Course Content

Course Description:
In this course, you will cover a case study to help you explore two standard approaches to conceptual modeling: the Unified Modeling Language and information Engineering. It is designed to be prescriptive as well as descriptive. This means that best practice will be emphasized through explanation and application. You will discover what should be done as well as how to do it, and why.

Prerequisites:
Six months or more of practical business analysis experience. Familiarity with software systems analysis, design, and implementation is also recommended.

Topics:

UML Overview
- Why Modeling is Important
- Key Abstractions
- Is a System Reality or a Description of Reality?
- Well-Formed Requirements
- SMART Requirements
- Requirement Types
- Requirements Traceability
- Requirements and the SDLC
- The Use Case
- Object Orientation
- Requirement Types
- Requirement Identifier Scheme
- Model Element Naming Convention
- Change Control System

UML Language Basics
- Syntax and Semantics
- Visualizing
- The Software System Perspectives of UML

System Views
- The UML System Architecture Viewpoints
- The History of the UML
- The Boundary Between Conceptual and Technical
- Design

Use Cases
- Actor-Action Modeling
- Scenarios

Conceptual Data Models
- The Principle of Abstraction
- Information Engineering

Logical Data Models
- Drilling Down from the Conceptual Model Level
- Requirements Traceability from the Data Perspective
- Data Model Views

The Building Blocks
- Things
- Class
- New CSOC Requirements Specification (excerpt)
- New CSOC Out-of-scope Items
- New IMS Requirements Specification (excerpt)
- Object
- Message
- Sequence
- Sequence Diagram
- Use Case
- Graphical Use Case
- Textual Use Case

Model Analysis

- Enterprise Analysis Methodology
- Akmee Communications Project Charter
- Business Use-Case Model Refinement
- Activity Diagram

Normalization

- Data Model Quality
- Normalization Tests
- Functional Dependence and Primary Keys
- First Normal Form
- Second Normal Form
- Third Normal Form
- Fourth Normal Form
- Clear Thinking About Data
- Quality Assurance
- Entity Rules
- Attribute Rules
- Primary Key Rules
- Relationship Rules

Comparing and contrasting the UML and IE

- Gen-Spec Models for Classes and Entities

Wrap-up