INTERNATIONAL MANAGEMENT INSTITUTE, BHUBANESWAR
POST GRADUATE DIPLOMA IN MANAGEMENT (PGDM)
BUSINESS ANALYTICS (IS608)
CREDIT: FULL (2 Credits)
SESSION DURATION: 90 Minutes

YEAR: 2018-19
BATCH: II

FACULTY: Prof. Ramesh Behl/Prof. Manit Mishra
Telephone: (0674)3042107/3042127
E-Mail: *rbehl@imi.edu/manit.mishra@imibh.edu.in.*
Office hours: 9.30 AM – 5.30 PM

Course Introduction:
At the heart of analytics lies the belief, "The unexamined decision isn't worth making," as argued by Davenport *et. al* in their book "Analytics at work: Smarter decisions: better results." The massive amount of data generated all around us has enabled a completely objective way of decision making. Leveraging this data to make sound business decisions for pricing products, maintaining inventory, recruiting talent and a multitude of other situations contributes towards improving efficiency, managing risk and enhancing profit. The course intends to enable students to rise above the functional silos and grasp the holistic relevance of analytics in competing for the future. A synergistic amalgamation of theoretical and hands-on approach would make you competent to use the tools to decipher big data. The objective is to create managers who can utilize analytics to improve performance in key business domains by disseminating information and generating insight.

Learning Outcomes:
The specific objectives of the course are-
1. To enhance the theoretical understanding of students on various concepts of analytics.
2. To understand data staging for Business Analytics
3. Practical experience building and evaluating visualization systems including Dashboards
4. To familiarize students with data mining concepts and techniques.
5. To develop the competency of assessing a predicament and choosing the appropriate tool to arrive at a decision.
6. To expose students to a set of predictive tools.

Course Pedagogy:
The teaching methodology will be an optimum amalgamation of class-room teaching, hands-on experiments and case discussions. A theoretical understanding of the tools will be followed by data-based application of tools and lastly, case-based application.

Reference books:
1. Shmueli, G., Patel, N. R., & Bruce, P. C. (2011). *Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XL Miner*. John Wiley and Sons [SHMUELI]
2. Linoff, G. S., & Berry, M. J. (2011). *Data Mining Techniques: For Marketing, Sales, And Customer Relationship Management*. John Wiley & Sons.
3. Davenport, T. H., & Harris, J. G. (2007). *Competing on Analytics: The New Science of Winning*. Harvard Business Press.

Analytical tools: SPSS and SAP-Predictive Analytics

Course Evaluation criteria:

Class participation & Assignment	20%
Case analysis	20%
Quiz	20%
End-term	40%
Total	**100%**

Session Plan:

Session	Topic	Learning Outcomes	Reading
1	Introduction to Business Analytics – Concepts & Applications	LO-1	• Business Intelligence: Definitions & Solutions • Introduction to BI
2	Multidimensional Reporting using Big Data	LO-2	• Big Data Meets Big Data Analytics • Exercise-1: Multidimensional analysis using Excel
3	Market basket analysis Applications: • What goes with what: Purchase of cell phone accessories. Purchase of books • Housing prices.	LO-3 LO-4 LO-6	Exercise-2: Association Analysis using Titanic Data
4	Machine Learning with Predictive Analytics	LO-3 LO-4 LO-6	Exercise – 3: Segmentation Analysis
5-7	Data visualization • Deriving Data using Functions • Creating Calculated Datasets • Creating Hierarchies Using Different Plots • Geographical Analysis Creating Static & Interactive Dashboards	LO-3 LO-4 LO-6	Exercise-4: Creating Intelligent Visualizations

8	Multiple Regression Analysis • Dummy variable regression Application: • Modeling automobile price • Modeling property price	LO-1 LO-3 LO-4 LO-5 LO-6	Study material – SHMUELI Data: • HBAT • Toyota Corolla • Boston Housing
9-10	Classification & regression trees (CART) • Classification tree • Regression tree Application: Predicting factors influencing • Acceptance of personal loan • Automobile pricing • Property pricing	LO-1 LO-3 LO-4 LO-5 LO-6	Study material – SHMUELI Data: • Universal Bank • Toyota Corolla • Boston Housing
11-12	Binary Logistic Regression Application: Classifying products into good and poor quality	LO-1 LO-3 LO-4 LO-5 LO-6	Study material – SHMUELI Data: • Iris • Charles Book Club • Universal bank • Bank
13	Survival Analysis • Understanding customer churn Business perspective of Business Analytics • Competitive advantage • DELTA	LO-1 LO-3 LO-5	Study material – Soft copy

Academic integrity

a) **Plagiarism** is the use of or presentation of ideas, works that are not one's own and which are not common knowledge, without granting credit to the originator. Plagiarism is unacceptable in IMI and will invite penalty. Type and extent of penalty will be at the discretion of the concerned faculty.

b) **Cheating** means using written, verbal or electronic sources of aid during an examination/ quiz/ assignment or providing such assistance to other students (except in cases where it is expressly permitted by the faculty). It also includes providing false data or references/list of sources which either do not exist or have not been used, having another individual write your paper or assignment or purchasing a paper for one's own submission. Cheating is strictly prohibited at IMI and will invite penalty as per policies of the Institute.