

The logo for Living Routes features the words "Living" and "Routes" in a bold, sans-serif font, stacked vertically. The text is framed by two horizontal wavy lines, one above "Living" and one below "Routes".

**Living
Routes**

Study Abroad in Ecovillages

USA:
Permaculture at Sirius

Summer Term 2010
July 16- August 5, 2010

ACADEMIC CURRICULUM



UMASS
AMHERST

OVERVIEW	3
SIRIUS AS COMMUNITY	3
COURSE SYLLABUS	
U.S.A – PERMACULTURE AT SIRIUS	4
COURSE DESCRIPTION	4
COURSE OBJECTIVES	4
LEARNING MODALITIES	5
COURSE OUTLINE	5
DAILY SCHEDULE	6
COURSE REQUIREMENTS	7
GRADING	8
COURSE TEXT	8
SELECTED BIBLIOGRAPHY	8

Overview

Student participating in this course will learn how to create sustainable, productive, and beautiful human environments using natural ecosystems as models. Permaculture is an evolving and expanding design system for ecological living, integrating plants, animals, buildings, people, and communities.

Through experiential, participatory, field-based, and classroom learning, participants will explore the relationships between personal, social, and ecological sustainability in the rich context of life at the Sirius Community - an educational and spiritual ecovillage in scenic western Massachusetts.

For more program details, including faculty, visit our Sirius program web page at: http://www.livingroutes.org/programs/p_sirius.htm

Sirius as Community

Former members of the Findhorn Foundation who were inspired to create a similar community in the U.S founded Sirius in 1978. After a long search, they settled on 90 acres of land in western Massachusetts, which were once sacred grounds for local Native American tribes. The community was named after the brightest star in the sky and holds the vision of continually evolving as a spiritual community, a non-profit educational center, and an Ecovillage. Today, there are approximately 30 members at Sirius with many ex-members and supportive neighbors nearby.

Sirius has a commitment to living in harmony with the Earth. Examples of this lifestyle include using renewable energy sources (e.g., wind power and photovoltaics), organic gardening (e.g., integrated pest management, conscious attunement to plant energies, and permaculture techniques), green building (e.g., local, non-toxic materials, passive-solar design, super-insulation); recycling (e.g., free clothing store, re-using building materials, composting toilets). It also means striving towards simplicity, integrity, and non-violence in our relationships to each other, our environment, and ourselves.

U.S.A – Permaculture at Sirius

Program: USA: Permaculture at Sirius

Department: Natural Resources Conservation

Course #: NRC 398P

UMass Faculty Sponsor: Simi Hoque

LR Faculty: Kay Cafasso and Mark Krawczyk

Credits: 4

Term: Summer 20010

Course Description

Permaculture is a design system for ecological living, integrating plants, animals, buildings, people, and communities. It offers a new paradigm for creating sustainable, productive and beautiful human environments using natural ecosystems as models. Through experiential, participatory and classroom learning, participants will explore the relationships between personal, social, and ecological sustainability in the rich context of life in an ecovillage. Course graduates will receive a Permaculture Design Course certificate. Students may elect to receive 4 college credits through UMass Amherst. An introductory course in biology, ecology, agriculture or environmental science may be helpful, but is not required.

The program focuses on design as an ecological process, assessing natural systems, and weaving integrated solutions to local and global problems. Faculty guide students through the design of projects beginning with interviews of clients, needs assessment, development of real solutions, and culminate in formal design and presentations. Class and research time will be at Sirius' beautiful Octagon meeting room as well as in the gardens, forest, homes and orchards that surround it. At least one daylong field trip is scheduled to visit local permaculture projects. Graduates of this course receive a Permaculture Design Certificate.

Course Objectives

Participants in this course will gain the information, skills and mindset needed to design and sustain human settlements using ecological design principles. The following are the courses key objectives.

1. Participants will learn and use essential permaculture design skills, including:
 - basic landscape components and fundamental ecological design principles;
 - key ecological design strategies for home-scale systems;
 - design methods, techniques, patterns and processes;
 - *most importantly*, ecosystem integration, that is the relationships between elements, not the elements themselves.

2. Participants will demonstrate skill development in the following areas:
 - design skills: base mapping, site analysis and assessment, site design;
 - community interaction and participation skills;
 - ecological skills: observation, interpretation, identification, pattern recognition, systems understanding;
 - spiritual skills: contemplation, meditation, self-awareness, intuition.
3. Participants will learn about and experience the ecological paradigm by developing:
 - a sense of the natural world's wholeness, and their place in it;
 - a connection to their own innate design process;
 - new insights into how their belief system affects their perceptions;
 - a paradigm shift towards an ecological world-view;
 - empowerment to create a sustainable habitat for themselves.

Learning Modalities

The faculty of the *U.S.A – Permaculture at Sirius* course use lectures, discussions, site visits, small group work and hands on projects as key strategies to allow each student to develop mastery of course content.

Course Outline

The following is the order in which students will develop mastery of course content and permaculture design principles.

Note: This outline is subject to change both before and during the course based on student learning goals, weather, and other factors.

- I. The Essence of Ecological Design
 - A. Context
 - B. Evidence, Problem Statement
 - C. What Is Permaculture?
 - D. Culture, Ethics, Values
 - E. Orientation to Sirius Community
 - F. Principles & Natural Systems Dynamics
 - G. Design-Build Exercise
 - H. Site Tour
- II. Design: Key Verb of Permaculture
 - A. Design Processes and Methods
 - B. Ecovillages Around the World
 - C. Sketch Problem
 - D. Design Team Formation & Tasks
 - E. First Impressions & Client Interviews
 - F. Goals Statements.

III. Working With Fundamental Landscape Components

- A. Climate & Landform
- B. “Waste” Treatment
- C. Water and Aquaculture
- D. Access & Circulation
- E. Contours, Leveling
- F. Microclimates
- G. Buildings, Infrastructure and Appropriate Technology
- H. Animals in Permaculture
- I. Zones of Use
- J. Soils
- K. Site Analysis Studies
- L. Site Analysis Summary
- M. Team Presentations

IV. Designing The Human Habitat

- A. Design Processes
- B. Zone 0: The Third Skin (Buildings)
- C. Zone 1 & 2 Design: The Home System
- D. Zones 3, 4 & 5: Broadscale Permaculture
- E. Design Concepts & Schemes
- F. Forest Gardens
- G. Design Schemes & Details
- H. Final Project Design
- I. Project Presentations
- J. Third World Permaculture
- K. Ecological Economics: Personal & Political Scale
- L. Design Project Wrap Up.

Daily Schedule

What follows is a typical daily schedule during the course (draft, subject to revision). A more detailed day-to-day schedule will be made available at the start of the course.

- 6:00 - Yoga or other morning activity. (Optional)
- 6:45 - Breakfast set up team
- 7:00 - Breakfast
- 7:45 - Kitchen clean-up team / Meditation by Sirius
- 8:00 - Sirius Meditation concludes
- 8:00 - Meditation / Check-in / Re-Vision
- 9:00 - Session I
- 10:30 - Break & Snack
- 11:00 - Session II
- 12:30 - The Shift
- 1:00 - Lunch
- 1:45 - Kitchen clean up and free time

2:30	-	Session III
3:45	-	Break
4:15	-	Session IV
5:30	-	Daily Integration (evaluation, journaling...)
6:30	-	Dinner
7:15	-	Free time OR kitchen clean-up team
8:00	-	Session V (some evenings)

Course Requirements

A 2 - 4 page paper on the pre-course reading

This paper is optional for students not taking the course for credit. Please refer to the pre semester assignments handout for a detailed description of this assignment.

Course Learning Goals

All participants will articulate their learning goals for the course in writing during the first day of the program. Students will review, reflect on, and revise their goals (in writing) as the course progresses.

Reflective Writing Exercises

All participants should bring a journal containing at least 50 blank pages to be used for reflective writing exercises that will be assigned periodically throughout the course. These exercises will give students a chance to reflect on their day's experiences and their work, process and progress during the course.

3x5 Feedback Cards

Each participant will hand in (at regular intervals) 3x5 feedback cards for staff review. This feedback will allow faculty to better know what students are experiencing, what is working or not for a student, and answer arising questions or concerns.

Personal Niche Analysis

Each participant will create a personal niche analysis as an aid to self-understanding and the design of the courses social structure.

Written and Drawn Design Project

Each participant will produce (with their design teams) written and drawn design project materials relating to their design projects. These will include maps, sketches, site analysis and assessment diagrams, design concept drawings, design schemes and details, as well as written documentation of design goals and intentions. We will give copies to clients and participants.

Grading

Participants grades will be determined by faculty in the following three areas using the portfolio, self-assessments and staff assessments: base level sufficiency of skills and knowledge, growth in skills, knowledge and mindset; and group interaction, leadership, and self-directed learning ability. In order for students to receive credit for this program through the University of Massachusetts, the faculty must submit a letter grade and written evaluation of each student's learning.

Course Text

Mollison, B. & Slay, R.M. (1991) *Introduction to Permaculture*. Tyalgum, AUS: Tagari Press.

Selected Bibliography

Ashworth, S. (1991) *Seed to Seed*. Decorah, IA: Seed Savers Exchange.

AtKisson, A. (1999) *Believing Cassandra: An Optimist Looks at a Pessimists World*. White River Jct., VT: Chelsea Green.

Barlow, C. (2000) *Ghosts of Evolution: Nonsensical Fruit, Missing Partners, and Other Ecological Anachronisms*. New York: Basic Books.

Bubel, M. & Bubel, N. (1979) *Root Cellaring: Natural Cold Storage of Fruits & Vegetables*. North Adams, MA: Storey Publishing.

Campbell, C.S. & Ogden, M. (1999) *Constructed Wetlands in the Sustainable Landscape*. New York: Wiley.

Cowan, S. & Van der Ryn, S. (1996) *Ecological Design*. Washington, D.C.: Island Press.

Cronon, W. (1983) *Changes In the Land: Indians, Colonists and the Ecology of New England*. New York: Hill and Wang.

Diamond, J. (1997) *Guns, Germs, and Steel: The Fates of Human Societies*. New York: W.W. Norton & Co.

----- (2005) *Collapse: How Societies Choose to Fail or Succeed*. New York: Penguin Group.

Fern, K. (1997) *Plants For a Future: Edible & Useful Plants for a Healthier World*. Clanfield, UK: Permanent Publications.

- Flannery, T. (2001) *Eternal Frontier: An Ecological History of North America and Its Peoples*. Melbourne: Text Publishing.
- Forman, R.T.T. & Gordon, M. (1986) *Landscape Ecology*. New York: Wiley.
- Fukuoka, M. (1978) *The One Straw Revolution: An Introduction to Natural Farming*. Emmaus, PA: Rodale Press.
- Funes, F., Garcia, L., Bourque, M., Perez, N., & Rosset, P. (2002) *Sustainable Agriculture and Resistance: Transforming Food Production in Cuba*. Oakland, CA: Food First.
- Hemenway, T. (2001) *Gaia's Garden: A Guide to Home-Scale Permaculture*. White River Jct., VT: Chelsea Green.
- Holmgren, D. (2003) *Permaculture: Principles and Pathways Beyond Sustainability*. Hepburn, AUS: Holmgren Design Services.
- Hopping, C. (1977) *Stocking Up: How to Preserve the Foods You Grow Naturally*. Emmaus, PA: Rodale Press
- Jacke, D. & Toensmeier, E. (2005) *Edible Forest Gardens* (Vols. 1-2). White River Jct., VT: Chelsea Green.
- Jenkins, J.C. (1996) *Humanure Handbook*. White River Jct., VT: Chelsea Green.
- Kotke, W. (1993) *The Final Empire: The Collapse of Civilization and the Seed of the Future*. Portland, OR: Arrow Point Press.
- Kourik, R. (1986) *Designing and Maintaining Your Edible Landscape Naturally*. Clanfield: Permanent Publications.
- Lyle, J.T. (1994) *Regenerative Design For Sustainable Development*. New York: Wiley.
- (1999) *Design For Human Ecosystems*. Washington, D.C.: Island Press.
- Mann, C. (2005) *1491: New Revelations of the Americas Before Columbus*. New York: Knopf Publishing Group.
- Margolin, M., & Harney, M. (1995) *Earth Manual: How to Work the Land Without Taming It*. Berkeley: Heyday Books.
- McHarg, I. (1967) *Design with Nature*. Garden City, NY: Natural History Press.
- Mollison, B. (1988) *Permaculture: A Designers Manual*. Tyalgum, AUS: Tagari Press.

- Mollison, B. & Slay, R.M. (1991) *Introduction to Permaculture*. Tyalgum, AUS: Tagari Press.
- Olkowski, H. et al. (1979) *The Integral Urban House: Self-Reliant Living in the City*. San Francisco: Sierra Club Books.
- Smith, J.R. *Tree Crops: A Permanent Agriculture*. Washington, D.C.: Island Press.
- Stein, S.B. (1995) *Noah's Garden: Restoring the Ecology of our own Backyards*. New York. Houghton Mifflin.
- Storl, W.D. (1979) *Culture and Horticulture: A Philosophy of Gardening*. Herdon, VA: Steiner Books.
- Theodoropoulos, D. (2003) *Invasion Biology: Critique of a Pseudoscience*. Blythe, CA: Avvar Books
- Thompson, J.W. & Sorvig, K (2008) *Sustainable Landscape Construction: A Guide to Green Building Outdoors*. Washington, D.C.: Island Press.
- Todd, N.J. & Todd, J. (1993) *From Eco-Cities to Living Machines*. Berkeley, CA: North Atlantic Books.
- Wackernagel, M. & Rees, W.E. (1996) *Our Ecological Footprint*. Gabriola Island, BC: New Society Publishers.
- Weisman, A. (1998) *Gaviotas: A Village To Reinvent the World*. White River Jct., VT: Chelsea Green.
- Wessels, T. (1997) *Reading the Forested Landscape: A Natural History of New England*. Woodstock, VT: Countryman.
- Whitefield, P. (1996) *How to Make a Forest Garden*. Clanfield, UK: Permanent Publications.
- Zelov, C., & Cousineau, P. (Eds.) (1997) *Design Outlaws on the Ecological Frontier*. Easton, PA: Knossus Publishers.