LuKe Permaculture
Permaculture Design Consultant

Permaculture Design Certificate Course

Course table of Contents

Introduction

- Introductions by participants
- Brief background and course expectations
- Course administration, timetable and scheduling
- Using the Design Manual as a text-book for the course & other available references
- Definition of Permaculture, why do we need such a design system?
- History and philosophy of Permaculture as a taught and applied design system
- The Ethics and The Principles
- Permaculture in landscape, society and community context
- The evidence of why we need to act, key global challenges
- The Bill of Human Rights
- Principle summary
- References

ACTIVITY : COLLECTING MATERIALS FOR A COMPOST PILE (MINIMUM OF 1m3)

Concepts, Themes & Methods of Design

- Tradition, culture and belief systems
- Life principles and natural laws stated
- The methods of design, resources, yields, cycles, food webs, growth
- Vegetarianism and dietary 'isms
- Complexity, connections, order and chaos, permitted and forced functions
- Inter-active diversity, stability, fertility, sustainable productivity and profitability, time and yield
- Functional design development
- Analysis, observation and deductions from nature
- Sector planning
- Slope, Key Points, orientation, aspect & data overlay
- Zones and their placement
- Designing in zones 1, 2, 3, 4 and 5
- Random assembly of element lists and subsets cross referenced
- Flow diagrams, options and decisions, incremental design and guilds
- Succession, evolution, establishment and maintenance

- Principle summary and summary of design methods
- The Cultivated ecology, practical procedures of property design
- References

ACTIVITY - BUILDING THE COMPOST PILE

Pattern Understanding

- The humid, temperate, cold, arid, continental climates plus variations
- Global weather patterns, the engines of atmosphere
- Humid, arid and minor landscape profiles and orthographic affects
- Latitude and altitude
- Precipitation, radiation and wind
- References
- Designers checklist

ACTIVITY: DEFINING PATTERN OF LOCAL CLIMATE - SEASONAL EFFECTS & PLANTING SEASONS

Trees & Their Energy Transactions

- Definition of forest and the biomass of a tree
- Temperature, wind, total precipitation, snow and melt water effect
- Root, mineral and rain interactions
- Implications for design.
- The many types of forest
- Establishing forest
- Maintaining extending and enhancing forest
- Establishing a nursery seed collection and in ground plant stock
- References
- Summary

ACTIVITY: OBSERVATION OF TREES IN LOCAL SETTING

Water

- Chemical & structural properties of water
- Regional interventions and the water cycle
- Water harvesting earthworks for conservation and storage
- Rain water harvesting, biological water cleaning systems, irrigation and gravity designs
- Water reduction in sewage systems
- Water in design
- Designers check list
- References

ACTIVITY: SAND PLAY - DESIGNING WATER STORAGE FEATURES AND MANAGING FLOW

Soils

- Soils direct link to health
- Traditional methods of investigating soils
- The pH, organic matter content and primary nutrients.
- Soil pores and crumb structure importance
- Soil structure and its relationship to life elements, water and base rocks
- Legumes as nitrogen fixers and the phosphate accumulating plants
- Plants and biological elements as deficiency indicators and mineral accumulators
- Difficult soils
- Composting as an easily understood art form of humus creation
- Seed pelleting, soil erosion and rehabilitation
- Establishing a worm farm
- Soils in house foundations
- Designing for catastrophe, fire, flood, drought, earthquake, landslip and tsunami
- Designers check list
- References

ACTIVITY: TESTING PH OF SELECTED SOILS

Earthworks & 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 a farmers level, dumpy level, A-frame and water levels
- Technique of building a dam, swales, earth banks, terraces, roads and drains
- Using the right machine for the job
- References

Note: Design exercise presented to students on a real piece of land with realistic design brief for the local area. Teacher takes on the role as the land owner (if land owner not available) Students are split up into working groups, each with different design briefs.

ACTIVITY: JAR METHOD TO INVESTIGATE SOIL MAKEUP

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
- Designers check list

ACTIVITY: GROUP DESIGN WORK

The Humid Tropics

- Climate types, tropical soils and earthshaping
- House design and home garden
- Integrated land management, Elements of a village complex in the tropics
- Evolving a polyculture, themes on a palm dominant polyculture
- Pioneering, animal tractor systems and grassland and rangeland management
- Humid tropical coast stabilisation and shelterbelts
- Low islands and coral cay strategies
- Designers check list
- References

ACTIVITY: GROUP DESIGN WORK

Dryland Strategies

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

ACTIVITY: HOUSE DESIGN EXERCISE FOR VARIOUS CLIMATES

Aquaculture

- The case for aquaculture
- History and cultural variations
- Implementing an aquaculture design, species selection and yield
- Aquaculture as part of design and food supply
- Aquaculture plant and animal species
- Farming invertebrates for fish food
- Appropriate techniques, channel, canal and chinampa
- Polyculture traditional and new
- Designers check list
- References

ACTIVITY: GROUP DESIGN WORK

The Strategies Of An Alternative Global Nation

- The invisibles structures
- Alternative global nation. Right livelihood

- Setting up a local Permaculture group and working network
- Community gardens, establishing city farms, urban strategies and land access
- Lets, alternative money, bioregional organization, village development, ethical investment
- Working in different cultures with sensitivity, effective aid
- References and resources

ACTIVITY: GROUP DESIGN WORK

The Permaculture Global Nation

- Diploma information
- Permaculture academy
- Certification and student intention affirmations
- Feedback opportunity on course materials/teaching/activities
- Photographs and goodbyes

ACTIVITY: DESIGN PRESENTATIONS