



# **NUTECH COMPUTER TRAINING INSTITUTE**

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## **Business Intelligence Master Program**

### **Why you should attend?**

The role of the data professional used to be simple, or, at least, simpler. Database administrators made sure databases were tuned and humming along. Database and application developers assembled and tested the applications that ran on top of the databases. These are no longer the case. As companies come to understand that data is their most important asset, the role of the DBA and other data professionals is changing.

The data warehouse/business intelligence (DW/BI) system has been and continues to be one of the most organizationally complex and technically interesting IT projects. It is imperative that every IT professional familiar with the BI/DW system and knows how it works. This course prepares you to successfully implement your DW/BI environment, including how to deal with the many facets of developing, deploying, operating, and growing BI/data warehouse system.

This course will also provide you a detailed technical introduction to building a data warehouse / business intelligence system that meets the needs of your business users. The class will provide general guidance for working through the data warehouse lifecycle, from requirements gathering and design through the ETL system, relational data warehouse, OLAP and data mining applications, to reporting and other BI applications. At the end of this course, you're fully prepared to meet your next challenge in the BI/DW world and/or ready to get certified as a BI Professional.

## Who should attend?

This course is designed to appeal to all major roles on a data warehouse project, from project managers to DBAs to data modelers to application developers to system designers. It's for anyone new to data warehousing who wants to learn how to do it, or who has been through a project or two and wants to learn how to do it right. It is appropriate for anyone interested in an A to Z coverage of BI / Data Warehousing systems.

## About This Course

The focus of the course is BI/DW fundamental concepts and hands-on practice—how should you design the components of the system. The goal is to teach you the hard stuff: not which button to push, but how to design and build a successful DW/BI system. The pace of the course permits demos by the instructor as well as hands-on practice during class time. You will learn:

- The basic concepts of BI/DW technology and best practices, in both data and technical architectures, for implementing a successful BI strategy no matter
- The core components to effective query and reporting, OLAP, BI portals, metadata and more
- The right application of atomic level data, star schemas, and the following OLAP structures and techniques (MOLAP, HOLAP, ROLAP)
- What to consider when implementing BI application or real-time BI analytics.

# Course Outline

## Section 1: Introduction – The History of Business Intelligence & Key Concepts of BI

- Course Objectives and Structure
- The Early End-User Computing Era
- The Information Center Era
- Charge-Back Systems
- Personal Computers
- The Client/Server Wave
- The Information Warehouse Concept
- The Data Warehouse Era of BI
- Advanced Analytics: Delivering Information to "Mahogany Row"
- BI Milestones
- Business Intelligence Yesterday and Today
- Business Measures for Performance
- Business Intelligence Approaches
- A Business Intelligence Methodology
- BI as an Investment Decision
- **DBA, IT Professional & BI**

**Hands-on Exercise:** Key concept identification

## Section 2: The BI Strategy Linkage

- Strategy and performance
- The new stakeholders
- Business as the BI driver
- External and Internal BI
- BI and CI
- Management disciplines

**Hands-on Exercise:** Identifying BI Purpose

## Section 3: Enterprise Performance Management

- Measuring the Business
- Critical Success Factors
- Key Performance Indicators
- The Briefing Book
- The Management Dashboard

**Hands-on Exercise:** Setting Performance Goals

#### **Section 4: Business Intelligence Methodology**

- Enterprise Data Analysis and Integration
- Content Acquisition and Integration
- Feasibility Analysis for BI Affordability
- Organization and Data Governance
- Funding, Promoting and Evaluating the BI Function

**Demonstration:** A Strategic Level Business Intelligence Tool

#### **Section 5: Articulating a BI Solution**

- Business Performance Models
- Business Intelligence Solutions
- Other Business Models Used in BI
- The Technology Approach
- The General BI Architecture

**Hands-on Exercise:** Getting Started In Business Intelligence – Identifying the Target

#### **Section 6: Requirements for Business Intelligence**

- Business Analysis and BI
- Identifying the Measures
- External versus Internal Business Requirements
- Content Requirements
- Delivery Requirements

**Hands-on Exercise:** Identifying Corporate Needs

#### **Section 7: BI and Competitive Intelligence**

- Strategy, Competitive Intelligence and BI
- The Five Forces used for Competitive Intelligence
- Measures, Content and Competitive Intelligence
- Trends versus Discontinuities
- Integrating external data
- Content and BI – Alerts and Insight

**Hands-on Exercise:** The Competitive Intelligence Assessment

#### **Section 8: Elements of Business Intelligence Solutions**

- Data Warehouse versus Data Marts
- Setting Up Information for BI Processing
- Data Extraction, Transformation, and Cleansing

- The Data Side of BI
- The Analytics Tools
- End-User Assumptions about Tools
- The Spreadsheet's Role in BI
- The Three Major Categories of BI Analytics Tools
- Query and Reporting Tools
- Time and Date Elements in Reporting
- OLAP Tools
- Data Mining Tools
- Advanced Analytics—Executive Information Systems (EIS)

**Hands-on Exercise:** Identified BI elements

### **Section 9: The New Web Requirement for BI**

- The Web as a Delivery Platform
- The Need of External Stakeholders
- Making Data and Content Available
- Enterprise Information Integration
- E-Business Intelligence – Real Time Warehousing

**Demonstration**

### **Section 10: Data Management for BI**

- Components a DM architecture
  - Source, ETL, ODS, EDW, Data Marts, Metadata Repositories
- Identifying Sources of Data and Their Role in the Life Cycle
- Data Integration Strategies and Levels of Detail
- Matching Requirements with Data Sources
- Matching Interrelationships among Data Sources
- Enterprise Information Integration

**Hands-on Exercise:** Data Integration and Mapping Strategies

### **Section 11: Finding Things in the BI Environment**

- Searching and Locating Data
- The Metadata Issue (Structuring Context across Time)
- Taxonomies and Categorization (Providing Structure within Context)
- Taking Content and Turning It into BI
- Integrating Data and Content

**Hands-on Exercise:** BI Tools and Content

## **Section 12: Staging Data – The Operation Data Store and the Analytical Data Store**

- The Concept of Different Types of Data Staging.
- ODS and ADS Requirements
- Managing the ODS and ADS
- Different ODS vs. ADS Users and Opportunities
- ODS and ADS Technology issues

**Hands-on Exercise:** ODS and ADS Requirements

## **Section 13: The Delivery of Data – The Enterprise Data Warehouse**

- Basic Warehouse Structures – More than One Way
- Dimensions versus Facts
- Finding the Facts – Taxonomies, Categorization and Context
- Data Marts and Their Relationship to the ADS
- Managing the EDW environment

**Hands-on Exercise:** Determining BI Warehouse Needs

## **Section 14: A Few Tools and Examples**

- The Analysis Repository
- ETL - Extraction, Transformation and Loading
- Metadata and Data Repositories (Structuring the Context)
- Delivery and Presentation – Portals and others
- Tool Directions – Other tools you may need

**Hands-on Exercise:** The Tool Selection Matrix

## **Section 15: Planning for the Future—What's the Next Wave of Business Intelligence?**

- Advanced Analytics
- Database Enhancements and BI
- Thinner and Thinner Clients
- Data Formats with BI Aspects
- Portals
- BI Networks
- Conclusion

**Hands-on Exercise:** Final Question and Answer Period

***Please note that enrollment is limited to 12 attendees.***