



أكاديمية الزمالة العربية البريطانية
Arab British Academy Fellowship
A.B.A.F





Certificate in Big Data and Data Analytics



Why Attend

Across all lines of business, sharp and timely data insights are needed to keep an organization competitive in this digital era. Big data is a change agent that challenges the ways in which organizational leaders have traditionally made decisions. Used effectively, it provides accurate business models and forecasts to support better decision-making across all facets of an organization. This course provides participants with the data literacy they need to remain efficient, effective, and ahead of the curve. Participants will learn why, where and how to generate business value by deploying analytical methodologies. They will gain the knowledge and skills they need to assemble and manage a large-scale big data analytics project. Lastly, participants will get a conceptual introduction to the sophisticated predictive algorithms that are used in data science.

Course Methodology

Participants will be led through a series of hands-on exercises and workshops, where they will have the chance to apply and test the methods and practical approaches that they are learning throughout the course. Students will work to identify areas of their organization that can be improved through big data-driven implementations, and the types of improvements that can be made through these analytical measures. As part of this course, participants will produce an actionable big data plan that can be used as a blueprint for enterprise-wide big data deployments.



Course Objectives

By the end of the course, participants will be able to:

- Weigh-in on the benefits, functionality, and ecosystem that are related to big data
- Manage a big data initiative within their organization
- Identify how big data technologies and analytical methods can generate value for their organization.
- Assemble well-rounded big data analytics teams by identifying the essential data professional roles and responsibilities
- Deploy a simple and systematic analytical approach for generating business value

Target Audience

This course is designed for high-level technical professionals who want to use enterprise data to achieve better, more efficient business results and/or to make improved decisions through predictive analytics. This includes experienced data professionals, such as database administrators, system administrators, business analysts or business intelligence specialists, as well as less technically-inclined management and administrative professionals. Recommended pre-knowledge includes experience analyzing data in Excel, as well as a basic understanding of correlation and how to use Excel pivot tables. Participants should have prior experience working with data that is stored in traditional relational database systems.

Target Competencies

- Big Data Project Planning and Management
- Data Presentation and Communication
- Data-Informed Decision-Making
- Analytical and Statistical Methods for Decision-Support



- The big data landscape overview
- What is Big Data?
- Big data vs. its predecessors



- How big data relates to data analytics and data science
- The big data paradigm
- Big data professional roles
- Overview of ways big data projects benefit businesses and industries
- The Hadoop ecosystem and architecture
- Overview of Hadoop, MapReduce YARN & Spark
- Other technologies in the big data paradigm
- Overview of MPP, In-memory appliances, Apache Spark (redo), NoSQL, Apache Lucene, Hive / Pig, HBASE, Cassandra, Kafka. Sqoop, Oozie, RDBMSs

- **Big data project planning**
 - Conceptualizing how a big data project can meet organizational needs
 - Considering relevant use cases
 - Netflix, LinkedIn, Experian, Shell Oil, Facebook, Google for Education, ETL off-loading, Enterprise search, Orbitz, Dell SecureWorks
 - Best practices in metrics selection
 - Assessing the current state of your organization
 - Assembling data teams
 - Finalizing your implementation plan
 - Implementing a data-driven solution

- **Analytical methods for problem-solving**
 - Data-Driven Approach to Drive Improvements Across Business Workshop
 - Pinpointing the problem
 - Assessing the problem
 - Analyzing alternative solutions
 - Implementing your solution
 - Getting to know data science and analytics roles and objectives
 - Introduction to data analytics
 - Basic math and statistics for data science
 - Statistical algorithms in data science
 - Making value of location data with Geographic Information System (GIS)
 - Free analytics applications

- **Basic data science mechanics**
 - The benefits of object-oriented programming
 - Programming Python
 - Structured Query Language (SQL) in analytics and data science
 - Data presentation workshop

- **Introduction to machine learning**
 - Getting to know machine learning
 - Classification algorithms
 - Regression algorithms
 - Clustering algorithms
 - Linear algebra algorithms



- Mathematical methods: MCDM
- Recommendation systems
- The ethics of artificial intelligence



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