Space Visions Congress

Seminar: Object Oriented Modeling and Design
When: Thursday April 26, 2007 1:00 p.m. to 5:00 p.m.
Where: University of Central Florida Solar Energy Center (FSEC), 1519 Clearlake Road, Cocoa, Florida
Instructor: Ali Shaykhian

Space Visions Congress is sponsored by the Canaveral Council of Technical Societies (CCTS). CCTS is a voluntary, not-for-profit association of engineering, technical, and scientific societies that support memberships who live and work along Florida's Space Coast.

Object Oriented Modeling and Design: The Object Oriented Modeling and Design seminar is intended for software professionals and students, it covers the concepts and a language-independent graphical notation that can be used to analyze problem requirements, and design a solution to the problem. The seminar discusses the three kinds of object-oriented models—class, state, and interaction. The class model represents the static structure of a system, the state model describes the aspects of a system that change over time as well as control behavior and the interaction model describes how objects collaborate to achieve overall results. Existing knowledge of object oriented programming may benefit the learning of modeling and good design.

Specific expectations are:

- Create a class model
- Read, recognize, and describe a class model
- Describe association and link
- Show abstract classes used with multiple inheritance
- Explain metadata, reification and constraints
- Group classes into a package
- Read, recognize, and describe a state model
- Explain states and transitions
- Read, recognize, and describe interaction model
- Explain Use cases and use case relationships
- Show concurrency in activity diagram
- Object interactions in sequence diagram

Detail Outline
Object and Class Concepts
Link and Association Concepts
Generalization and Inheritance
Association Ends

N-ary Associations
Aggregation
Abstract Classes
Multiple Inheritance
Metadata
Reification
Constraints
Derived Data
Packages
Events
States (Single and nested)
Transitions and Conditions
State Diagrams (Single and nested)
Signal Generalization
Concurrency
Sequence Models
Activity Models
Use Case Relationships