Course Description
This intensive seminar gives you a grounding in the art and science of requirements development and management. You will learn the major activities of requirements development—elicitation, analysis, specification, and validation—based on the software engineering body of knowledge. You will also learn good practices for managing requirements. The seminar uses the EBG Requirements Roadmap as a foundation for requirements development. The Roadmap is a set of interrelated models (behavioral, structural, dynamic, and control) at varying levels of detail.

You will learn how to produce quality functional requirements by using the Roadmap’s models (including emphasis on natural language business rules). You will also discover the benefits of and reasons for using various elicitation techniques, and you’ll learn how to define testable metrics for nonfunctional requirements. You will learn practical techniques for specifying interface requirements and organizing requirements representations. You’ll master good requirements practices based on risk reduction and decades of engineering and practical project experience.

Using an integrated case study, you will work in small groups to create the requirements models and to simulate requirements workshops. The course emphasizes the need to achieve high-quality requirements that are correct, clear, consistent, complete, and relevant using simple and practical quality assurance techniques. It shows how to deliver requirements quickly without compromising quality, and discusses considerations for adapting your requirements practices.

The course material includes detailed text and illustrations. You also get a rich, reusable set of requirements tools: a case study, various templates, a set of detailed steps and guidelines for use case modeling, a use case estimating worksheet, and a variety of requirements modeling and quality assurance checklists.

Audience
This course is valuable for business analysts, subject matter experts, business rule analysts, application analysts, data or object analysts, data architects, data administrators, project managers, project leaders, and application designers—any personnel who are involved in discovering, analyzing, specifying, verifying, validating, specifying, and translating business requirements into software requirements and analysis models. Preferably you have had exposure to general application analysis and analysis modeling.

3 days (contact us about delivering a tailored 2-day version)

Objectives
- Define requirements and requirement types.
- Understand the immense impact requirements have on software projects.
- Learn what a project charter and product vision should include.
- Learn the activities involved in requirements development and management.
- Understand the business case for excellence in requirements development and management.
- Master common ways to elicit requirements, and know when each technique is useful.
- Know when to do business modeling and which models to choose.
- Learn the purpose and utility of use cases as a basis for functional requirements.
- Create a use case specification.
- Specify requirements for data-oriented domains.
- Learn how events, domains, and state diagrams connect to each other.
- Use scenarios to quality-check a variety of requirements models.
- Understand why business rules are the heart of functional requirements, and learn how to document them.
- Master numerous ways to organize textual requirements.
- Know how to specify external interface requirements.
- Document requirements using requirements document templates.
- Employ several techniques to verify requirements.
- Understand how to validate requirements.
- Learn requirements good practices.
- Know which elements to consider when adapting requirements practices.

Course Outline
1. Introduction to Software Requirements
   - Defining requirements
   - Functional versus nonfunctional requirements
   - Quality attributes
   - Levels and documentation
   - Project charter and product vision
   - How to document user and software requirements
2. Setting the Stage: Requirements Scope and Elicitation
   - The requirements model roadmap
   - Questions and representations
   - Developing models by a question-and-answer process
   - Project charter, product vision, and problem statement
   - Stakeholder categories
   - Understanding the problem domain
   - Using an event-response table
   - Creating a context diagram
   - Visualizing functional scope in large projects
   - Analyzing a data model
   - Business policies and free-form business rules
   - How to use an actor table and an actor map
   - Avoiding analysis paralysis during elicitation
   - Requirements elicitation techniques and usage tips

3. Requirements Modeling: The Complete Roadmap
   - Visual and text documentation of use cases
   - Actors and use cases
   - Use case text forms: includes, exceptions, variations
   - Scenarios and levels of detail
   - Creating a use case map and use case packages
   - Use case heuristics
   - Developing test cases from use cases
   - Writing atomic business rules
   - How to use business rule templates
   - Using a decision table and tree
   - How to create a detailed data model
   - Data dictionary
   - States and state diagrams
   - Prototypes, dialog maps, and personas
   - How to create inductive user interfaces
   - Essential use cases
   - Business modeling: what, why, and when
   - Relationship map
   - Process map

4. Requirements Roadmap Summary: Requirements Verification and Prioritization
   - Roadmap navigation strategies
   - Software packages (COTS) implementation
   - Requirements for COTS selection
   - Requirements for enhancements
   - Requirements verification techniques
   - Requirements prioritization techniques
   - How to schedule your product releases

5. Requirements Specification and Validation
   - Requirements specification
   - Organizing and labeling functional requirements
   - How to write textual requirements
   - Specifying external interface requirements
   - Banned words
   - Requirements fitness criteria: writing testable quality attributes
   - PLANGUAGE
   - Requirements validation techniques
   - Operational prototypes
   - Model validation
   - User acceptance tests
   - Reviews: inspections, team reviews, walkthroughs
   - Basing release criteria on requirements

6. Requirements Management
   - Requirements management activities
   - Baseline requirements
   - Requirements attributes
   - Requirements tracing
   - Requirements management tools
   - Change control

7. Requirements Good Practices and Adaptation
   - Common requirements risks
   - Risk inoculation: Good practices
   - Multi-modeling
   - Requirements workshops
   - Metrics, mentoring, and retrospectives
   - Requirements adaptation: Tailoring practices for your project
   - Requirements good practices summary

Appendices
Case Study and Sample Solutions
Requirements Glossary
Quality Attributes and Their Measurements
Project Charter Template
Business Change Document Template
User Requirements Template
Use Case Templates
Software Requirements Specification Template
Use Case Tips (guidelines, tips, heuristics, steps, and article)
Business Rule Templates
Estimating Work with Use Cases
QA Checklists and Forms
Requirements Analyst Job Description
Modeling with the UML
Requirements Model Selection Heuristics
References