

Title: **UML based modeling**
Target audience: Business consultants, analysts, system engineers
Duration: 3 days, 8 hours/day (8*45 min)

Description This course introduces UML, the "de facto" standard for visual software modeling. The course also offers a hands-on lab part that helps to get used to "UML in practice", learn best practices.

Learning objectives At the end of the course, students will be able to:

- Understand the basic concepts of Unified Modeling Language
- Create (business level) visual specification of software systems in UML
- Describe requirements on system functionality, structure and behavior
- Use UML to define test criteria

Outline

Day 1: Requirement modeling and system analysis

1. Introduction to the UML (diagram types, usage)
2. Requirement engineering by Use Cases
3. Lab: Modeling system requirements in Rational Rose
4. Detailing use cases: scenarios
5. Lab: Activity diagrams in Rational Rose

Day 2: System analysis and dynamic behavior

1. Modeling static structure: Analysis classes of RUP
2. Lab: Class diagrams in Rational Rose
3. Capturing dynamic behavior: statecharts and sequence diagrams
4. Lab: dynamic UML diagrams in Rational Rose

Day 3: Using UML to support constraints and testing

1. OCL: a constraint language for UML
2. Testing basics, Unit testing
3. Requirements based testing, Object-oriented test strategies
4. Lab: JUnit testing

Prerequisites To complete this course, you need:

- A Pentium IV, 1 GB RAM computer
- Rational Rose
- Basic Java knowledge