northeast Region SARE <http://www.uvm.edu/~nesare/index.html>

Center for Sustainable Agriculture  
University of Vermont & State Agricultural College <http://www.uvm.edu/~susagctr/>

Center for Sustaining Agriculture and Natural Resources (CSANR) Washington State University <http://csanr.wsu.edu/>

Center for Sustainable Agricultural Systems  
University of Nebraska-Lincoln <http://ianrwww.unl.edu/ianr/csas/>

Agriculture Network Information Center (AgNIC) <http://www.agnic.org/>

United States Department of Agriculture (USDA) <http://www.usda.gov/>

USDA Agricultural Research Service (ARS) <http://www.ars.usda.gov/>

USDA Natural Resources Conservation Service (NRCS) <http://www.nhq.nrcs.usda.gov/>

National Agricultural Library <http://www.nal.usda.gov/>

Water Quality Information Center <http://www.nal.usda.gov/wqic>

American Society of Agronomy <http://www.agronomy.org>

North Dakota State University Extension Service <http://www.ext.nodak.edu/>

Oklahoma Cooperative Extension Service [http://www.okstate.edu/OSU\\_Ag/agedcm4h/bobslis.t.htm](http://www.okstate.edu/OSU_Ag/agedcm4h/bobslis.t.htm)

American Farmland Trust <http://www.farmland.org>

Center for Integrated Agricultural Systems <http://www.wisc.edu/cias/>

Institute of Agriculture & Natural Resources (IANR) <http://ianrwww.unl.edu/>

The Kerr Center for Sustainable Agriculture Inc. <http://www.kerrcenter.com/>

Nebraska Sustainable Agriculture Society [www.netins.net/showcase/nsas/](http://www.netins.net/showcase/nsas/)

Sustainable Farming Connection <http://sunsite.unc.edu/farming-connection>

Pest Management at the Crossroads <http://www.pmac.net/>

Consultative Group on International Agricultural Research (CGIAR) <http://www.cgiar.org/>

CityFarmer Canada <http://www.cityfarmer.org/>

Don't Panic Eat Organic <http://www.rain.org/~sals/my.html>