

MIDWEST PERMACULTURE

Permaculture Design Certification (PDC) Course An Outline of Subjects Covered

About Midwest Permaculture's PDC Courses:

- The sequence in which each of the subject areas listed below are covered, and the specific content of each area, varies somewhat from course to course. Our trainings are not designed to be simply linear in their approach but rather take on a natural flow as we explore ideas, concepts, principles, and themes throughout. We interlace them with many examples and specific applications to anchor the teachings but we do touch on everything at least once.
- Many of the early subject areas in this outline are covered in our webinar series, 'Foundations of Permaculture' which students study before the on-site training begins.
- The *Earth User's Guide to Permaculture* by Rosemary Morrow is the text used for our courses.
- We feel that the richness of a really good training comes from three factors:
 - The wealth of resources made available to students before, during and after a training (handouts, presentation materials, links to videos, links to websites, recommended books, etc.).
 - The richness of the content, containing alive and relevant information along with a variety of exercises, including some hands-on projects.
 - The skills, experience and passion of the instructors. We think that who a person is, and what they have done, speaks as loudly as what they know and what they teach.

Course Outline

About Permaculture

Definition of permaculture
The case for permaculture – Understanding world conditions & system limitations
History and philosophy of permaculture
Ethics and Principles
Permaculture in a landscape, community and cultural context

Pattern Understanding and the Importance of Observation

Patterns, tessellation and fractals
Types and examples of patterns
Patterns in space and time
Causes and effects of patterns
Ethics and Principles as patterns
Pattern observation exercise

Concepts, Themes and Methods of Design

Traditions, cultures, and belief systems
Life principles and natural law
The methods of design, resources, yields, cycles, food webs, growth
Complexity, connections, order and chaos, permitted and forced functions
Functional Design - observation, analysis and deductions from nature
Sector analysis and planning
Slope, key points, orientation, aspect, data overlay
Designing in zones 1, 2, 3, 4 and 5

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Flow diagrams, options and decisions
Incremental design and guilds
Succession & evolution - Establishment and maintenance
Cultivated ecology - Practical procedures of property design

Trees and their energy transactions

Importance of forests
Temperature, wind, total precipitation, etc.
Root, mineral and rain interactions
Implications for design
The many types of forest
Establishing forest
Maintaining extending and enhancing forests
Methods of propagation and grafting

Water

Chemical & structural properties of water
Water in design
Hydrological cycles
Regional interventions and the water cycle
Water harvesting earthworks for conservation and storage
Rain water harvesting, biological water cleaning systems
Irrigation and gravity designs
Greywater systems for home
Water and sewage

Soils

Soil - its relationship to life elements, water and base rocks
Soils direct link to health
The pH, organic matter content, and primary nutrients
Soil pores and crumb structure importance
Legumes as nitrogen fixers and the phosphate accumulating plants
Plants and biological elements as deficiency indicators and mineral accumulators
Working with difficult soils
Composting and humus creation
Seed balls, soil erosion and rehabilitation
Vermiculture (importance of cultivation of worms)

Earthworks and earth resources

Earthwork design concept planning
Planting after earthworks
Types of earthworks, earth constructions and earth resources
Understanding the surveying of basic levels and slope measurement
Using an A-frame, sight level, and/or transit to find level and contour lines
Techniques for building of dams, swales, earth banks, terraces, roads and drains
Using the right machine for the job
Designing for catastrophe, fire, flood, drought, earthquake, landslip and tsunami

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Various Climate Factors

The humid tropics

- Climate types, tropical soils and earth-shaping
- House design and home garden
- Integrated land management
- Evolving a polyculture

Dryland strategies

- Precipitation, temperature, soils
- Landscape features in deserts, harvesting water in arid lands
- The desert house and garden, garden irrigation systems
- Desert settlement and broad strategies
- Plant themes for drylands, desertification and the salting of soils

Humid cool to cold climates

- Characteristics of a humid-cool climate, soils, landform and water conservation
- Settlement and house design, the home garden, berry fruits, glasshouse growing
- Orchards, farm forestry, free range forage systems, the lawn
- Grasslands, rangelands, cold climates, wildfire

Gardening and Small Scale Farming Ideas in Permaculture

Various Gardening Methods

- Biodynamic
- Biointensive
- Organic
- Square foot
- Raised Beds
- Plant Guilds & polycultures

- Multitude of gardening and growing techniques
- Natural Integrated Pest Management (IPM)
- Uncommon/Common resources available to growers
- Forest agriculture
- Food forests
- Alley cropping
- P.A. Yeoman's Keyline System
- Masanobu Fukuoka – One Straw Revolution
- The business of farming or food growing
- Future opportunities

The Humane Use of Animals in Permaculture Systems

- Pros and cons of animal raising
- Responsibilities for humane use of animals
- How many yields from single or multiple species
- A look at various species (chickens, bees, rabbits, etc.)
- Raising animals in urban & suburban environments
- Healthy use of animals in small scale farming
 - Silvopasturing
 - Rotational Grazing
 - Insect and weed control

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The Built Environment

- Alternative building possibilities
- Rethinking the resources around us and the soil beneath our feet
- Energy for home and settlement
- Water for home and settlement
- Attached greenhouses

Aquaculture & Aquaponics

- The case for aquaculture and aquaponics
- Some history and cultural variations
- Exploring design, species selection and yield
- Farming invertebrates for fish food
- Useful techniques: channel, canal and chinampas
- Small scale systems from ponds to apartments

Strategies for Thinking Globally – Acting Locally

- The invisibles structures
- What is at the heart of permanent cultures?
- What is at the heart of community?
- What is at the heart of permaculture design?
- Transition Towns
- Right livelihood and your own permaculture business
- Setting up a local permaculture group and working network
- Community gardens, establishing city farms, urban strategies and land access
- LETSsystem, alternative money, bioregional organization, village development, ethical investment
- Working in different cultures with sensitivity, offering real & effective aid
- The power of cooperation

Design Exercise for the Course

- Design Exercise: Instructors select a real project and describe design process
- Land owner or person with design project explains parameters and vision
- Students are split up into working groups, each with different design briefs
- Students coordinate their design efforts and final work
- Students present their final design to client, instructors and class

Closing

- Certification information.
- Permaculture – continuing one's education
- Awarding of Certificates
- Students provide evaluation on their training: materials/teaching/activities

Film

We use a variety of carefully selected films that we find to be powerful in content and actual usefulness. Students receive a list with internet links to all of them for viewing again after the course and/or for sharing with others. The links will take students to either the free videos such as those found in YouTube or to where the film can be purchased if it is still a proprietary item.