Advanced Business Analytics Program

«Learning Objectives»

- Understand the use of the qualitative and quantitative data methods in managerial decision-making
- Describe and analyze the data with the acquired business analytics skills

«Prerequisites»

- Basic knowledge of MS Excel and Computer operation
- Basic Mathematics and Statistics

«Learning Approach»

Learning is a combination of lecturing, case studies and question based class discussion as well as real world numerical examples and exercises. Students are required to be prepared for each class by reading the recommended material. One of the major components in this course is participation in class discussion and that cannot be achieved if students do not come prepared and have read the materials for each lecture according to the reading list. This will enhance our interaction in the class and lead to creative discussions.

«Course Contents»

1) Understanding Data and Profiling

a. Descriptive Statistics

Types of data: categorical, continuous
Mean, Median, Mode, Variance, Standard deviation, Quantiles
Frequency tables, Charts and Graphs to present data

b. Inferential Statistics

Tests of Significance: null and alternative hypotheses for population mean, one-sided and two-sided z and t tests, levels of significance
Comparison of Two Means: confidence intervals and significance tests, z and t statistics, pooled t procedures.
Inference for Categorical Data: confidence intervals and significance tests for a single proportion, comparison of two proportions.
Sampling distributions: Normal, Chi-Sqaure
Chi-square Goodness of Fit Test: chi-square test statistics, tests for discrete and continuous distributions.
Confidence Intervals: inference about population mean, z and t critical values.

2) STATISTICAL TECHNIQUES FOR ANALYTICS

a. ANALYSIS OF VARIANCE (ANOVA)

b. PREDICTIVE MODELING TECHNIQUES

Linear Regression: Ordinary least squares, residuals, extrapolation, confidence interval, significance tests

Logistic regression: Odds, Logit model, Maximum Likelihood estimates

c. Overview of Clustering and Association analysis

3) TOOLS FOR ANALYTICS

a. SAS : Data creation, understanding and summarization steps. This section would also talk about various SAS Functions, SQL and MACRO facility.

b. EXCEL: Adnaced excel functions for data analysis and summary

4) INTRODUCTION TO FINANCIAL SERVICES & PRODUCTS

a. This section elucidates about the nuances of financial products like Auto Finance, Mortgages, Credit Cards and Personal Banking etc. This section also explains about Credit Bureaus

b. This section explains the application-account workflow and the processes/ strategies in use across the product lifecycle from Originations, Portfolio Management to Termination.

c. This brief session would explain clearly the functions performed by a typical financial services organization and what analytical techniques are applied at each process going from MIS/Reporting to Scoring/Modeling from Strategy Development etc.

5) ANALYTICS PROJECT

a. THE COURSE WORK COMPRISES OF A FULL FLEDGED ANALYTICAL PROJECT INVOLVING BUSINESS PROPOSAL, DATA CREATION/ CLEANSING, MODEL DEVELOPMENT AND FORMAL REPORT

b. SAMPLE DATA WILL BE PROVIDED FOR THE PROJECT

6) INTERPERSONAL SKILLS DEVELOPMENT

a. MOCK INTERVIEW WILL BE CONDUCTED

b. PREPARATION OF FOCUSED CV FOR ANALYTICS PROFILE