DATA MODELING

Course Code: 2711

Learn to create use data models.

Since a business analyst needs to accurately elicit, define, and document user requirements, understanding the users' needs is key to an analyst's success. By using logical data modeling, a business analyst can convey requirements in a way that can easily be validated, and doing so allows stakeholders to understand the requirements, business rules, and data management methods for any given project.

In this class, get hands-on practice modeling requirements through entity relationship diagrams, supertypes and subtypes, and attributive and associative entities. You will learn to use logical data modeling to work directly with business users to accurately define requirements.

Students pursuing a university-recognized and/or accredited certificate in Canada or continuing education units in the US must attend at least 90% of class time, participate in class exercises and section-knowledge checks, and score at least 70% on an end-of-class, multiple-choice assessment.

What You'll Learn

- How logical data models relate to requirements
- Identifying entities and attributes
- Determining relationships and business rules
- Data integrity through normalization

Who Needs to Attend

Systems analysts, business analysts, IT project managers, associate project managers, project managers, project coordinators, project analysts, project leaders, senior project managers, team leaders, product managers, and program managers

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CLASSROOM LIVE	$2,095 CAD	3 Day

Classroom Live Outline

1. Introduction to Logical Data Modeling

- Importance of logical data modeling in requirements
- When to use logical data models
- Relationship between logical and physical data model
- Elements of a logical data model
- Read a high-level data model
- Data model prerequisites
- Data model sources of information
- Developing a logical data model

2. Project Context and Drivers

- Importance of well-defined solution scope
- Functional decomposition diagram
- Context-level data flow diagram
- Sources of requirements
    - ⬚ Functional decomposition diagrams
    - ⬚ Data flow diagrams
    - ⬚ Use case models
    - ⬚ Workflow models
    - ⬚ Business rules
    - ⬚ State diagrams
    - ⬚ Class diagrams
    - ⬚ Other documentation
- Types of modeling projects
    - ⬚ Transactional business systems
    - ⬚ Business intelligence and data warehousing systems
    - ⬚ Integration and consolidation of existing systems
    - ⬚ Maintenance of existing systems
    - ⬚ Enterprise analysis

▘ Commercial off-the-shelf application

3. Conceptual Data Modeling

- Discovering entities
- Defining entities
- Documenting an entity
- Identifying attributes
- Distinguishing between entities and attributes

4. Conceptual Data Modeling-Identifying Relationships and Business Rules

- Model fundamental relationships
- Cardinality of relationships
    - ▘ One-to-one
    - ▘ One-to-many
    - ▘ Many-to-many
- Is the relationship mandatory or optional?
- Naming the relationships

5. Identifying Attributes

- Discover attributes for the subject area
- Assign attributes to the appropriate entity
- Name attributes using established naming conventions
- Documenting attributes

6. Advanced Relationships

- Modeling many-to-many relationships
- Model multiple relationships between the same two entities
- Model self-referencing relationships
- Model ternary relationships
- Identify redundant relationships

7. Completing the Logical Data Model

- Use supertypes and subtypes to manage complexity
- Use supertypes and subtypes to represent rules and constraints

8. Data Integrity Through Normalization

- Normalize a logical data model
    - ▘ First normal form
    - ▘ Second normal form
    - ▘ Third normal form
- Reasons for denormalization
- Transactional vs. business intelligence applications

9. Verification and Validation

- Verify the technical accuracy of a logical data model
- Use CASE tools to assist in verification
- Verify the logical data model using other models
    - ▘ Data flow diagram
    - ▘ CRUD matrix

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VIRTUAL CLASSROOM LIVE	$3,105 CAD	3 Day

Virtual Classroom Live Outline

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- Sources of requirements
    - Functional decomposition diagrams
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    - Workflow models
    - Business rules
    - State diagrams
    - Class diagrams
    - Other documentation
- Types of modeling projects
    - Transactional business systems
    - Business intelligence and data warehousing systems
    - Integration and consolidation of existing systems
    - Maintenance of existing systems
    - Enterprise analysis

■ Commercial off-the-shelf application

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Sep 8 - 10, 2025 | 8:30 AM - 4:30 PM EDT

Dec 8 - 10, 2025 | 8:30 AM - 4:30 PM EST

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PRIVATE GROUP TRAINING	3 Day

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.