HENRY HARVIN®

Annexure A: Course Curriculum

Annexure A.1: Business Analytics Course

Topic Code	Topic	Outcomes - CBAP
Module 1	Introductory Topics to Analytics	Understanding the need for Analytics in Specific Domain; CRISP Modeling
	Introduction to Data Management	Properties & Types of Data, Measurement Scale, Basic Statistics on Data
	Basics of Python Programming	Need for Python, Features of Python, Download, Setup, Installation ; Python & Python Studio; Configuration. eg. Learning to setup Python and share Code
	Data Structures in Python	Creating and Understanding Basic Data Structures in Python - Vector, List, Matrix, Array, Data Frame & Factors which help in creating data in Python programming
	Data Manipulation & Summarisation in Python	Understanding how data can be summarised in different ways to do Descriptive Analysis which describes features of data
Module 2	Analytical Modeling	Understand what is Modeling and how it can be used in Various Domains. How an analytical model fits into an overall big data framework. Consumption of models in Business Opportunity/ Business Risk (BO/ BR) Analytics
	Statistical Tests	P Value, Z Value, Hypothesis, Null Hypothesis, Alternative Hypothesis, F Test, ANOVA Introduction)
	Linear Regression (Using Python)	Start of Machine Learning, Develop a Prediction Model for predicting a financial values based on one or more than 1 Independent Variable; Understand the assumptions and measures of goodness of Model, Understand its prediction ability
	Visualisation using Graphs	Creating Graph in Python and understanding which graph to be used when
	Missing Value and Outlier Analysis	Understanding how missing values & outliers are handled in data summarisation & modeling
	Logistic Regression	Predicting Binary Outcome (Buy or not, Churn or not, Loan Default

		or not) based on Independent Variables eg. Predicting Cases for Fraud, Default on Payment etc
Module 3	Clustering	Grouping Customers based on characteristics so that they can be target for sale increase. Understand how the models play role in informed decision making in business, which cannot happen otherwise
	Decision Trees	When to use CART & CHAID to create a decision tree based on categorical variables.
	Ensembles (Bagging & Boosting)	Random Forest, XGBoost: Problems of Decision Tree covered in Random Forest, How group thinking impacts the decisions (from business point of view)
Module 4	Association Rule Analysis	Understand how Association Rules can be created using Market Basket Analysis. Finding Interesting association between items purchased by Customers and building strategy to sell more
	Twitter Analysis	Configure Twitter Account & Application; Setup for downloading tweets and analyse them for positive and negative sentiments related to Financial News/ Articles
Post Learning	Final Assessment	Evaluate Learning
	Certificate Dispatch	
	Monthly Brush Up Sessions- Live Online (12months)	