Summary of the Course

What, Why, When
Design Methods

- Platform-Based design and Successive Refinement principle
- Communication-based design thru successive refinement as paradigm for re-use and correct by construction method
The Y-chart view of the Course

System Behavior

Mapping

Behavior on Architecture

Refine

Implementation of System

System Architecture
System Behavior

- Models of Computation as paradigm for system level behavior capture
  - FSM
  - Synchronous Languages
  - Data-flow
  - Petri-net
  - Discrete Event
  - Tagged Signal Model
  - Metropolis Meta-Model
Tools

- Ptolemy II
- LabView
- Simulink
- Metro II
Architecture

- Xilinx Vertex II Pro
- Micro-processor based architectures
- Architectural Services
- Protocols and interconnects
Mapping

- Scheduling Algorithms and RTOSes
- Software Estimation
Distributed Systems

◆ Auto Design Flow:
  ▲ Issues related interconnect networks (CAN, FlexRay)
  ▲ Real time OS and Scheduling Issues
  ▲ Stochastic Analysis
  ▲ Autosar

◆ Energy Efficient Buildings

◆ Synthetic Biology
The Y-chart view of the Course

Ptolemy

- System Behavior

Mapping

Behavior on Architecture

Refine

Implementation of System

Mescal

- System Architecture

Metropolis