PDC – Howard Story - Course Outline:

1. INTRODUCTION
2. CONCEPTS and Themes in Design
3. METHODS of Design
4. PATTERNs
5. CLIMATE
6. TREES
7. WATER
8. SOILS
9. EARTHWORKS
10. CLIMATE DESIGN
11. AQUACULTURE
12. SUPPORT
13. RESCOURCES
14. COMMUNITY

**1. INTRODUCTION**

* Human past, present and future.
  + Permaculture design philosophy.
  + Holistic thinking.
* Key problems:
  + Soil erosion,
  + Deforestation,
  + Pollution.
* Ethics of Permaculture –
  + Earth care,
  + People care,
  + Return of surplus
* Definitions of Permaculture.
  + Sustainability Outcomes.
  + History of Permaculture.
* Permanent Culture.
  + Urban Permaculture.
  + Permaculture Repair.
* Permaculture Aid Work. The PRI Master Plan.
* Permaculture in Society.
* Permaculture as a Holistic Design.
* Conclusion to the Introduction to Permaculture

**2. CONCEPTS and Themes in Design**

* Hierarchy of soil creation in natural systems
* Element characteristics - needs and products - the sun the source of energy - characteristics of natural ecosystems
* Zone and slope analysis an example of designing elements into a system – tagari farm
* Plants - weeds –pioneers – niches
* Weeds – fast tracking recovery by design – techniques
* Diversity leads to stability fertility – productivity - connections between elements – positioning of elements
* Use of natural rescources – energy – edge opportunities
* Capturing energy - extending entropy
* Categories of rescources
* Dispersal of yield over time – plant diversity – perienial plant for food advantages
* Diversity & security–yield and energy inputs
* The more diversity the more secure
* Mollisonian permaculture principals
* Permaculture Principals

**3.METHODS of Design**

* Analysis; design by listing characteristics of components
* Connections” between elements or components
* Zone analysis - sector analysis
* Zones and designing with zones
* Slope and orientation
* 6 sectors – outside energies
* Listing possibilities – selection of random assemblies
* Connecting elements – simple efficiencies – observation
* Conclusion

**4.PATTERNs**

* Patterns in nature
* 2 formation of pattern- working with nature and patterns – scale and order of size
* Order and form – edge areas
* Edge effect – working with patter design events
* Looking for existing patterns- translating pattern form
* Re patterning a river – wind patterns – pattern used for passing on knowledge
* Traditional use of pattern – re-patterning
* Pattern for productive form
* The pit garden – banana circle – edge to space relationship
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**5.CLIMATE**

* Climatic factors
* Local knowledge – broad climate zones
* Landscape effect climate, analogue
* Characteristics of major climates
* Orographic effect, major landscape profiles humid-arid, minor profiles
* Minor landscape profiles, 13m high island, low island

**6.TREES**

* Trees and their energy transactions
* Zone 4 – farm forestry
* Tree effects – rain
* Tree functions
* Types of forest products
* Tree effects – rain
* Forest - and – legumes as support species

**7.WATER**

* Water storage –recharging LANDSCAPE
* Duties of Water
* Fresh water on earth %’s
* Dams and Swales
* Placing and building dams – valley dams
* Dam building scenario
* Putting a Pipe in a Dam
* Types of Dams and Positioning

**8.SOILS**

* Soil – no larger subject or more diverse (spend a
* Compost, chemical agriculture
* ph and soil (small p)
* ph – weeds – ants – worms
* Compost
* Compost tea – bio fertilizers
* Mineralize soil livestock

**9.EARTHWORKS**

* Earthworks – design implementation
* Terraces, contour, A frames
* A frame how to use
* Surveying – water pressure –cover crops
* Transit level - machines used
* Design for property development- water design
* Property development

**10.CLIMATE DESIGN**

* Climates
* Local knowledge broad climate
* Temperate zone – winter (Rain) – Summer( DRY)
* Humid tropics - dry lands - cool to cold humid
* Cool to cold house: - mass of humanity lives here.
* Cold climate ho cold climate houses uses
* Garden design by climate
* Food forest by zone 2
* Compare zone 3 humid tropics, dryland
* Comparison zone 3, cool to cold

**11.AQUACULTURE**

* Productive elements in water
* Chain of life in water systems
* Shallow aquaculture
* Aquaponics
* Fish Foods

**12. Strategies – alternative Global Nation**

* Invisible structures
* Establishing a permaculture group
* Bioregional resilience
* Definition of culture
* Nonprofit – mission statement
* Community land
* Money and finance

**13. Design Exercise**

* Description of Exercise

**14.Appropriate Technology - Summary**

* Solar
* Pumps
* Electric bike
* Rocket stove
* Tiny house movement
* Permaculture Careers