Object Oriented Concepts

Modeling
- Analysis, Design, Program: Models
- Goal is to understand a system—we develop something that represents the system:
  - Mock-up
  - Mathematical functions...
- Main question: how much detail?

Fundamental Object Oriented Concepts
- Encapsulation: Data and function packed together
- Inheritance: Acquiring the data functions from the base class
- Polymorphism: A function with the same name can act different for different classes
- Messages
- relations
- Object Based?

Encapsulation
- properties
- methods

Data / Function Separation

Inheritance
- vehicle
- air-vehicle
- land-vehicle
- naval
- amphibic
- car
- bus
- train
Polymorphism

Multiple Inheritance

Multiple Inheritance - 2

Name Conflict

Name Conflict - 2

Problems in Classification

Problems in classification - 2
Non-prioritized Classification Criteria

Object Based Media
- Visual BASIC (initial versions)
- Ada
- ...

Inheritance / Composition

System/subsystem structure

Subsystems in UML

Subsystems in COEML
Language Dependency

- Similar Models from Requirements to Coding
- Modeling should consider the coding language, since the beginning!