



أعداء الأنظمة الحاسب الآلي والتنمية البشرية
HUMAN & BUSINESS INTELLIGENCE

Business Intelligence Courses

Proposal & Catalogue

May, 2016

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Prices

3adda is a specialized professional Business Intelligence Company. We do provide BI Consultancy, Training and Development. Our team has more than 30 years accumulated experiences in this field reinforced by many academic and scientific certificates. We've built a BI systems to large companies, therefore our courses are a very well blend of academically and practically topics and exercises. We are CBIP (Certified Business Intelligence Professional) certified by the world leader BI Institute—TDWI.

We proudly offer the following courses:

BI Courses

No.	Course Title	Duration (Days)	Fees (US\$) / Person
BI01	Introduction to BI and its Impact On Business	2	1000
BI02	Data Warehouses, Designing, Building and Operating	4	2000
BI03	Building OLAP Systems	4	2000
BI03-i	Building OLAP System Project (Optional)	4	2000
BI04	Using MDX Language to Analyze Data	2	1000
BI05	Building Data Mining Models	4	2000
BI05-i	Data Mining Project (Optional)	4	2000
BI06	Building BI Advanced Reporting Solutions	3	1500
BI07	Building Analytical Solution Using MS Excel	5	2500
Package Deal 30% Discount if 4 or more courses are taken.			

Terms and Conditions:

1. Courses for groups of at least 6 persons.
2. Full day courses, ie. from 09:00 am to 05:00 pm.
3. Courses to be held at the customer's premises or 3adda Co
4. Full advance payment is required.
5. If courses are delivered outside Egypt, flight and accommodation are also required to be paid by the customer.

BI01 - Introduction to BI and its Impact on Business (2 day)

Day 1:

1. The Concept of Business Intelligence
2. Implement the key elements of a successful business intelligence (BI) program
3. Apply a BI meta model that turns outcomes into actions
4. Extract and transform data

Day 2:

5. Exploit business analytics and performance measurement concepts and tools
6. Organize a Business Intelligence Competency Center (BICC)
7. Different BI Applications in Business

BI02 – Data Warehouses, Designing, Building and Operating

Day 1: BI Architectures and Data Modeling – I

- a. Business Intelligence Architectures Overview
- b. Types of Data Modeling Styles Overview
- c. Universal Data Model (UDM) and Patterns Overview

Day 2: BI Architectures and Data Modeling – II

- a. Architecture and Models Working Together
- b. Practical Guide to Using BI Architectures and Models
- c. Comparison of Architectures

Day 3: Building the Data Warehouses

- a. The ETL and Data Profiling Processes.
- b. Introduction Microsoft SSIS Platform
- c. Develop a Data Warehouse

Day 4: Deploying and Operating the Data Warehouses

- a. Consuming Data in DW
- b. Updating and Synchronizing
- c. Managing the DW

BI03 – Building OLAP Systems using MS SQL 2012

Day 1:

1. Introduction to Analysis Services
 - a. Analysis Services 2012
 - b. Multidimensional Databases
 - c. UDM: Linking Relational and Multidimensional Databases
 - d. Client/Server Architecture and Multidimensional Database: An Overview.
2. Creating Multidimensional Models
 - a. Conceptual Data Model
 - b. Dimensions in the Conceptual Model
 - c. Cubes and Multidimensional Analysis
 - d. Measures and Multidimensional Analysis
 - e. Multidimensional Models and BIDS
3. Exercises

Day 2:

1. Creating Tabular Data Model
 - a. Creating a new tabular model project in SQL Server Data Tools.
 - b. Importing data from a SQL Server relational database into a tabular model project.
 - c. Creating and managing relationships between tables in the model.
 - d. Creating and managing calculations, measures, and Key Performance Indicators that help users analyze model data.
 - e. Creating and managing perspectives and hierarchies that help users more easily browse model data by providing business and application specific viewpoints.
 - f. Creating partitions that divide table data into smaller logical parts that can be processed independent from other partitions.
2. Creating a Data Warehouse
 - a. Loading Data from a Relational Database
 - b. DSV and Object Bindings
 - c. Multidimensional Models and Relational Database Schemas
3. Bringing Data Into Analysis Services
 - a. The Physical Data Model
 - b. Dimension and Partition Processing
 - c. Using SSIS to Load Data
 - d. Aggregation Design and Usage-Based Optimization
 - e. Proactive Caching and Real-Time Updates
 - f. Building Scalable Analysis Services Applications
4. Exercises

Day 3:

1. Analysis Services Architecture
 - a. Server Architecture and Command Execution
 - b. Memory Management
 - c. Architecture of Query Execution—Calculation MDX Expressions
 - d. Architecture of Query Execution—Retrieving Data from Storage
2. Accessing Data in Analysis Services
 - a. Client/Server Architecture and Data Access
 - b. Clients Components Shipped with Analysis Services
 - c. XML for Analysis
 - d. ADOMD.net
 - e. Analysis Management Objects
3. Exercises

Day 4:

1. Security
 - a. Security Model for SSAS
 - b. Object Security Model for SSAS
 - c. Securing Dimension Data
 - d. Securing Cell Values
2. Management
 - a. Using Trace to Monitor and Audit Analysis Services
 - b. Backup and Restore Operations
 - c. Deployment Strategies for Multidimensional and Tabular Models
3. Exercises

BI04 – Using MDX & DAX Languages to Analyze Data

Day 1:

1. Differences between MDX & DAX
2. MDX
 - a. Concepts
 - b. Advanced MDX
 - c. Cube Based MDX Calculations
 - d. Dimension-Based MDX Calculations
 - e. Extending MDX with Stored Procedures
 - f. Key Performance Indicators, Actions, and the DRILL THROUGH Statement
 - g. Writing Data Into Analysis Services
3. Exercises

Date 2:

1. DAX
 - a. Concepts
 - b. Advanced DAX
 - c. Analysis Based MDX Calculations
 - d. Extending DAX with Stored Procedures
 - e. Key Performance Indicators, Actions, and the DRILL THROUGH Statement
2. Exercises

BI05 - Data Mining Course Outlines:

Day 1:

1. Introduction
 - a. BI General Background
 - b. What's Data Mining
 - c. Data Mining Applications
2. Machine Learning & Basic Operations
 - a. Machine Learning
 - b. Predictive Analysis
 - i. Regression
 - ii. Classification
 - iii. Collaboration
 - c. Descriptive Analysis
 - i. Clustering/Similarities
 - ii. Association Rules
 - iii. Deviation Detection
3. Data Mining Processes
 - a. Definition
 - b. Data Preparation
 - c. Exploring the Data
 - d. Building Models
 - e. Exploring and Validating Models
 - f. Deploying and Updating Models
4. Building the Models
 - a. Decision Trees Algorithm
 - b. Clustering Algorithm
 - c. Naïve Bayes Algorithm
5. Results Analysis and Validation
 - d. GIGO
 - e. Confusion Matrix

Day 2:

1. Recap
2. Data Mining Processes -
 - a. Definition
 - b. Data Preparation
 - c. Exploring the Data
 - d. Building Models

- e. Exploring and Validating Models - II
- f. Deploying and Updating Models - II

Day 3:

3. Building the Models
 - a. Time Series Algorithm
 - b. Association Rules Algorithm
 - c. Linear Regression Algorithm
4. Results Analysis and Validation
 - a. GIGO
 - b. Lift & Lift Chart
5. Data Mining Processes
 - a. Definition
 - b. Data Preparation
 - c. Exploring the Data
 - d. Building Models
 - e. Exploring and Validating Models
 - f. Deploying and Updating Models

Day 4:

1. Building the Models
 - g. Neural Network Algorithm
 - i. Based on DB
 - ii. Based on OLAP Cube
 - h. Logistic Regression Algorithm
 - i. Sequence Clustering Algorithm
2. Results Analysis and Validation
 - j. GIGO
 - k. Cross Validation

Data Mining Project (30 hours) - Optional

A complete data mining project based on real business case selected by the customer.

BI06 - Building BI Advanced Reporting Solutions

Day 1:

- a. Designing the Reporting Solution
- b. Introducing MS SQL Reporting Services (SSRS)
- c. Creating Tabular and List Reports
- d. Calculation and Formatting
- e. Grouping and Sorting

Day 2:

- a. Working with Parameters
- b. Creating Matrix Reports and Charts
- c. Report Navigations
- d. Snapshots and Subscriptions
- e. Programing Reporting Services

Day 3:

- a. Advanced Reporting Services Programming
- b. Ad-Hoc Reporting with Report Builder
- c. Managing Reporting Services
- d. Security

BI07 - Building Analytical Solutions Using MS Excel

Day 1 & 2

<p>Using logical functions Naming ranges - Creating named ranges - Using named ranges in formulas The IF function (recap) Creating nested IF functions AND and OR functions Combining logical functions</p> <p>Working with lookups The VLOOKUP function The HLOOKUP function</p> <p>Advanced list management Using data validation - Setting criteria for entry of text, values and dates - Creating a dropdown list Using database functions - Setting up criteria - DSUM - DAVERAGE - DCOUNT</p>	<p>PivotTables and PivotCharts Using the PivotTable Wizard Rearranging PivotTables Using the PivotTable toolbar Creating PivotCharts Using Slicers to manipulate PivotTables</p> <p>Using analytical options Using Goal Seek Using the Solver add-in Working with scenarios - Creating and saving scenarios - Viewing scenarios</p> <p>Macros Creating macros Using the macro recorder Viewing and editing macro VBA code</p>
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Day 3 & 4

<p>Introduction Introducing Visual Basic for Applications Defining the development environment Using help Closing the VB editor</p> <p>Developing with Procedures and Functions Understanding and creating modules Defining procedures Creating a sub-procedure Calling procedures Utilising the immediate window to call procedures Making and naming a function procedure Working using the code editor</p> <p>Introducing Objects Defining objects Examining the Excel object hierarchy Defining collections Utilising the object browser How to work with properties The <i>with</i> statement How to work with methods Building an event procedure</p> <p>Utilising Intrinsic Functions, Variables and Expressions Defining expressions and statements How to declare variables Determining data types Programming with variable scope Harnessing intrinsic functions Defining constants and using intrinsic constants Adding message boxes and using input boxes How to declare and use object variables</p> <p>Managing Program Execution Defining control-of-flow structures Using boolean expressions Working with the if...end if decision structures Working with the select case...end select structure Working with the do...loop structure Working with the for...next structure Working with the for each...next structure Restrictions for use of control-of-flow structures</p>	<p>Harnessing Forms and Controls Defining UserForms Utilising the toolbox Using UserForm properties, events and methods Understanding controls Setting control properties in the properties window Using the label control Using the text box control Using the command button control Using the combo box control Using the frame control Using option button controls Using control appearance Determining the tab order Filling a control Increasing code to controls How to launch a form in code</p> <p>Using the PivotTable Object Defining PivotTables Making a PivotTable Using the PivotTable wizard method Using PivotFields Adding a procedure to a custom toolbar</p> <p>Debugging The Code Defining errors Working with debugging tools Determining breakpoints How to step through code Working with break mode during run mode Identifying the value of expressions</p> <p>Handling Errors Defining error handling Defining VBA's error trapping options Capturing errors with the on error statement Determining the error object Coding an error handling routine Using inline error handling</p>
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Day 5:

<p>Further Excel Object Model The Range object The Current Region object Workbooks and worksheets collections Chart object List object</p> <p>Arrays Dynamic arrays Array optimisation Multidimensional arrays Arrays and objects</p> <p>Object Oriented Programming (OOP) Classes and objects creating new objects creating new classes Error handling</p> <p>Good programming techniques Recursive programming Using optional arguments</p>	<p>Best Practice for Excel Programming</p> <p>Further Object Orientated Programming Destroying objects Default property and method Working with collections</p> <p>Advanced Procedures, parameters, variables Passing parameters by reference and by value Optional and default parameters Passing an array of arguments to a procedure Using enumerations User-defined Type Implicit and explicit conversions</p> <p>Linking with Office Connecting to other Office applications</p>	<p>Working with other Office applications</p> <p>Importing from Access using ADO Understanding Active-X data objects The Connection string Manipulating data</p> <p>Macro Security How macro security works Digitally signing macros</p>
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