

### DM 21301: Business Statistics for Decision Making –I (BSD-1) (Term I: Batch 2020-22)

### Calcutta Business School

### Post Graduate Diploma in Management Program (PGDM)

Course Title: **Business Statistics for Decision Making –I (BSD-1)** Course Instructor: **Dr. Suman Kumar Dawn** Designation: Professor and Chairperson-PGDM Programme Contact Details: Office: 033-2420-5210 E-mail: <u>chairpgdm@calcuttabusinessschool.org</u>

### **COURSE INFORMATION:**

1. Course Description. The fundamentals of managerial statistics are presented. Topics may include descriptive statistics, random variables, probability distributions, regression, and correlation analysis.

This purpose of this course is to provide students with statistical tools needed by managers. The course emphasizes understanding the process associated with statistical decisions, defining data, and using the results in decision making.

#### **Course Objectives:**

Students will be able to demonstrate understanding of statistical thinking and data analysis techniques for decision-making under uncertainty. Students will be able to apply statistical techniques to data sets, and correctly interpret the results. Students will be able to analyze and apply computer-generated statistical output to solve problems.

The proposed syllabus of DM 21301has been designed to enable the students, particularly those who do not have any knowledge of the subject 'Statistics' so far, coping up with the real life business problems in their future organizations. Emphasis is given on building logic-based understanding for solving such problems using tools of Statistics.

Unit	Module	No. of Lecture Session (each of 1.5 hours duration)
1	1.1 Statistics- Descriptive and Inductive Statistics-basic ideas	1
	1.2 Collection and Presentation of Data- Applications	1
2	Frequency Distribution of Variables(Discrete and Continuous)	1
	and Attribute	
3	Univariate Distribution-Measures of Central Tendency-	3

### Course Outline- Business Statistics for Decision Making –I (BSD-1)

	Applications	
4	Univariate Distribution-Measures of Dispersion, Skewness and	1
	Kurtosis-Applications	
5	Bivariate Distribution – Analyses of Correlation and Regression-	3
	Applications	
6	Probability— Random Variables- Joint Distribution-Basic ideas-	2
	Applications	
7	Probability Distribution—Hyper geometric, Binomial, Poisson	2
	and NormalApplications	
8	Random Sampling and Sampling Distribution-Basic Concepts—	1
	Applications	
9	Time Series Analysis-Basic ideas- Applications	3
10	Inday Numbers	2
10	Index Numbers	Z
Total		20

# After completion of their three-month study, the students would be benefitted in the following ways:

- Usually performance of any business firm- be it a manufacturing firm, sales firm or any other firm- would be assessed by them primarily by the descriptive statistics dealing with measures of central tendency, dispersion, skewness, kurtosis etc.
- Analysis of correlation would help them understanding the degree of association between linearly related variables. Regression on the other hand, would enable them predicting, using the OLS methods, the value of the dependent variable, on an average, given the value(s) of independent variable(s) and estimated values of the parameters.
- Probability and probability distribution constitute the foundation of inductive statistics. Basic concepts of joint distribution, random sampling together with sampling distribution and statistical inference form the basis of linear Regression models which they are supposed to learn in detail in later semester. It is the applications of these models and various other analyses which would help the students immensely in their smooth day- today working experience at the corporate arena in future.
- Time series analysis would help them assessing the pattern of changes in the values of a business variable over time in detail, isolating the trend in particular and above all forecasting the values of important variable(s).However, in this term, they would simply learn to differentiate different components of time series and their basic applications.
- Apart from the preliminary applications of the subject Statistics in real life the students would also learn how to write research papers/review articles on published papers in the simplistic formats.

### Pedagogy:

The course is dependent exclusively on a balanced appraisal of students done on the basis of the following methods:

- Students' active participation in class lectures and regular assignments (given in class as well as take-home)
- Performance in the Mid-term test
- Performance in the End-term test

• Group Project works and presentation/viva-voce

## **Evaluation Scheme:**

Emphasis will be given on continuous evaluation of the students. The overall grade in the course will be determined by performance on the following components:

Serial No.	Particulars	Marks
1	Class participation & Attendance	10
2	Mid-term Test	NIL
3	Quiz	20
3	Project/Assignment	30
4	End-term Test	40
	Total	100

## **Text Books:**

- Schaum's Outlines of Business Statistics, 4<sup>th</sup> Edition, Leonard J.Kazmier, Mcgraw Hill
- Statistics for Management, 7<sup>th</sup> Edition, Richard I. Levin, David S. Rubin, Sanjay Rastogi, and Masood Hussain Siddiqui, Pearson.
- Business Statistics, 5<sup>th</sup> Edition A.P. Verma, Asia Books Private Limited

## **Reference Books:**

- Fundamentals of Statistics ,Volume I, A.M Gun, M.K. Gupta, B. Dasgupta, The World Press Private Limited, Kolkata
- Fundamentals of Statistics ,Volume II, A.M Gun, M.K. Gupta, B. Dasgupta, The World Press Private Limited, Kolkata
- Statistical Methods, Volumes I & II, N. G. Das Tata Mcgraw Hill, New Delhi
- Statistics for Business and Economics RP Hooda, Macmillan Business Books