

ENVS 154: Principles of Sustainable Agriculture

Spring 2007
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Class meets: Tuesdays 1:30-6:00 p.m.
Office hours: Mondays 9:30-12:30; WSQ 118b
Teaching Assistant: Ariel Rivers

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