

## COURSE PROFILE: STRUCTURED ANALYSIS AND DESIGN

<b>Title</b>	Structured Analysis and Design
<b>Length</b>	10 - days
<b>Description</b>	<p>Structured Analysis and Design covers the most up-to-date tools of structured analysis and design, while presenting traditional techniques such as interviewing and forms design. Its goal is to create an integrated methodology by combining the best elements of new and traditional technologies. The tools and techniques of analysis and design are introduced by how they are used in business applications.</p> <p>The training techniques for this course include lectures, individual/group exercises, and use of an integrated case study. The case enables students to concentrate on the concepts illustrated by the case without having to try to understand a brand new case study situation with every concept taught.</p>
<b>Target Audience</b>	This course targets systems analysts, managers, and others involved in developing requirements for IT systems. Concepts and techniques are introduced with the focus on the analyst's role in the planning, analysis, and design phases.
<b>Prerequisites</b>	None
<b>Learning Objectives</b>	<p>The student will be able to:</p> <ul style="list-style-type: none"> <li>• describe the Systems Development Lifecycle and its relationship to the analysis techniques,</li> <li>• gather facts about the existing system and proposed system,</li> <li>• create Event-Response lists, Data Flow Diagrams, Data Models, Data Dictionaries, user interfaces,</li> <li>• diagram screen processes,</li> <li>• write algorithms for converting inputs to outputs,</li> <li>• read and understand Structure Charts,</li> <li>• describe the basics of testing and validation, and</li> <li>• describe the basics of project management.</li> </ul>
<b>Course Material</b>	<p>Each Student will receive:</p> <ul style="list-style-type: none"> <li>• Systems Analysis; A Structured Approach Training Manual, Author BIMS, Inc. and</li> <li>• a College level textbook.</li> </ul>
<b>Cost</b>	<p>Our all inclusive local onsite fee for up to 15 students is \$25,300.00*.</p> <p>*Effective Date: 01/01/2008. This price does not include travel outside the Baltimore, MD or District of Columbia area. This does not include any offsite facility charge.</p>

## COURSE PROFILE: STRUCTURED ANALYSIS AND DESIGN

### Course Content

#### Week 1 - Day 1

##### Introduction to Terminology and Lifecycle

- Terminology
- Systems Development Lifecycle

##### Tasks and Tools

- Documentation tools
- Analyst task and tools
- Fact gathering tools
- Problem analysis
- Problem analysis worksheet
- Document analysis
- Document analysis worksheet
- Content analysis
- Content analysis worksheet
- Job analysis
- Job analysis worksheet
- Event response list

#### Week 1 - Day 2

##### Fact Gathering Approaches

- Interview
- JAD
- Observation
- Questionnaire
- Communication principles
- Written communication guidelines
- Oral presentation guidelines

##### Fact Gathering Exercises

- Determining the fact gathering tools to use
- Completing the problem analysis worksheet
- Preparing an event response list
- Modeling the event response list

## COURSE PROFILE: STRUCTURED ANALYSIS AND DESIGN

### Course Content, continued

#### Week 1 - Day 3

##### Process Modeling – Planning Stage

- Process modeling techniques
- Data dictionary
- Element specification
- Group specifications
- Modeling a system
- Modeling the current physical system
- Building a current logical model
- Establishing the project scope
- Context diagram development
- Exercise: Building a context diagram
- Exercise: Prepare the data dictionary
- Planning stage documentation
  - The initiation information document
  - The project scope agreement (PSA)
  - The software development plan
  - Workplan

#### Week 1 - Day 4

##### Process Modeling – Business Process Analysis Stage

- Building the new logical model
- Event driven modeling
- Exercise: Diagram an event
- Exercise: Assemble the event diagrams into a data flow diagram (dfd)
- Leveling diagrams
- Exercise: Updating the data dictionary
- Establishing the PSA
- Review DFD concepts
- Decomposing the system to it's elementary level
- Exercise: Decomposing the system

#### Week 1 - Day 5

##### Data Modeling – Business Process Analysis (BPA) Stage

- Data modeling concepts and notations
- How to create a data model

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### Course Content, continued

#### Week 2 - Day 6

##### Data Modeling – Continued

- Exercise: Identify entities for case study
- Exercise: Build a data model for case study

##### BPA Stage Documentation

- Review BPA documentation for case study

##### Systems Design Alternative and Transition Plan

- Systems design alternatives
- Transition planning
- Review case study systems design alternatives and transition plan

#### Week 2 - Day 7

##### Process Modeling – Detailed System Specification Stage

- Building the new physical model
- Exercise: Modify BPA to be release specific
- Detailing data definitions
- Exercise: Detailing data definitions
- Output and input methods
- User interfaces
- Screen process diagramming
- Exercise: Modifying context diagram to tie in screen processes
- Exercise: Create a screen process diagram for the case study
- Writing screen specifications
- Exercise: Create screen specifications for the case study

## COURSE PROFILE: STRUCTURED ANALYSIS AND DESIGN

### Course Content, continued

#### Week 2 - Day 8

##### Writing Algorithms for Converting Inputs to Outputs

- Constructing flow charts
- Exercise: Construct a flow chart for case study
- Constructing decision trees
- Exercise: Construct a decision tree for case study
- Constructing decision tables
- Exercise: Construct a decision table for case study
- Structured writing techniques for system algorithms
- Exercise: Step/action table
- Exercise: When/then table
- Structure English/pseudocode
- Evaluate case construct
- Exercise: Pseudocode if/the/end-if construct
- Exercise: Pseudocode

#### Week 2 - Day 9

##### Design Stage Activities

- Principles of structured design
- Structure charts
- Review structure chart for case study

##### Testing and Validation Stage Activities Overview

- Top down incremental testing
- Umbrella incremental testing
- Bottom up incremental testing

#### Week 2 - Day 10

##### System Implementation and Post Implementation Review Overview

- Cutover to new system
- Implementation activities
- Post implementation review
- Closeout

##### Project Management Overview

- Gantt chart
- Pert chart
- Developmental costs
- Operating costs
- Benefit estimation