

## **Permaculture Design: Ecosystem Mimicry**

### **Purpose:**

To examine the basics of permaculture design and understand the potential for ecological design on a multitude of scales and contexts. Students will cultivate ecological literacy by looking at the complex symbiotic relationships in both natural and cultivated systems. Students will explore and apply systems thinking to their own gardens, farms, and backyards.

### **Course Objectives:**

Upon completion of this course, you will be able to:

- Define permaculture and describe key elements of permaculture systems.
- Read the patterns of natural landscapes and apply them to design.
- Discover living soil and how to regenerate and maintain soil health.
- Apply water-harvesting techniques and mitigate water issues.
- Appreciate the role of trees and forests in productive conservation systems.
- Describe the important role of animals and aquatic systems in permaculture.

### **Course Philosophy:**

Permaculture is a philosophy with three explicit ethics; Care for Earth Resources, Care for People, and Redistribution of Surplus. This course engages students in learning a foundational perspective that guide you towards designing backyards, gardens, businesses, and communities in the frame of regeneration; the process of healing and restoring ecological health.

### **Our approach**

This course will present a wide range of information including historical perspectives, ecology, landscape design, and activities to apply content to a student's daily life. The content is honest and acknowledges the existence of climate change, ecosystem degradation, and decline in human health factors not to dwell on them but to understand how we can overcome these challenges. Students will engage in presentations, readings, and hands-on activities to make positive changes in their daily lives.

### **Philosophy of the Instructor**

As this is an online course, I will be relying on your own self-motivation to complete assignments, ask questions, and participate in community dialogues around the material presented. I will ask you to spend a considerable of time outside, in your backyard or a local park or forested area. There will be minimal requirements to complete as well as optional readings and activities to take your learning further. As we discuss complex and emotional issues during the class, please be sensitive and supportive of other classmates. Rude or offensive language, and overly critical commentary will not be tolerated.

## **Expectations**

You are expected to begin learning permaculture wherever you are as a human living on earth; no previous experience in the natural sciences, ecology, landscape design, farming, gardening etc is required, but will certainly be helpful in expanding your understanding of permaculture. The most important expectation is that you keep up with weekly assignments and activities as they deliberately build on and refer to previous lessons. Put into the course what you want to take out of it by participating as much as you are able. Permaculture attracts a wide variety of people and the more we know your personal interests and goals the better we can address them through lessons, journals and discussion forums.

The readings are a critical part to understanding content. The activities you will be asked to complete outside and in your home will compliment readings and expand your understanding of the natural world and your impact on it.

Plan on spending 10 - 15 hours per week working through course lessons.

## **Picking a site**

An outdoor site gives reference for you for all of the activities in this course and the other permaculture courses you choose to take. If you own property this might be the ideal site. If you are not a landowner then consider a site that would benefit from some design consideration such as a community park, garden, or the land of a friend or relative. A place that is close to where you live or work is best, as you will visit it often.

## **Lessons**

Each week's lesson contains the following components:

- **Presentations** of the core material, usually as a video or series of videos.
- **Readings** to reinforce or expand upon the material presented.
- **Activities** conducting around your chosen site; some with deliverables to share with the instructor or your classmates.
- **Reflective writing** to allow you to develop a thoughtful perspective and a dialogue with the course instructor. More on this below.
- **Discussion forum** questions and topics for discussion.
- **Optional** additional readings, activities and resources.

It is important that you work through each lesson assigned for a particular week. Please complete and submit to the course instructor the required assignments before the stated deadline which will typically be 12:00am each Thursday. Late assignments will be accepted but instructor feedback may be delayed and your satisfactory completion of the course compromised. Consider optional activities only after completing and submitting required assignments.

## **Reflective Writing**

Your reflective journals will allow you to develop a thoughtful perspective and a dialogue with the course instructor. Reflection is something that you can do at home, at work, or during a stroll through your site. It is a very important part of developing the creative and observational components of your brain, something we expect to improve your design ability and your full

range of activities around creativity and the outdoor world. It will encourage you to make connections between the course and your life experience, in addition to reflecting on course content.

### **Required Readings**

The main text for all of the Permaculture classes [Introduction to Permaculture](#) by Bill Mollison and Reny Mia Slay (2nd printing, 2000). The latest edition can be ordered through [www.permacultureactivist.net](http://www.permacultureactivist.net)

A list of optional books to be used with this course can be found in the 'Additional Resources' topic at the end of the course.

### **Supplies**

- A computer with reliable Internet access (to view videos) and the ability to compose and submit written assignments is essential.
- A roll of 24" – 36" tracing paper.
- A set of your favorite markers or colored pencils.
- A clipboard for field assignments.
- A space to keep a large (minimum 24" x 36") base map.
- You may also want to start a binder for assignments, handouts and other resources.

### **Detailed Course Timeline**

Class begins on Monday March 11, 2013.

### **Introduction Week: Welcome & Introductions**

Become familiar with the distance learning interface Moodle as you:

- Read through entire set of resources, readings in the introduction.
- Introduce yourself.
- Practice uploading and sending a file.
- Make a base map of your site. (if you haven't already)

### **Week 1: Key Permaculture Concepts & Tools**

- Presentation:** Permaculture Key Concepts (Narrated Lecture Video).
- Presentation:** Watch One Episode of Global Gardener (YouTube Video).
- Reading:** Intro, Principles 1 – 7 in "Essence of Permaculture"
- Reading:** A Zone of One's Own - Hemenway
- Activity:** Worksheet 1.1: Ethics, Principles, Strategies, Techniques
- Forum:** Respond to the posted forum question and other student responses.
- Reflective Writing:** Personal response to lesson materials and activities.
- Optional:** Additional videos and articles.

### **Week 2: Reading the Landscape & Pattern**

- Presentation:** Reading the Landscape (Narrated Lecture Video).
- Presentation:** Pattern (Narrated Lecture Video).
- Reading:** Pattern Languages - Gabriel

- ❑ **Activity:** Worksheet 2.1 – Design from Patterns to Details
- ❑ **Activity:** Worksheet 2.2 – Your Patten Language
- ❑ **Forum:** Respond to the posted forum question and other student responses.
- ❑ **Reflective Writing:** Personal response to lesson materials and activities.
- ❑ **Optional:** Additional videos, articles, etc

### **Week 3: Building & Sustaining Living Soil**

- ❑ **Presentation:** Soil Basics (Narrated Lecture Video).
- ❑ **Presentation:** Compost Happens! (Narrated Lecture Video).
- ❑ **Reading:** Online selections from Garden-Based Learning Factsheets
- ❑ **Video:**
- ❑ **Activity:** Worksheet 3.1 – Soil Testing ?
- ❑ **Activity:** Worksheet 3.2 – Compost Build-a-Bin
- ❑ **Forum:** Respond to the posted forum question and other student responses.
- ❑ **Reflective Writing:** Personal response to lesson materials and activities.
- ❑ **Optional:** Additional videos and articles.

### **Week 4: Working With Water**

- ❑ **Presentation:** Water (Narrated Lecture Video).
- ❑ **Presentation:** Designing Earthworks (Narrated Lecture Video).
- ❑ **Presentation:** Waste = Food: Greywater, Compost Toilets, Constructed Wetlands (Narrated Lecture Video).
- ❑ **Reading:** Water Harvesting Handouts – Brad Lancaster
- ❑ **Activity:** Worksheet 4.1 – Sand Pile
- ❑ **Activity:** Worksheet 4.2 – Contour Mapping: A-frame, Water Level
- ❑ **Activity:** Worksheet 4.3 – Calculating Earthworks/Rain Catchment
- ❑ **Forum:** Respond to the posted forum question and other student responses
- ❑ **Reflective Writing:** Personal response to lesson materials and activities.
- ❑ **Optional:** Additional videos and articles.

### **Week 5: Forestry & Agroforestry**

- ❑ **Presentation:** Forestry (Narrated Lecture Video).
- ❑ **Presentation:** Getting started in Agroforestry (Narrated Lecture Video).
- ❑ **Presentation:** Agroforestry videos/How When Why of FF
- ❑ **Reading:** Excerpts from “Profitable Farms and Woodlands” (USDA)
- ❑ **Reading:** Excerpts from “Northeastern Forest Regeneration Handbook” (USDA)
- ❑ **Activity:** Worksheet 5.1 – Tree Research
- ❑ **Activity:** Worksheet 5.2 – Mushroom Inoculation
- ❑ **Activity:** Worksheet 5.3 – Designing Agroforestry Systems
- ❑ **Forum:** Respond to the posted forum question and other student responses
- ❑ **Reflective Writing:** Personal response to lesson materials and activities.
- ❑ **Optional:** Additional videos and articles.

### **Week 6: Animals & Aquaculture**

- ❑ **Presentation:** Animals (Narrated Lecture Video)..
- ❑ **Presentation:** Aquaculture: Synergy of Land and Water (VIDEO)

- ❑ **Reading:** Rabbits Love Roses, Stella Jane
- ❑ **Reading:** Animals Key to Regenerative Farming, Gabriel
- ❑ **Activity:** Worksheet 6.1 – Animal Integration - Research
- ❑ **Activity:** Worksheet 6.2 – Tabletop Aquaponics
- ❑ **Activity:** Worksheet 6.3 – Permaculture II evaluation.
- ❑ **Forum:** Respond to the posted forum question and other student responses
- ❑ **Reflective Writing:** Personal response to lesson materials and activities.
- ❑ **Optional:** Additional videos and articles.

Class ends: Thursday April 25, 2013  
**(Instructor evaluations by March 2)**

### **Grading**

All work submitted is evaluated and assigned outstanding, satisfactory, or unsatisfactory as a grade for the effort. Please note that to be eligible for Permaculture Design Certification through Finger Lakes Permaculture Institute you must complete all lessons and assignments in all three Permaculture distance-learning courses with at least a satisfactory average.

### **Certificate of completion**

Successful completion of this course earns you a certificate of completion and continuing education credits from Cornell.

### **Permaculture Design Certification through Finger Lakes Permaculture Institute**

Students who complete all lessons and assignments in all three Permaculture distance-learning courses with at least a satisfactory average are then eligible to submit their coursework and final design project to the Finger Lakes Permaculture Institute to receive the Permaculture Design Certification. This certification is recognized around the globe and would be a useful addition to any resume especially for those looking to complete international development work (e.g. Peace Corps) and enter the fields of ecological and landscape design or various land management and field-work positions.

### **Questions**

Please direct inquiries on the course to the instructor, Steve Gabriel at [sfg53@cornell.edu](mailto:sfg53@cornell.edu) or co-instructor, Lori Brewer, [ljb7@cornell.edu](mailto:ljb7@cornell.edu).