

Australia: Permaculture at Crystal Waters

Department: Natural Resources Conservation

Course #: NRC 398P

Credits: 4

Term: Summer 2009

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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

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. 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. 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. This unique program will help students understand how various techniques are being applied in Australia at Crystal Waters Ecovillage, while simultaneously considering how to assist communities here in the United States using a permaculture design approach.

Based in Australia at Crystal Waters Ecovillage, each student will complete a Permaculture Design Curriculum which will include strategies to measure and reduce their carbon footprint and demand for energy while experiencing and working with nature, 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. Each student that successfully completes the coursework at Crystal Waters will also earn a Permaculture Design Certificate.

Course Objectives

- To introduce students to the vision and practices of the Crystal Waters community,
- To investigate global environmental trends, problems and solutions, including global climate change, water quality and quantity, and soil issues 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 at Crystal Waters and in preparation for our lives in the United States;
- To familiarize ourselves, through immersion, with the ecological systems of the local bioregion including plants, soils and geology, watersheds, weather patterns, 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 more sustainable world; and
- To deeply consider the form and function of sustainability, and how permaculture initiatives can create sustainable, productive and beautiful human environments.

Course Outline

I. Global Environmental and Resource Related Problems

- Bioregion Setting
- History and Design of Crystal Waters
- Local Environmental Issues – including groundwater recharge, erosion, and deforestation
- Ecosystem Repair – including erosion and flood control, and reforestation
- Global Environmental Problems – including water, consumption and waste, and population related issues
- Climate Change – theory and evidence
- Global Resource Concerns – including food and energy related issues

II. Ecological Footprinting

- Calculation and Reduction of Personal Ecological and/or Carbon Footprint
- The Role of Community
- Food Production and Consumption Related Footprinting Issues
- Community and Personal Responses to global environmental issues

III. Form and Function of Permaculture

- Introduction to Permaculture
- Natural Systems and Zone and Sector Planning
- Natural Building Practices – including design, material selection, and traditional building practices
- Waste and Water Related Issues
- Transportation Infrastructure and Modes of Travel
- Energy Sources (regional and local) and Use
- Food Production, gardening, animal husbandry, and pest management

IV. Community Adaptation (in Australia and the U.S)

- Community Structure and Governance
- Land Use Patterns and Planning
- Infrastructure and Services
- Adaptation to Global Issues
- Village dynamics and Collaboration

Course Location

A socially and environmentally responsible, economically viable rural subdivision north of Brisbane (Australia), Crystal Waters was designed by Max Lindegger, Robert Tap, Barry Goodman and Geoff Young, and established in 1987. It received the 1996 World Habitat Award (assessed by Dr Wally N'Dow) for its "pioneering work in demonstrating new ways of low impact, sustainable living". Crystal Waters includes 83 freehold residential and 2 commercial lots occupying 20% of the 259ha (640 acre) property. The remaining 80% is the best land, and is owned in common. This common land is available to be licensed for sustainable agriculture, forestry, recreation and habitat projects. The village centre located near the entrance is zoned for commerce, light industry, tourism and educational activities. Crystal Waters has become a community of 200 people with a multitude of businesses and food-producing gardens while the land productivity has been dramatically increased.

Course Format and Requirements

On each of the days at Crystal Waters the class will have an itinerary which will include a combination of physical work and discussions and/or trips into the field to visit projects. There will also be designated discussion periods, led by the students, to share and summarize what they have learned during these activities. The last three days of the course will be spent on Fraser Island off the coast of Australia.

Learning Modalities

The faculty of the *Australia: Permaculture at Crystal Waters* course use lectures, discussions, site visits, and hands on projects as key strategies to allow each student to develop mastery of course content.

Course Requirements

Active Participation – 20% of final grade

Each student will be expected to participate in all of the activities scheduled by the instructor. Each of these activities presents an opportunity for learning and will contribute to the students overall grade.

Course readings and discussion – 20% of final grade

Familiarity with the course readings and participation in class discussions is required by all students. Each student is expected to have read the texts prior to arriving at Crystal Waters so they can fully participate in the course.

Weblog - 20% of final grade

Each student is expected to complete at least one substantive web log entry over the course of the program. 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 understanding of Permaculture, Crystal Waters and sustainability issues on a personal, communal, regional and global level.

1. Each entry should be about 300 words in length
2. Include (at least) two pictures
3. Specifically reference relevant, key concepts, topics, activities and experiences that the group has explored since the last web log entry.
4. In addition to the entry each student is also expected to make at least one substantive comment to a faculty or student' entries, 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.

Design Project and Presentation– 40% of final grade

Each student will participate on a team for the design project, but will be expected to submit a written analysis of their groups design products. This analysis should document the process the group underwent, the specific components this student introduced, and lessons learned from this design process. Each student must also participate in the final presentation, and submit a detailed outline of their portion of the presentation.

Course Texts

Jackson and Svensson. Ecovillage Living.

Mollison, Bill. Introduction to Permaculture.

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.

Heinberg, Richard. (2007). *Peak Everything: Waking Up to the Century of Declines*. British Columbia: New Society Publishers.

Hemenway, Toby. (2000). *Gaia's Garden: A Guide to Home-Scale Permaculture*. White River Junction, Vermont: Chelsea Green Publishing Company.

Holmgren, David. (2002). *Permaculture: Principles and Pathways Beyond Sustainability*. Victoria, Australia: Holmgren Design Services.

Jenkins, Joseph. (2005). *The Humanure Handbook*. Grove City, Pennsylvania: Joseph Jenkins Inc.

Kunstler, James Howard. (2005) *The Long Emergency: Surviving the Converging Catastrophes of the Twenty-First Century*. New York: Atlantic Monthly Press.

Lerch, Daniel. (2007) *Post Carbon Cities: Planning for Energy and Climate Uncertainty*. Sebastopol, California: Post Carbon 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.

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