



**BGU**  
**BIRLA GLOBAL**  
**UNIVERSITY**

Certificate Course in  
**STATISTICS FOR  
DECISION MAKING**

**Duration: 3 Months**  
**(January, 2022 - April, 2022)**

*Course-coordinators*

**Manidatta Ray, Ph.D.**

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**Mobile: 8903199739**

**Click Here to Register Online**

**Last Date of Registration:**  
**January 8, 2022**

**Birla School of Management**  
**Birla Global University**  
**Bhubaneswar – 751029**

# 1. About the Course

This certificate course is designed to provide participants with an understanding of the statistical data analysis and its relevance in business and develop an understanding of the quantitative techniques from statistics. A particular emphasis is placed on developing the ability to interpret the numerical information that forms the basis of decision-making in business. Most of the examples are drawn from a variety of business applications. This course introduces business statistics and fundamental aspects of decision-making. It examines aspects of business and marketing with regards to basic statistical analysis. Participants will be provided with the theoretical concepts, tools and methods of statistics as well as the opportunity to work through example problems related to business. This specially designed course also focuses on scientific and technical way of data analysis by using advanced software tools.



## 2. Course Objective

- To develop the participants ability to deal with qualitative and quantitative issues in business.
- To exhibit scientific way of statistical data analysis by using advanced software tools for decision making.
- To have a proper understanding of Statistical applications in Business and Management.

## 3. Learning Outcome

On completion of this course, the participants will be able to:

- Describe and discuss the key terminologies, concepts, tools and techniques used in business statistical analysis
- Critically evaluate the underlying assumptions of analysis tools
- Discuss critically the uses and limitations of statistical analysis
- Acquire problem solving ability of complex business decisions, quantitative literacy and critical thinking in seeking solutions to complex business problems
- Conduct basic to advanced statistical analysis of data related to any business using S/w



## 4. Target Participants

Students, Researchers, Academicians, Corporate Professionals

## 5. Eligibility

Graduate in any discipline or above

## 6. Certificate

Upon successful completion of the programme, the certificate would be issued by Birla Global University

## 7. Duration and Timing of the course

40 Hours [3 Months: January, 2022- April, 2022]

## 8. Course fee

Rs.6,000/-+ Rs.1080/- (GST 18%) = Rs.7080/- per participant

## 9. Mode of Payment

Beneficiary Name- Birla Global University, Bank A/c No- 31090110018897, IFSC – UCBA0003109

Bank Name – UCO Bank, Branch – Gothapatna, Bhubaneswar, A/c Type- Saving A/c

## 10. Mode of Delivery

The classes will be scheduled on an online platform (Zoom / Google Meet)

## 11. Examination/Assignment

Online Test and Project assignments



## 12. Course Contents

### Module 1: Introduction and Descriptive Statistics (6 hours)

**Objective:** To provide an introduction to Statistics

- I. Introduction to statistics , basic idea of data and information, Measures of Central Tendencies , Measures of Dispersion or Variability, & Applications in Decision Making
- II. Methods of Displaying Data, Exploratory Data Analysis

## Module 2: Concept of Probability, Random Variables and Probability Distribution (6 hours)

**Objective:** To provide a basic knowledge of Probability and related concepts, and use of Probability in solving business problems I. Concept of Probability, RVs and theoretical distributions, and It's applications in solving business problems

II. Calculate expected values to evaluate multiple outcomes of a business decision

## Module 3: Statistical Inference-I (6 hours)

**Objective:** To provide the concept of Sampling and Estimation, and its applications

I. Concept of Sampling , sampling procedures and sampling distribution with applications

II. Concept of estimation, point and interval estimation of mean with business applications

## Module 4: Statistical Inference II and Non-Parametric Methods (8 hours)

**Objective:** To provide knowledge on Hypothesis Testing and it's application in business decision making

I. Concepts of Hypothesis Testing, Types of Error, One Tailed and Two tailed tests , p-Value , small sample (t) and large sample (z) tests

II. Hypothesis Test of Analysis of Variance (One-Way and Two-Way)

III. Non-Parametric methods : Chi-Square Test , Kruskal-Wallis Test

## Module 5: Correlation and Regression Analysis (10 hours)

**Objective:** To provide the concept of simple and multiple Correlation and Regression.

I. Correlation Analysis : Concept of simple correlation, KPCC, SRCC, Multiple Correlation

II. Regression Analysis : Concept of Linear Regression and use of linear regression model for prediction, Concept Multiple Regression and use of multiple regression model for prediction

## Module 6: Time Series Analysis and Forecasting (4 hours)

**Objective:** To provide the concept of Time Series Analysis and Forecasting Techniques.

I. Time Series Analysis: Concept of Time Series data, Seasonality and Cyclical behavior.

II. Trend Analysis : Linear Trend, Non-Linear Trend(Parabolic and Exponential Trend)

### Note:

1. All the above statistical techniques for decision making will be discussed using MS-Excel, Excel Solver, SPSS and R S/w.

2. Classes will be conducted on Friday/Saturday in evening hours.





# Application Form

## Certificate Course on "Statistics for Decision Making"

(January, 2022 - April, 2022)

1. Name: .....

2. Designation/ if Student, the Course Name: .....

3. Academic Qualification: .....

4. Experience(if Any): .....

5. Name of the Institution /Organization: .....

6. Address for communication:

Ph: .....

Fax: .....

Email: .....

7. Bank Payment Details:

Amount: .....

Reference Number: .....

Date:

Signature of Applicant

### Approval for Candidates/Sponsorship

We approve the above applicant as a candidate/ sponsor for the Certificate course on "Applied Data Analytics" being organized by Birla School of Management, Birla Global University, Bhubaneswar during

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Date

Signature and seal of approving/sponsoring Authority (if applicable)