419 Hudson Road • Sudbury, MA 01776 USA
Phone: +1.978.261.5552 • Fax: +1.978.261.5553 • www.ebgconsulting.com

Logical Data Modeling
(Instructor-Led Classroom)

Course Description

This two-day, hands-on, advanced course teaches fundamental and advanced data modeling skills. It prepares business analysts to collaborate with data experts to elicit, specify, verify, and validate data requirements.

You'll learn and practice a step-by-step approach to elicit data requirements from analysis models and then document the requirements in a conceptual data model and a logical data model (an entity-relationship diagram). You'll leverage the syntax of business rules to capture detailed data relationship optionality and cardinality. You'll specify attributes, identifiers, and foreign keys, and you'll normalize data and model inheritance structures. You'll trace the requirements to related models to verify the requirements, and you'll validate the model with stories and scenarios. The course utilizes the EBG Requirements Roadmap* to aid in navigating among the models.

In this carefully designed and executed learning environment you'll actively learn through lecture, examples, discussions, exercises, and review sessions. You'll leverage worksheets and checklists to specify and verify entity, relationship, and attribute details.

This course is endorsed by the International Institute of Business Analysis (**IIBA™**) and aligns with the IIBA's Business Analysis Body of Knowledge (**BABOK**®) applicable tasks and techniques. You'll earn 14 PDs (Professional Development hours) for initial certification or 14 **CDU**s (Continuing Development Units) by attending this course.

*The EBG Requirements Roadmap is a set of interrelated models (behavioral, structural, dynamic, and control) at varying levels of detail.

Who Should Attend

This course is valuable for application analysts, data analysts, data architects, data administrators, database administrators, designers, and anyone else who translates business requirements into logical data models. Database experience is not necessary.

Course Length

2 days

Objectives

- Create a conceptual data model (high-level entities with relationships)
- Construct a logical data model (entities, identifiers, and attributes)
- Normalize the data model to third normal form
- Use inheritance to model super- and subtypes
- Verify and validate the logical data model
- Trace data requirements to other models
- Explain the role business analysts play in modeling data requirements and how they collaborate with subject matter experts

Course Materials

The participant's manual includes detailed text and illustrations. The rich, reusable requirements toolset includes a case study, specification templates (entity, relationship, attribute), and references. You'll also receive a copy of the EBG Requirements Roadmap.

Course Outline

1. **Fundamentals of Data Modeling**
   - The EBG Requirements Roadmap's model views
   - Data model components and roles
2. **Conceptual Data Model**
   - High-level entities
   - Data relationships (cardinality and optionality)
3. **Logical Data Model, Part 1**
   - Focus questions to elicit data requirements in analysis models and external interfaces
     - Stories, use cases, activity diagrams
     - Event-Response table, state diagram
     - Business rules, decision tables, trees
   - Logical data model
   - Many-to-many relationships
   - Specifications for entities, relationships, and attributes (data dictionary)
4. **Logical Data Model, Part 2**
   - Identifiers: candidate, primary, foreign keys
   - Complex relationships
   - One-to-one (inheritance) relationships
   - Normalization to third normal form
5. **Managing Data Integrity**
   - Quality check entities, relationships, attributes
   - Referential integrity rules
   - Verifying data with analysis matrices
   - Tracing data to other analysis requirements
   - Validating the logical data model with stories, scenarios