GITAM INSTITUTE OF MANAGEMENT (GIM)
Gandhi Institute of Technology and Management (GITAM)
(Declared as Deemed to be University u/s 3 of UGC Act. 1956)
Visakhapatnam – 45.

Course Code:**MAN 206**	**Course Title**: **Predictive Analytics and Decision Making**	
Semester: IV	**Course Type: Core**	**Credits: 3**
Home Programme(s):BBA(BA)	**Batch/AcademicYear**:2020-23	
Course Leader: **Mr. SrinuSetti**		

Course description and learning outcomes

Predictive Analytics is a discipline that deals with the application of statistical and machine learning techniques on historical data to predict future outcomes. In this competitive age, predictive analytics not only helps in making informed decisions and solve business problems but also to have an edge over the competitors.

Learning outcomes: at the end of the course student will be able to ….

1. Understand the basic statistical techniques required for forecasting
2. Understand the basic concepts of Probability and Statistics
3. Provide understanding in some basic statistical techniques which are used for solving business problems.
4. Apply these techniques constructively to make effective business decisions
5. Apply the analytical techniques in business transactions that would help in making effective business decisions

On successful completion of this course, students will be able to:

CO	Course outcomes	Assessment
CO1	Understand the measurement systems variability	A1,A2,A3
CO2	Apply basic statistical techniques to measure relative changes in price, production or any such quantities of economic interest	A1,A2,A3,A4
CO3	Use statistical techniques to analyse business problems	A1,A2,A3,A4
CO4	Solve forecasting problems	A1,A2,A3,A4
CO5	Make effective decisions using statistical techniques	A3,A4

Course outline and indicative content

UNIT I: (10 sessions)(CO1,CO2,CO3,CO4,CO5,L1,L2,L3,L4,L5,L6)
Hypothesis Testing: Introduction, Types of Hypothesis, Hypothesis Testing Procedure, One sample and Two sample Test for Mean (Students t-distribution and Z-test); Introduction to Chi-Square distribution, Chi-Square test for Goodness of fit and for Independence of Attributes.

UNIT II: (10 sessions)(CO1,CO2,CO3,CO4,CO5,L1,L2,L3,L4,L5,L6)
Analysis of Variance: Introduction, Testing equality of population means (One –Way Classification), Testing equality of population means (Two –Way Classification)

UNIT III:(10 sessions)(CO1,CO2,CO3,CO4,CO5,L1,L2,L3,L4,L5,L6)
MultipleCorrelationAnalysis:Introduction, Significance of multiple correlation, Multiple and partial correlation, Relation between multiple and partial correlation coefficients.

UNIT IV:(10 sessions)(CO1,CO2,CO3,CO4,CO5,L1,L2,L3,L4,L5,L6)

MultipleRegression Analysis: Introduction, Significance of Multiple Regression Analysis, Estimating the parameters ofMultiple Regression by method of Least Squares and Using Regression Coefficient methods,Relation between partial regression coefficients and correlation coefficients, Standard Error of Estimates for Multiple regression.

UNIT V: (10 sessions)(CO1,CO2,CO3,CO4,CO5,L1,L2,L3,L4,L5,L6)

Forecasting Trend: Introduction, Linear trend model, Exponential trend, Measurement of Seasonal effects – Method of Simple Average, Ratio-to-Trend Method, Ratio-to-Moving Average Method,Link Relative Method.

Assessment methods

Task	Task type	Task mode	Weightage (%)
A1	Mid exam	Individual	20
A2	Class room presentation/Seminars and Case analysis/workshop/training/Assignments/survey/ Project	Individual / Group	10
A3	Coursera	Individual	10
A4	End-term examination	Individual	60

Mapping Cos – Blooms Levels – Assessment Tools

Knowledge dimension / Cognitive dimension	L1. Remember	L2. Understand	L3. Apply	L4. Analyze	L5. Evaluate	L6. Create
Factual Knowledge		CO1 (A1,A2,A3,A4)				
Conceptual Knowledge			CO2 (A1,A3,A4)			
Procedural Knowledge		CO1 (A1,A3,A4)	CO2 (A1,A3,A4)	CO3 (A1,A3,A4)	CO4 (A1,A3,A4)	
Meta Cognitive Knowledge				CO3 (A1,A3,A4)	CO4 (A1,A3,A4)	CO5 (A1,A3,A4)

Learning and teaching activities

Classroom Teaching, Power Point Presentation, Application in real life situation, Problem Solving, Assignment etc.

Teaching and learning resources

E-Resources, E-Books, Websites, E-Library

TEXT BOOK

J. Joseph Frrancis (2015), Business *statistics*, New Delhi: Cengage Learning.

REFERENCES BOOKS

1) Bruce L. Bowerman, Richard T.O'Connell, Emily S. Murphree (2015), *Business Statistics in practice*, New Delhi: McGraw HillEducation (India) Private Ltd.
2) David M.Levine, david Stephan Timothy C.Krehbiel, Mark l Berenson (2015),*Statistics for managers using Microsoft Excel*, New Delhi:Prentice Hall India Pvt.
3) Amir D.Aczel, JayavelSounderpandian (2015), *Complete Business Statistics*, New Delhi:Tata McGraw Hill.
4) S.P. Gupta &M.P. Gupta (2015), *Business Statistics*, New Delhi: Sultan Chand & Sons.

JOURNALS

1) GITAM Journal of Management, GIM, GITAM (Deemed to be University), Visakhapatnam
2) International Journal of Operations and Quantitative Management, College of Business, Prairie View A&M University, USA
3) Journal of Applied Statistics, Routledge, Taylor & Francis Group, UK

CO PO Mapping

This is to map the level of relevance of the Course Outcome (CO) with Programme Outcome (PO).

0= No Relevance; 1= Low Relevance; 2= Medium Relevance; 3= High Relevance

CO PO Mapping							
Internal	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**Sum**
C01	**0**	**0**	**3**	**3**	**3**	**2**	**11**
C02	**3**	**2**	**2**	**3**	**3**	**3**	**16**
CO3	**3**	**2**	**2**	**3**	**3**	**2**	**15**
CO4	**2**	**2**	**2**	**3**	**3**	**2**	**14**
CO5	**3**	**2**	**2**	**3**	**3**	**2**	**15**
Target Level Max.	**11**	**8**	**11**	**15**	**15**	**11**	**71**

BBA(BA)-Programme Outcomes (POs)	
1.	Ability to understand the business problems with their knowledge in different functional areas of management.
2.	Integrate with structured, semi – structured and unstructured data.
3.	Utilize the tools such as Microsoft Excel, SPSS, R, Weka and Tableau to solve business analytics problems.
4.	**A**bility to apply analytics techniques to analyze and interpret the data.
5.	Incorporate the descriptive, predictive and prescriptive analytics.
6.	Evaluate the necessary skills and understanding to take up advanced topics in the area of analytics and thus enhance their career prospects.