

# Brazil: Permaculture at EcoCentro IPEC

**Department:** Natural Resources Conservation

**Course #:** NRC 398P

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## *Course Description*

Permaculture stands for permanent culture. It is a system of applied design for the creation of sustainable and ecological human habitat. It is the use of ecology as the basis for designing integrated systems of food production, housing, appropriate technology, and community development. Permaculture is built upon the ethics of caring for the earth, caring for people and sharing resources. 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 Brazil and at EcoCentro IPEC, while simultaneously considering how to assist communities here in the United States using a permaculture design approach.

Based in Brazil at EcoCentro IPEC, 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*

Participants will gain information, skills through direct experience needed to:

1. Grasp and integrate permaculture design techniques including:
  - Basic ecological design principles
  - Patterns and processes
  - Ecological integration
2. Demonstrate skill development in several areas:
  - Design skills: base mapping, site analysis and assessment, site design

- Ecological skills: observation, interpretation, identification, pattern recognition, systems understanding
  - Community interaction and participation skills
  - Cultivate the spirit of sustainability in all aspects of life
3. Investigate existing and new forms of living sustainable on the earth by:
- Identifying viable and appropriate materials and technologies adapted to the cultural and geographical diversity
  - Exploring renewable energy and it's viability in different settings
  - Cultivating an understanding of the basic needs of rural life in Latin America
  - Examining the possibilities of new forms of social organizations

### Course Outline

This course offers a unique opportunity for students to gain understanding; knowledge and the inspiration necessary for adopting appropriate ideas and techniques for their own climates and cultures. The following is the order in which conceptual and practical knowledge of Permaculture will be developed over the course of the program.

#### Concepts and basic themes in design

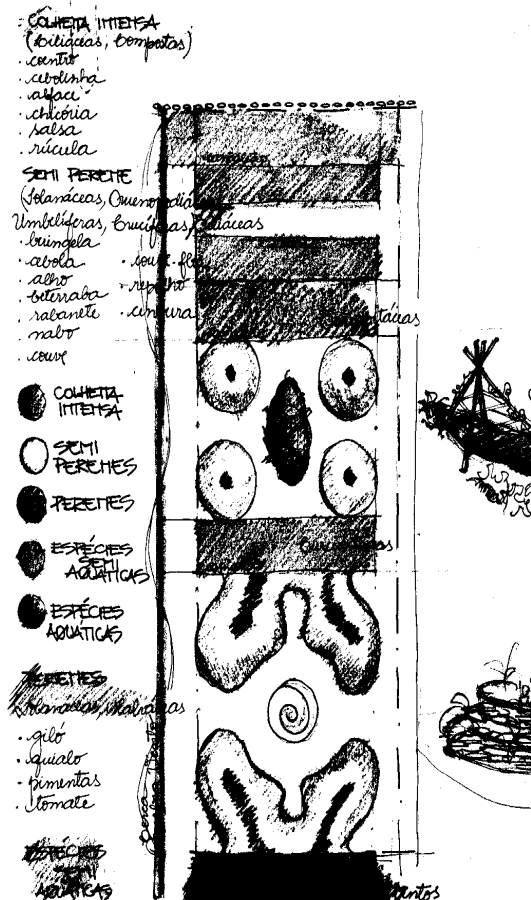
Context: Tour of IPEC, Global realities, What is Permaculture, History of Permaculture, in Brazil, Permaculture ethics and principles, The passage of Permaculture in society, Traditional knowledge, Applying natural principles of design, resources, Production, cycles and niches, diversity, stability, order and chaos, complexity and connection, functions

#### Methods of design

Introduction to practical design, Analyze through characteristics and elements, Design through expansion and observation, Linking nature, Data overlay, Random connections, Zones and sectors, Incremental design, Succession and evolution of systems, Establishing and maintenance of a system, Observing and interpreting the natural terrain, Finding natural guilds, working in groups - analyzing the centre

#### Earth patterns and landscapes components

Patterns, matrixes and complex strategies, Border effect and practical applications, Scale and order of magnitude, Traditional knowledge of patterns, climate and microclimates, Classification of global climatic



zones, Effects of microclimate on the landscape, Soils, Tropical gardens, Evolving polyculture, Food forest, Animal tractor systems, Practicum: banana circle, composting and worms, Cycle of water, Modifications of the landscape to conserve and storage water, Appropriate technologies for water storage, transport and heating, Evolution of a aquatic system, Elements of aquaculture, chinampas and small tanks.

### **Designing the Human Habitat**

Defining values, The home garden, Appropriate architecture, Sustainable habitats, Solar design, appropriate materials, appropriate techniques, greenhouse production, elements of village design in the tropics, settlement and house design, practicum - cob, straw bale, super abode and Ferro cement

### **Strategies for a Global Nation**

Ethics for an alternative nation, bio-regional organization, legal strategies for organization, village development, settlements, communities and Ecovillage, money, financing and alternative economic systems, ethical investment, visit to Santa Branca Ecovillage, group work: design of a property

### ***Course Location***

IPEC exists on 25 hectares (60 acres) of land owned by the non-profit organisation, Instituto Permacultura e Ecovilas do Cerrado (IPEC) and is located on the outskirts of Pirenópolis in the state of Goiás, in central Brazil.

IPEC was formed in 1998 to teach and demonstrate permaculture and to apply this information in the construction of a prototype ecological village. While we aim for an appropriate mix of academia and fun, please be aware that this is not Summer Camp or Eco Disneyland. It may help to think of IPEC as a living/working permaculture construction site.

The *EcoCentro IPEC* program at IPEC is dedicated to education for sustainable living by fostering a profound understanding of the natural world, grounded in direct experience, that leads to sustainable patterns of living. *EcoCentro IPEC* functions as a model of viable rural settlement, incorporating realities of appropriate technologies, living systems and sustainable community life from a holistic perspective.

*EcoCentro IPEC* is rooted in a new vision of education that helps students better understand the world in which they live, addressing the complexity and interconnectedness of problems such as poverty, wasteful consumption, environmental degradation, population, health, conflict and human rights that threaten our future.

The educators of EcoCentro IPEC, encourage a 'hands on approach' to learning. As such, many practicals and activities are included in the seminars and courses. Please take note of the following work related guidelines. When working on any community project remember - *Safety First*.

## ***Learning Modalities***

The faculty of the Brazil: Permaculture at EcoCentro IPEC 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.

### **Learning Journal – 20% of final grade**

Reflection is integral to the professional development experiences at EcoCentro IPEC. A deepening appreciation of education for a sustainable future is encouraged by the use of a 'Learning Journal'. Recording observations, answering questions and recording your experiences in the 'Learning Journal' is a practical way of learning. It also provides a record of what has been learnt, ideas and plans for applying these ideas in local situations, and opportunities for on-going professional reflection. Some questions in the Learning Journal may also be used as starting points for student learning material.

### **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, EcoCentro IPEC 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 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.

### ***Required Course Text***

Mollison, Bill. *Introduction to Permaculture*, Tagari Publications, Revised edition (August 1997)

### ***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.
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- 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. *Radical Simplicity: Small Footprints on a Finite Earth*

