



INDIA
Low Carbon Living at Sadhana
Forest

JANUARY TERM 2012
December 27, 2011- January 17, 2012

ACADEMIC CURRICULUM



UMASS
AMHERST

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Program Overview

Students on this program will leave behind the Western, competitive and consumerist lifestyle behind and learn what it is like to live more simply, more lightly and more sustainably at Sadhana Forest. Dedicated to veganism, appropriate technologies and simple living, the Sadhana community works to regenerate the local forest species near Auroville, India. Sadhana is an ideal environment to learn about Carbon Footprint, ways to reduce it and contribute to indigenous seed and tree planting, contour bunding, organic gardening, natural fence building, and compost and soil management with Effective Microorganisms (EM).

Students on this program should come prepared to wake early, work hard, live simply, learn a lot, and leave inspired. Both theory and practice of ecological living and habitat regeneration will be emphasized along with community building and personal development. There are countless opportunities for mentorship and learning practical strategies for living in a post Peak-Oil world.

Sadhana As Community

The mission of Sadhana Forest is the reforestation of 70 Acres of severely eroded Tropical Dry Evergreen Forest in Tamil Nadu, India. This forest type is found only in South India and Sri Lanka (only 0.01% of the original habitat remains) and provides rare biological richness due to its very high species abundance. The Sadhana Forest community, founded in 2003 by Aviram and Yorit Rozin, pumps water by hand, prepares vegan meals, powers itself via solar panels, and is comprised of simple thatched huts and a beautiful natural swimming hole. Many claim it reflects an experience of what the community of Auroville was like 30 years ago during its pioneering days. Sadhana Forest enjoys strong community spirit and excellent and cooperative relationships with neighboring Tamil people. Although Sadhana community is part of Auroville, it is nearly 10km by road to the city center.

Independent Study

Low-Carbon Living at Sadhana Forest

Program: India: Low-Carbon Living at Sadhana Forest

Department: Natural Resources Conservation

Course #: NRC 596

UMass Faculty Sponsor: Paul Fissett, Ph.D.

Living Routes Faculty: Minhaj Ameen, MBA

Credits: 4

Term: Winter 2012

Sustainability “meets the needs of the present without compromising the ability of future generations to meet their own needs.” (World Commission on Environment and Development, 1987)

Course Description

The purpose of this course is to develop each student’s understanding of the role that communities play in the face of global changes such as peak oil and climate change by giving them a first hand experience of how individuals and the Sadhana community as a whole are experimenting with living a more sustainable lifestyle. The course work and field study experiences offered on this program will help students gain the capability to guide and educate others while envisioning a future that encompasses the needs of society and reflects the principles of sustainability. This course has been created to instill in and teach students a respect for the various approaches needed to achieve a more sustainable future. This unique program will help students understand how various techniques are being applied in India at the ecovillage of Auroville, while simultaneously considering how to assist communities here in the United States through the transition to a post petroleum world.

Based in Auroville at Sadhana Forest, each student will study various ways to measure and reduce their carbon footprint and demand for energy while experiencing and working with indigenous seed and tree planting, contour bunding for water conservation, organic gardening, natural building, compost and soil management, and other ecological approaches. Both theory and practice of ecological living and habitat regeneration will be emphasized along with community building and personal development. Throughout the course there will be opportunities for putting theory into practice and learning practical strategies for living in a low energy future.

Course Objectives

- To introduce students to the vision and practices of the larger Auroville community,
- To investigate global environmental trends, problems and solutions, including global climate change, and peak oil, by focusing on local and regional examples;
- To increase our awareness of individual and collective roles in, and impact on, local and global ecosystems;

- To measure and reduce our carbon footprint while in Sadhana Forest and in preparation for our lives in the United States;
- To examine the environmental history of, and the influence of culture on, the region in terms of engendering effective social change for sustainability;
- To familiarize ourselves, through immersion, with the ecological systems of the local bioregion including plants, soils and geology, watersheds, etc.;
- To determine our shared responsibility towards creating the necessary changes in how we think and live in order to build sound ethical and practical foundations for a post petroleum world; and
- To deeply consider the form and function of sustainability, and how local communities can adapt to a low energy future
- To identify elements of sustainable living that can be practiced or implemented while living in mainstream society.
- To explore how creativity and need for human expression can be leveraged to develop solutions
- To develop a basic understanding of elements that affect sustainability such as; prevailing economic models, perception of money, the role of media and consumerism, present education models, possibilities of coexistence on a planet with limited resources, and possibilities for being happy in a sustainable way

Learning Modalities

The faculty of the *India: Low-Carbon Living at Sadhana Forest* course use lectures, discussions, site visits, and hands on projects as key strategies to allow each student to develop mastery of course content.

Course Outline

- I. Global Environmental and Resource Related Problems
 - A. Regional Setting: Tamil culture and the Tropical Dry Evergreen Forest
 - B. History of Sadhana Forest
 - C. Local Environmental Issues – including groundwater recharge, erosion, and deforestation
 - D. Ecosystem Repair – including erosion control and reforestation
 - E. Global Environmental Problems – including water, consumption and waste, and population related issues
 - F. Peak Oil and Climate Change – theory and evidence
 - G. Global Resource Concerns – including food and energy related issues

- II. Ecological Footprinting
 - A. Calculation of Personal Ecological and/or Carbon Footprint
 - B. Strategies to Reduce Personal Ecological and/or Carbon Footprint
 - C. The Role of Community in reducing Ecological and/or Carbon Footprint
 - D. Community and Personal Responses to Peak Oil and Climate Change

- III. Form and Function of Sustainability
 - A. Conservation Forestry Including Techniques for Water Conservation, Soil Erosion Control, and Sustainable Forestry

- B. Natural Building Practices – including design, material selection, and traditional building practices
 - C. Waste and Water Related Issues
 - D. Transportation Infrastructure and Modes of Travel
 - E. Energy Sources (regional and local) and Use
 - F. Food Production and Diet
- IV. Community Adaptation (in Tamil Nadu and the U.S)
- A. Community Structure and Governance
 - B. Land Use Patterns and Planning
 - C. Infrastructure and Services
 - D. Adaptation to Global Issues
 - E. Village dynamics and collaboration
- V. The Big Picture Challenges
- A. Prevailing economic models,
 - B. Perception of money,
 - C. The role of media and consumerism,
 - D. Present education models,
 - E. Possibilities of coexistence on a planet with limited resources,
 - F. Possibilities for being happy in a sustainable way

Daily Schedule

During this twenty-one days we will be in India the class will have a daily itinerary that will include a combination of physical work, discussions, seminars and/or trips into the field to visit sustainably focused projects in and around Auroville. There will also be a designated discussion period, led by the students, to share and summarize what they have learned during that day's activities. The schedule for a typical day is as follows:

- 5:45am - Wake up
- 6:00am - Meditation and Chanting (optional)
- 6:30am - Work in the forest
- 8:30am - Breakfast
- 9:30am - Group Work
- 11:30am - Free time
- 12:30pm - Lunch
- 2:30pm - Class lectures, discussions and project based activities
- 6:00pm - Dinner
- 7:30pm - Free time

Each student will also be required to participate in community chores and projects on a weekly basis. Students will also be encouraged to use their “free time” to take advantage of opportunities that become available, and experience aspects of the area that interest them most. Sadhana Forest is a very dynamic place so the schedule will be kept somewhat flexible and updated daily so the class can participate in relevant opportunities that become available.

Course Requirements

Course Documentation

1. Low Energy Communities Paper

This paper (8-10 typed, double spaced pages) will address an issue related to the community dimensions of sustainable development, and must be submitted by the last day at Sadhana Forest. In your introduction (two pages) please explain how your experience at Sadhana Forest has altered your view of sustainability. Then explain how you think communities could reduce their carbon footprint, demand for energy, and overall ecological impact by working to become more sustainable using specific examples that you have learned over the duration of the course that are solution oriented and pragmatic. The content of the paper should reflect a deep understanding of the course texts, class discussions, and your experiences at Sadhana Forest.

2. Web Log Entry and Comments

Students are expected to complete at least one weblog entry over the course of three-weeks the group is at Sadhana Forest. Collectively, the web log entries of both students and staff are meant to clearly communicate to the world outside of the program the groups evolving experience in Sadhana Forest and understanding of sustainability issues on a personal, communal, regional and global level.

Each entry should be no shorter than 300 words and specifically reference relevant, key concepts, topics, activities and experiences that the group has explored since the last web log entry.

Each student is also expected to make at least one substantive comment to a faculty or student' entry, to create dialog and expand viewpoints. This should expand on an idea touched upon in the blog or respond in a positive, non-judgmental way with a different viewpoint.

3. Learning Journal

On this program you will create and maintain a *Learning Journal* in order to express, integrate, and synthesize your thoughts, feelings, and opinions about what you are experiencing during the program as well as to formulate and engage with questions that may lead to deeper inquiry. Your *Learning Journal* is not so much a product as it is part of your process of integrating knowledge and deepening your understanding of coursework material, group discussions, learning community experiences, Sadhana, Auroville, India and yourself. Long after the program is over many students appreciate having this unique record of their learning and experiences, and we encourage you to put as much energy into your journaling practice as you can.

4. Pre Program Assignments

Reading

- *Hot, Flat and Crowded* by Thomas Freidman
- *The Eco-village Challenge* by Robert Gillman
- *Sadhana Forest* by Auroville Outreach
- *The Great Turning: From Empire to Earth Community* by David Korten

Journal Entry #1

- Students are expected to complete a journal entry related to Ecovillages as a pre-program assignment for this course. This assignment must be completed prior to arrival at Sadhana forest. Refer to pre-program assignment write up for details.

Web Log Entry

- Each student is expected to set up their LR weblog account on goabroad.net and complete at least one substantive we log entry prior to the beginning of the program (see pre-program assignment write up for details)

Carbon Footprint Analysis

- Students are asked to complete a *Carbon Footprint Analysis* as a pre semester assignment for this course. A print out of this analysis should be brought to India.

Active Participation and Leadership

Students are expected to actively participate in all aspects of the course including community work and projects, seminars, discussions, site visits and ongoing and new Sadhana Forest projects. Students are expected to take on an active leadership role during this course to maximize their individual and group learning process and mastery of course content.

Challenging Comfort Zones and Risk Taking

Students are expected to take risks in their intellectual and personal process in this course and actively challenge their comfort zones during the program in order to maximize their intellectual and personal learning process. Students are expected to stretch themselves academically by taking individual responsibility for their learning and exploring aspects of course material that are both new and stretch their conceptual and content knowledge of global and local sustainability. Challenging one's own comfort zones can take many forms including but not limited to, challenging one's own commonly held beliefs, engaging with others who hold different views, and choosing topics of study that are new and less familiar.

Grading

In all Living Routes programs we actively promote multiple means of evaluation and authentic assessment including student self-assessment, peer assessment, faculty-student debriefs and rubrics (see page 11). 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.

Low Energy Communities Paper.....	30%
Learning Journals.....	10%
Web Log Entries.....	10%
Active Participation and Leadership.....	20%
Pre-Program Readings and Assignments.....	10%
Challenging Comfort Zones and Risk Taking.....	20%

Course Text

Friedman, Thomas L. (2008) *Hot Flat and Crowded*. Farrar, Straus and Giroux

Jackson and Svensson. (2002). *Ecovillage Living: Restoring the Earth and Her People*.
U.K: Green Books

Merkel, Jim. (2003) *Radical Simplicity: Small Footprints on a Finite Earth*. British
Columbia: New Society Publishers

Selected Bibliography

Bates, Albert. (2006). *The Post-Petroleum Survival Guide and Cookbook*. British Columbia:
New Society Publishers.

Chiras, Dan, & Wann, Dave. (2003). *Superbia*. British Columbia: New Society Publishers.

Csikszentmihalyi, Mihaly (1990). *Flow: The Psychology of Optimal Experience*. New
York: Harper and Row.

Csikszentmihalyi, Mihaly (1998). *Finding Flow: The Psychology of Engagement With
Everyday Life*. New York: Basic Books.

De Bono, Edward. (1992). *I Am Right You Are Wrong: From This to the New Renaissance:
From Rock Logic to Water Logic*. Penguin (Viking)

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Francis

De Bono, Edward. (2009) *Think! Before it is Too Late*. Vermilion

Flores, H.C. (2006). *Food Not Lawns*. White River Junction, Vermont: Chelsea Green
Publishing Company.

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- Lerch, Daniel. (2008). *Post Carbon Cities: Planning for Energy and Climate Uncertainty*. Sebastopol, CA: Post Carbon Press
- Lietaer, Bernard. (2001). *The Future of Money: Creating New Wealth, Work and a Wise World*. Century Press
- McDonough, W., & Braungart, M. (2002). *Cradle to cradle: Remaking the way we make things*. New York: North Point Press.
- McKibben, B. (1995). *Hope, human and wild*. Boston: Little Brown and Company.
- McKibben, B. (1999). *The End of Nature*. New York: Anchor Books.
- (2007 October) Sadhana Forest. *Auroville Outreach: A Newsletter from Auroville Universal Township*

Sadhana J -Term Assessment Rubric

Assessment Descriptors	Unsatisfactory (non-transferable grade)	Satisfactory with Concerns (C- to C+)	Good (B- to B+)	Very Good (A-)	Excellent (A)
Course Assignments Papers, projects, presentations, learning journal, weblogs etc.	Course assignment was either not completed or unacceptable with regard to content, organization, analysis and execution. Student showed little understanding of course content in the work they submitted and put little to no effort into the process. Assignment did not demonstrate an understanding of the relationships between concepts, ideas and processes.	Course assignment was completed adequately with respect to content, organization, analysis and execution. Student put a satisfactory effort into the process. Work shows a basic level of understanding of course ideas, concepts and relationships. Some difficulty seeing the relationships between concepts, ideas and processes.	Course assignment was well done in terms of content, organization, synthesis and execution. Student clearly put an effort into documentation and communicated a solid understanding of course ideas, concepts and relationships in their work. Assignment demonstrated an understanding of the relationships between concepts, ideas and processes.	Course assignment was completed successfully in a particularly clear, well-organized and well-executed manner. Content of documentation was original & creative in their exploration and synthesis of topics and content and showed a strong understanding of course ideas, concepts and relationships. Assignment demonstrated a clear understanding of the relationships between concepts, ideas and processes.	Course assignment was exceptional in terms of organization and execution. Student's work was original & creative in their approach to the topic(s) explored. Student challenged himself or herself to improve and deepen the quality of their work by elicited feedback. Assignment demonstrated an exceptional understanding of the relationships between concepts, ideas and processes. Student's work could be used as a model for other /future students.
Active Participation and Leadership	Student did not attend experiences, and/or gave no sign of attending to what went on, and/or participated in ways that were inappropriate and disruptive to the learning process of others. Student chose not to take on a leadership role during the course.	Student was present at experiences and appeared to be attending to what took place, but did not actively participate and infrequently asked questions or engaged in discussion. Student rarely took on a leadership role during the course.	Student was present at experiences and raised questions and/or positively contributed to discussions, activities, site visits and other course related events. Their participation was appropriate and helpful to the learning of others. Student occasionally took on a leadership role.	Student actively participated during all experiences and made useful contributions that included real engagement with key issues represented in the syllabus. Student gave evidence of considering the learning needs of others in addition to their own learning process. Student took on an active leadership role on a regular basis.	Student raised points that were original, and engaged others in dialogue that broke new ground. Student gave evidence of considering the learning needs of others in addition to their own learning process. The student was strongly involved with leadership and facilitation and often created space for others to participate.
Risk Taking/ Challenging Your Comfort Zones	Student chose not to take risks with academic and personal growth in the course in almost all instances. Student showed little to no interest in challenging or pushing their comfort zones.	Student challenged himself or herself infrequently over the course of the semester both academically and personally in the course. Although at times student showed interest in taking risks with their learning, they chose to remain within their comfortable zones most of the time.	Student challenged himself or herself periodically over the course of the semester both academically and personally in the course. Student demonstrated a desire to engage course material and get outside their comfort zone.	Student has consistently challenged themselves, through a variety of methods, both academically and personally in this course. They showed openness to new academic ideas and ways of thinking & being and began to actualize their learning during the course of the semester. They consistently pushed their comfort zones.	Student has consistently challenged him or herself in this course, and as a result, has grown both academically and personally and has encouraged others to do so as well. Their openness to challenge and feedback supported new growth for themselves and the learning community as a whole.