CERTIFIED
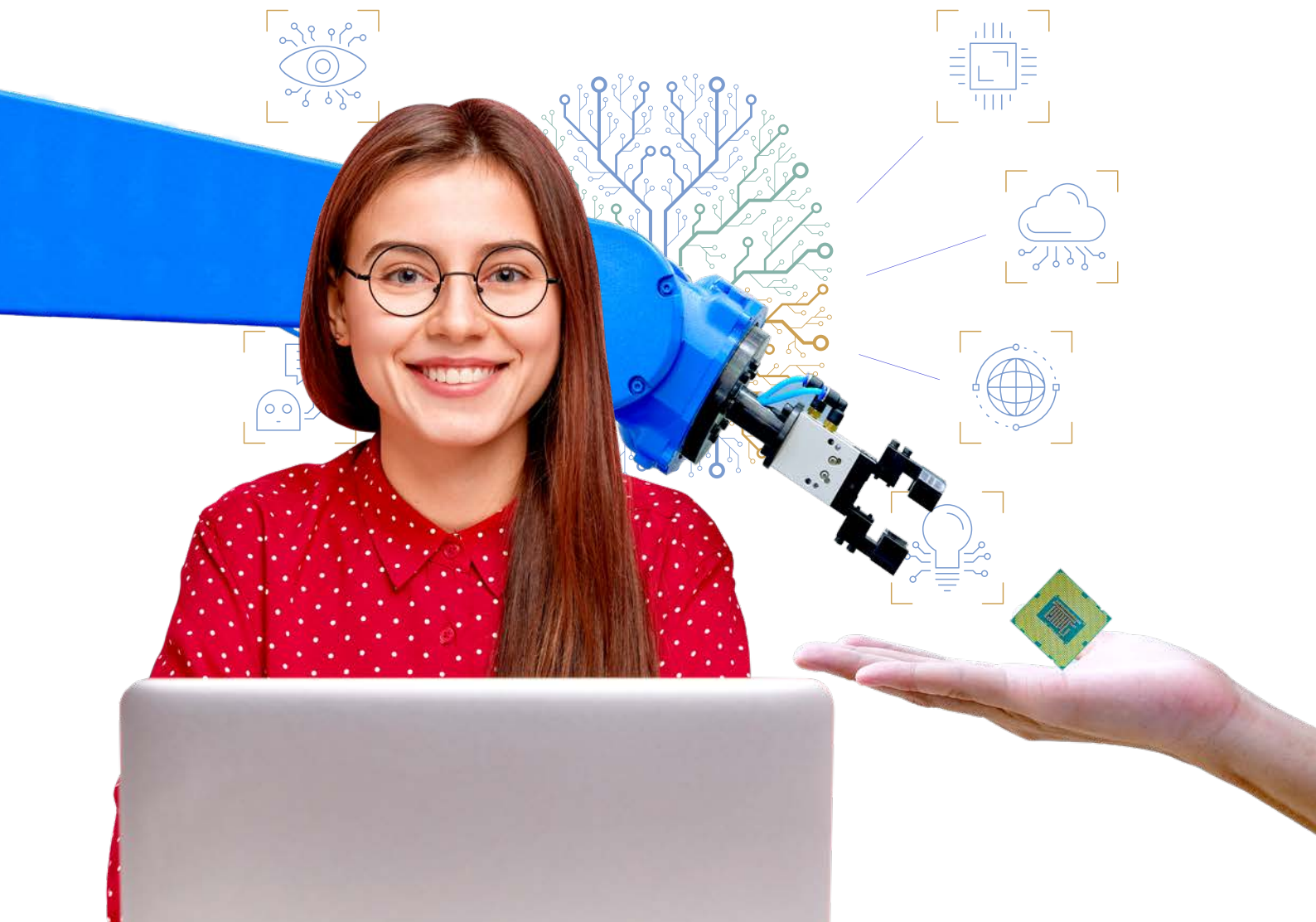# DATA SCIENCE, DATA ANALYTICS & MACHINE LEARNING
PROGRAM

Industry Ready Course Content • Instructor Led Training • 20+ Projects & Case Studies • 25+ Assignments • Internships • Job Placement Opportunities

[DATA SCIENCE] ● [MACHINE LEARNING] ● [DATA ANALYTICS] ● [DEEP LEARNING]
[TABLEAU] ● [MICROSOFT POWER BI] ● [PYTHON] ● [ARTIFICIAL INTELLIGENCE]

Certified Data Science, Data Analytics & Machine Learning Program

Enrollment Path

1 EXPERT CONSULTATION
Our course experts will understand your needs and guide you in the right direction.

2 CONCEPT
Understanding the Modules

3 PAY & ENROLL
We will Finish all the accounting formalities.

4 ONBOARDING TEAM TAKEOVER
We provide guidance for the material and set you up for the course

5 LOGIN & BOOK
With your dedicated access you can login, book and start attending your live interactive sessions.

BECOME A DATA SCIENCE PROFESSIONAL

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Data Science, Data Analytics
& Machine Learning
Program

MODULE 1

FUNDAMENTAL OF PYTHON

- Variables, Data Type, Strings, Operators, Flow control (for, if-else, while)
- Strings, Functions, List, Tuples, Dictionary
- **Number of Case Studies - 2**

MODULE 2

PYTHON FOR DATA SCIENCE

- NumPy module: one-, two- and n-dimensional arrays in NumPy.
- Apply some linear algebra operations to n-dimensional arrays without
- using for-loops using NumPy
- Pandas modules: creating, loading and selecting data using DataFrames
- Modifying DataFrames, Aggregation in Pandas
- Implementation on different data set related to multiple domain industry
- **Number of Case Studies - 3**

MODULE 3

DATA VISUALIZATION WITH PYTHON

- Matplotlib and Seaborn modules
- Quantitative comparisons and statistical visualizations
- Bar Chart, stacked chart, Histogram, Statistical plotting, Box plots
- Plotting time-series
- Scatter plotting
- **Number of Case Studies - 3**

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MODULE 4

DATA ANALYTICS (EXPLORATORY DATA ANALYSIS)

- Data Cleansing (Dealing with Missing Data, Outlier Detection)
- Sampling Techniques (Balanced, Stratified,...)
- Data Partitioning (Create Training + Validation + Test Data Set)
- Transformations (Normalization, Standardization, Scaling, Pivoting)
- Data Replacement (Cutting, Splitting, Merging,...)
- Imputation (Replacement of Missing Observations with Statistical Algorithms)
- **Number of Case Studies - 5**

MODULE 5

DATA ANALYTICS USING POWER BI & TABLEAU

- Data Transformation from analysis to visualisation using relationships and models using Power BI & Tableau
- Will be covered with at least 12 different sort of data sets
- **Number of Case Studies - 6**

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MODULE 6

STATISTICS, MACHINE LEARNING AND REGRESSION

- Basic statistical Operations - mean, median, variance, kurtosis
- Correlation, standard deviation, max, min, sum, colinearity

MACHINE LEARNING

- Introduction to Machine Learning
- Training Dataset, Testing dataset, Cross validation
- Perfomance Evaluation Parameters in Machine Learning - Confusion Matrix
- Precision, Recall, F-score, Accuracy

SUPERVISED MACHINE LEARNING

- Supervised Machine Learning- Support vector Machine, Random Forest, Decision Trees
- Naïve Bayes, K - nearest Neighbors algorithm will be covered
- Applications like - Classification, Recognition, Detection will be implemented from scratch
- **Number of Case Studies - 3**

UNSUPERVISED MACHINE LEARNING

- Unsupervised Machine Learning - Kmeans, Fuzzy-Cmean, Dbscan algorithms
- Application Like -Segmentation , clustering, recommendation system will be implemented
- **Number of Case Studies - 3**

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MODULE 7

FEATURE ENGINEERING AND FEATURE SELECTION

- PCA algorithms and Coliearity and correlation in attributs will be discussed as Feature selection steps in Training process of Machine learning models

MODULE 8

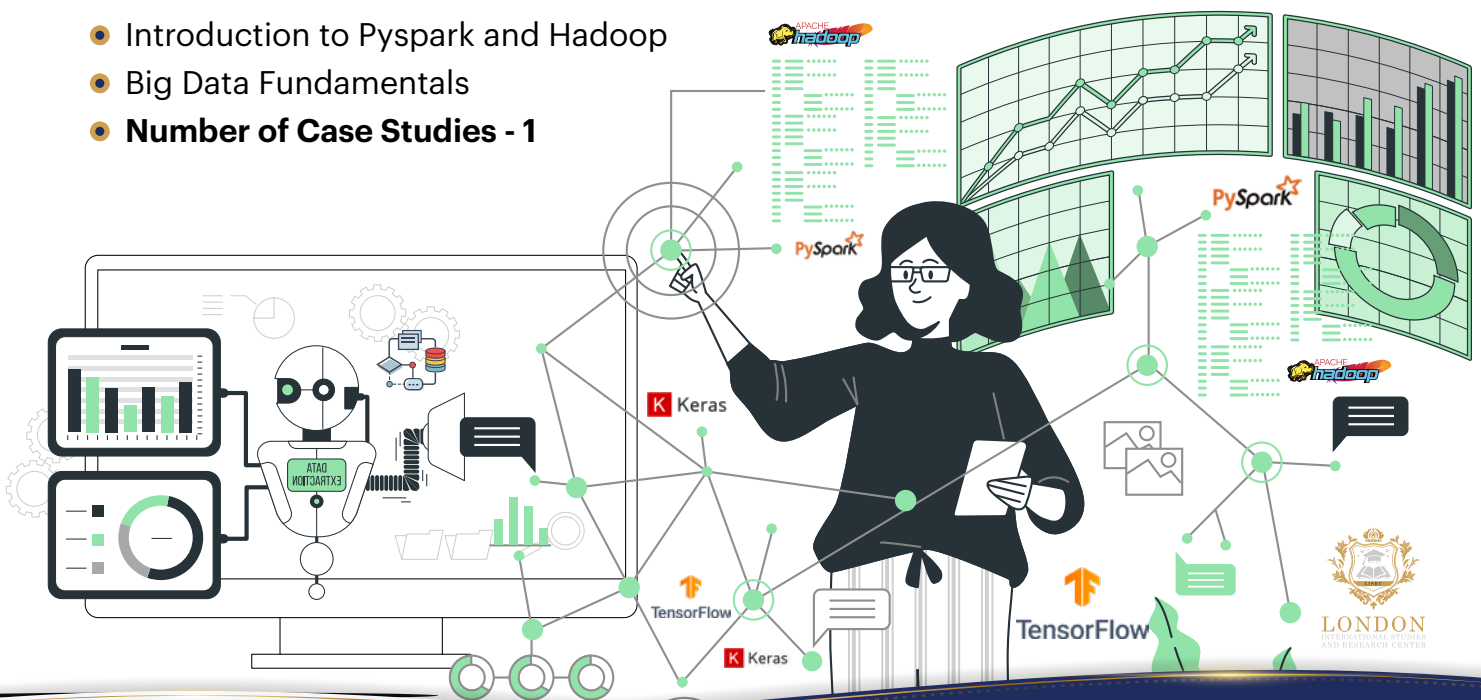### INTRODUCTION TO ARTIFICIAL INTELLIGENCE (CONVOLUTIONAL NEURAL NETWORK)

- Deep learning introduction
- Introduction to TensorFlow and Keras
- Neural Networks
- Convolutional Neural Network
- Application like Realtime Object recognition with higher accuracy will be implemented
- **Number of Case Studies - 2**

MODULE 9

INTRODUCTION TO BIG DATA

- Introduction to Pyspark and Hadoop
- Big Data Fundamentals
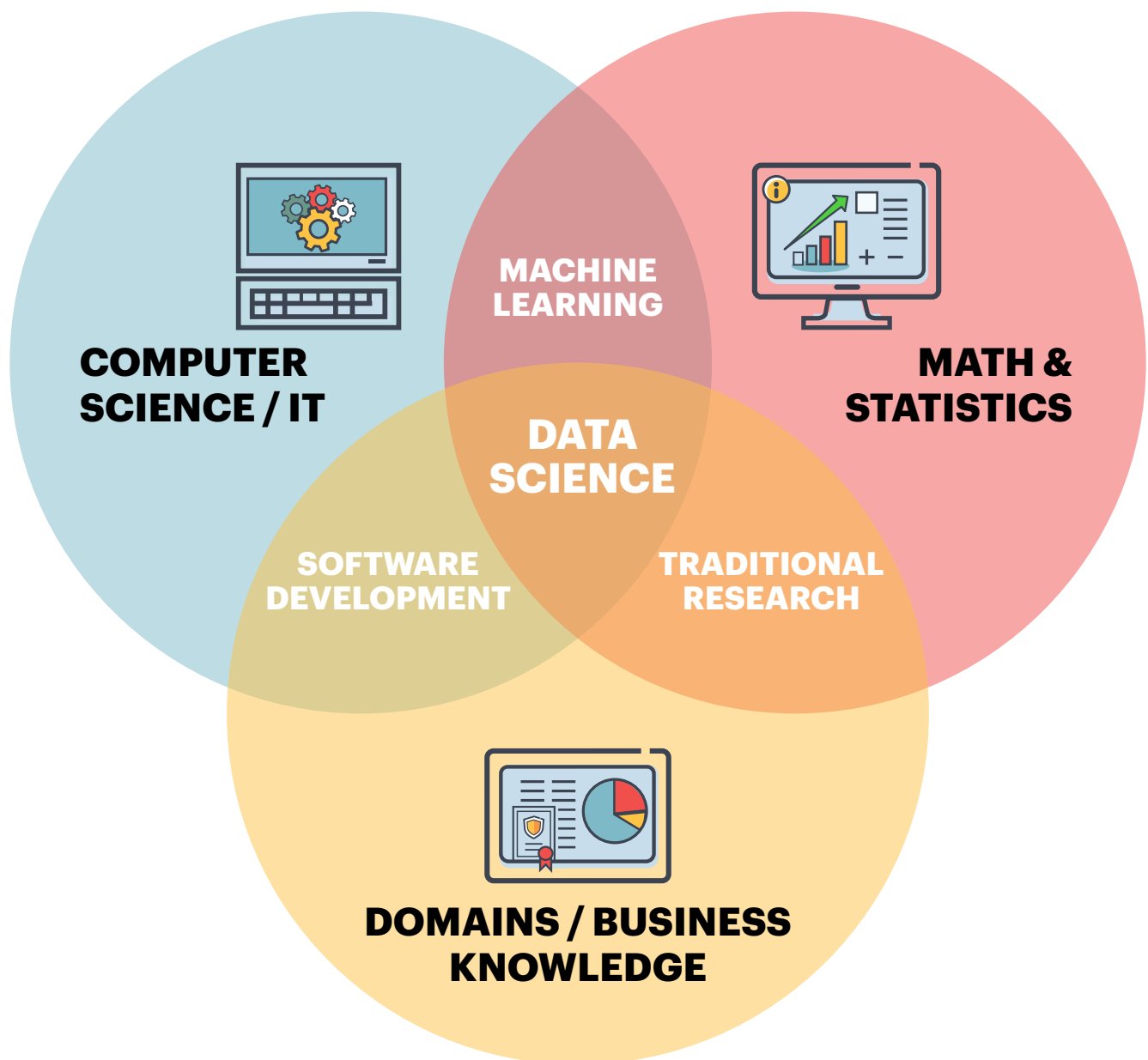- **Number of Case Studies - 1**

Tools / Frameworks / Libraries

- **Basic Scripting Skills:** Python Programming 3.x, SQL

- **IDE Tools Usage:** Anaconda(Jupyter Notebook/Spyder), PyCharm IDE, Google Colaboratory, Jupyter Notebook, GitHub, Tableau, REPL Online, Visual Studio Code.

- **Modern Web Automation Frameworks:** BeautifulSoup, Selenium

- **Data Analytics Libraries:** Pandas, Numpy, Seaborn, Matplotlib, ScikitLearn, Pandas-Profiling, Koalas, Pyspark

- **Modern Database Integrations:** MySQL, MS-SQL, Oracle SQL

- **Modern Computer Vision Libraries:** OpenCV, Scikit-image,Pillow

- **Modern Deep Learning Frameworks:** TensorFlow 2.x(Keras), PyTorch

- **Modern Automated Machine Learning Libraries:** PyCaret

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AND RESEARCH CENTER

Structure & Scope

COMPUTER
SCIENCE / IT

MATH &
STATISTICS

MACHINE
LEARNING

DATA
SCIENCE

SOFTWARE
DEVELOPMENT

TRADITIONAL
RESEARCH

DOMAINS / BUSINESS
KNOWLEDGE

Applications & Use Cases of Data Science in Real Life Industries

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Program

BUSINESS INTELLIGENCE FOR SMART DECISIONS

MAKING BETTER PRODUCT

MANAGING BUSINESS EFFICIENTLY

DATA SCIENCE IN SALES AND MARKETING

PREDICTIVE ANALYSIS TO PREDICT OUTCOMES

LEVERAGING DATA FOR BUSINESS DECISION

ASSESSING BUSINESS DECISIONS

AUTOMATIING RECRUITING PROCESS

RISK ANALYTICS

REAL TIME ANALYTICS

CONSUMER ANALYTICS

SECURITY

FRAUD DETECTION

DATA SCIENCE IN FINANCE INDUSTRY

PROVIDING PERSONALIZED SERVICES

CUSTOMER DATA MANAGEMENT

ALGORITHMIC TRADING

PROCESS AUTOMATION

DATA SCIENCE IN BANKING

RISK MODELING	FRAUD DETECTION	CUSTOMER LIFETIME VALUE

CUSTOMER SEGMENTATION	RECOMMENDATION ENGINES	REAL-TIME PREDICTIVE ANALYSIS

DATA SCIENCE IN SUPPLY CHAIN & LOGISTICS

DEMAND ANALYTICS	FINISHED INVENTORY OPTIMIZATION	NETWORK PLANNING

REPLENISHMENT PLANNING ANALYTICS	PROCUREMENT ANALYTICS	TRANSPORTATION ANALYTICS

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DATA SCIENCE IN MANUFACTURING

- PREDICTIVE MAINTENANCE
- ANOMALY DETECTION
- CUSTOMISATION
- DEMAND FORECASTING
- OFFER PREMIUM SERVICES
- NEW REVENUE STREAMS
- MAINTENANCE SCHEDULING
- PURCHASE ORDER AUTOMATION

DATA SCIENCE IN HR ANALYTICS

- RETENTION
- RECRUITING
- EMPLOYEE PERFORMANCE
- COMPENSATION
- TRAINING AND DEVELOPMENT

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DATA SCIENCE IN HEALTHCARE

- VIRTUAL ASSISTANCE FOR PATIENTS & CUSTOMER SUPPORT
- DRUG DISCOVERY VIA ACCUMULATED DATA
- GENETICS ANALYSIS & GENOMIC RESEARCH

- MEDICAL IMAGING & DIAGNOSTICS
- TRACK & PREVENT DISEASES VIA PREDICTIVE MEDICINE
- MONITOR PATIENT HEALTH
- PREDICTIVE ANALYSIS

DATA SCIENCE IN EDUCATION

- SOCIAL-EMOTIONAL SKILLS
- MEASURING INSTRUCTOR PERFORMANCE

- MONITORING STUDENT REQUIREMENTS
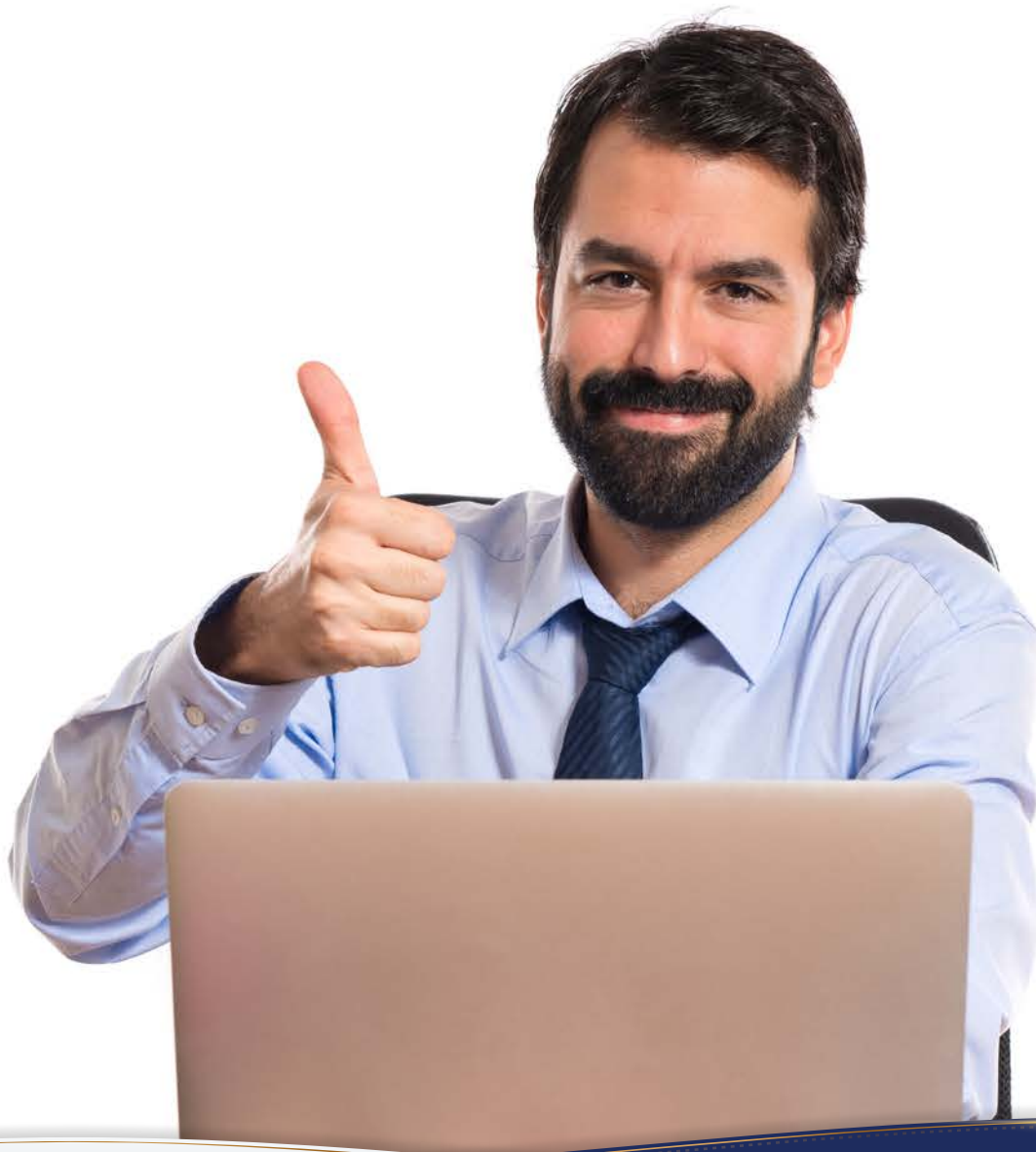- INNOVATING THE CURRICULUM

Certifications

- London CPD certification - United Kingdom - a British territory – with credit points
- Govt. of Dubai - KHDA certification (Recognized all over UAE by Ministry of Education)
- London Chamber of Commerce Sealed Certification (This certificate will be arriving at your UAE address via ROYAL MAIL of UK)

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