

**Course Durations: 12 Hours**

**Course Mode: Online/Offline**

## About Company:

EduNextgen extended arm of Product Innovation Academy is a growing entity in education and career transformation, specializing in today's most in-demand skills. A platform with blended learning programs supported by in-trend technology platforms for learning. Engaging organizations for learning development objectives.

Training courses are designed and updated by renowned industry experts. Our blended learning approach combines online classes, instructor-led live virtual classrooms and virtual teaching assistance.

## About The Course:

Statistics and Probability are sections of mathematics that deal with data collection and analysis. This course gives you a broad overview on several concepts and real world examples of probability and statistics. The Course is bundled with Industry Grade Projects, Assignments and Use Cases.

## Why This Course:

- This course includes different complex problems for advanced level students to sharpen their skills.
- This course will help who wants to learn Data Science.
- Hands-on Experience
- Industry Grade Use Cases
- Online Practical Platform
- Live Support (24x7)

## Participants will get the Access to:

- LMS Access
- Cloud Lab
- Assignments
- Quizzes
- Industry Grade Use Cases
- Live Support via Mail, Call and Screen Sharing
- Course Completion Certificate

## Batch Schedule (Online):

Weekend: 3 Hours per day

Weekday: 2 Hours per day

## Batch Schedule (Offline):

Weekend: 4 Hours per day, Weekday: 2 Hours per day

## Course Curriculum

### Module 1: Introduction to Data and Statistics (2 Hours)

This module will build the case for Statistics in Interpreting Data. We will discuss data, its forms, and tools available at our disposal in interpreting data. Below topics are covered in this module:

- What is Data?
  - What are Types of Data and understanding of Data?
  - What is an Estimate and what is Consistency of an Estimate?
  - Statistical tools for arriving at Estimate
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### Module 2: Descriptive Statistics (3 Hours)

This module will introduce you to various statistics that can be calculated from data and make sense of data. Below topics are covered in this module:

- Measures of Central Tendency
- Measures of Deviation
- Measures of Skewness and Kurtosis
- Probability, Joint Probability, Conditional Probability
- Concept of weighting and Weighted Statistics
- Bayes Probability
- Correlation Analysis

#### Hands on/Programs/Practical:

- Application of probability to Market Basket Analysis
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### Module 3: Statistical Distributions (3 Hours)

This module will help you understand where data comes from and simulate data from such scenarios. Below topics are covered in this module:

- Bernoulli/Binomial Distribution
- Poisson Distribution
- Geometric Distribution
- Hyper-Geometric Distribution
- Negative Binomial Distribution
- Normal Distribution
- Exponential Distribution
- Beta Distribution
- Gamma Distribution
- Bivariate distribution and generalizing multivariate distributions
- Random Data and its utility
- Monte Carlo Simulation

#### Hands on/Programs/Practical:

- Interpreting Various Distributions Forms
  - Application of Descriptive Statistics in Interpreting Distributions
  - Probability Graphical Models
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## Module 4: Inferential Statistics (3 Hours)

This module will help you infer what the data says and validate the inference. This module also helps you design sample and run analysis on samples. Below topics are covered in this module:

- Hypotheses Testing
- Tests for Proportions, Means and Variances
- Tests for comparison of proportions, means and variances
- Sampling and its applications
- ANOVA and Design of Experiment

### Hands on/Programs/Practical:

- Applying inferential statistics to clustering techniques
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## Module 5: Regression (3 Hours)

Regression is a technique that applies most of statistical tools. This is widely used predictive technique in industry today. We will understand this at conceptual level as application of statistical tools. This will facilitate deep dive at your leisure. Below topics are covered in this module:

- Parametric Regression and Non-Parametric Regression
- Linear Regression
- Diagnostics on Linear Regression
- Logistic Regression
- Machine Learning of Linear Regression
- Avoid Overfitting

### Hands on/Programs/Practical:

- Discussion on applications of Regression