

Statistics for Data Science

Course Syllabus

Accredited with IABAC™

(International Association of Business Analytics Certifications) `



- ✓ Two areas of Statistics in Data Science
- ✓ Applied statistics in business
- ✓ Descriptive Statistics
- ✓ Inferential Statistics
- ✓ Statistics Terms and definitions
- ✓ Type of Data
- ✓ Quantitative vs Qualitative Data
- ✓ Data Measurement Scales

- ✓ Sampling Data, with and without replacement
- ✓ Sampling Methods, Random vs Non-Random
- ✓ Measurement on Samples
- ✓ Random Sampling methods
- ✓ Simple random, Stratified, Cluster, Systematic sampling.
- ✓ Biased vs unbiased sampling
- ✓ Sampling Error
- ✓ Data Collection methods

- ✓ Measures of Central Tendencies
- ✓ Mean, Median and Mode
- ✓ Data Variability : Range, Quartiles, Standard Deviation
- ✓ Calculating Standard Deviation
- ✓ Z-Score/Standard Score
- ✓ Empirical Rule
- ✓ Calculating Percentiles
- ✓ Outliers

- ✓ Distributions Introduction
- ✓ Normal Distribution
- ✓ Central Limit Theorem
- ✓ Histogram - Normalization
- ✓ Other Distributions: Poisson, Binomial et.,
- ✓ Normality Testing
- ✓ Skewness
- ✓ Kurtosis
- ✓ Measure of Distance
- ✓ Euclidean , Manhattan and Minkowski Distance

- ✓ Hypothesis Testing
- ✓ Null Hypothesis, P-Value
- ✓ Need for Hypothesis Testing in Business
- ✓ Two tailed, Left tailed & Right tailed test
- ✓ Hypothesis Testing Outcomes : Type I & II errors
- ✓ Parametric vs Non-Parametric Testing
- ✓ Parametric Tests , T - Tests : One sample, two sample, Paired
- ✓ One Way ANOVA
- ✓ Importance of Parametric Tests
- ✓ Non Parametric Tests : Chi-Square, Mann-Whitney, Kruskal-Wallis etc.,
- ✓ Which Test to Choose?
- ✓ Ascertaining accuracy of Data

- ✓ Introduction to Regression
- ✓ Type of Regression
- ✓ Hands on of Regression with R and Python.
- ✓ Correlation
- ✓ Weak and Strong Correlation
- ✓ Finding Correlation with R and Python

End of the Syllabus

- This is a standard syllabus as per Accreditation Body, IABAC™, International Association of Business Analytics (USA).
- The syllabus can be customized on request for corporate clients to suit their training requirements.
- The certification exam will be based on the IABAC™ Syllabus.

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