

STATISTICS IN RESEARCH

An Online Certificate Course offered by

Department of Mathematics &
Statistics,
Providence Women's College,
Calicut.

Course description

Those students opting statistics as one of their subjects find it difficult to practice what they were taught in their class room. Even students aspiring for doctoral degree and supervisors who do not have access to data analysis facilities are finding it difficult to deal with data. This course aims to make the students capable of dealing with data in day to day life by providing basic understanding of Statistical methods and measurements.

This course curriculum has been designed targeting research scholars and faculty members of institutions who find it difficult to attend regular courses.

This course is open to all who passed plus two and have interest in data analysis and interpretation

OBJECTIVES

The students will

- a) Comprehend the role of data analysis in theory and practice.
- b) To facilitate critical evaluations of research findings and the use of statistics in everyday life
- c) Be able to apply various statistics to analyze data.
- d) Be able to apply research findings in practice.
- e) Be able to understand the role of qualitative and quantitative research in generating knowledge.
- f) Develop a solid background in elementary statistics and data analysis
- g) To provide an introduction to computerized data analysis.

GENERAL RULES:

- I. Duration of this module based correspondence course is six months.
- II. The notes will be regularly sent via e-mail and assignments should be sent back through e-mail or post.
Email id:- stat.research.pwc@gmail.com
- III. The examination will be held after the completion of the course. There will be one theory paper & one practical paper for the examination. Theory paper will be with open book.
- IV. Grades will be given on the basis of performance in two examinations & assignments.
- V. Marks consideration is in the ratio 1:3:6 in assignments, practical exam and theory exam respectively.
- VI. A student to be successful in the course must have obtained at least C grade in overall.
- VII. **Grading Scale**

9-10	A+
8-8.9	A
7-7.9	B+
6-6.9	B
5-5.9	C+
4-4.9	C
<4	D
- VIII. Each successful candidate will be granted a certificate in “**Statistics in Research**” by **Providence Women’s College, Calicut**
- IX. A person who has passed plus two in any stream is eligible to apply for this course. Preference goes to students of this college and research scholars.
- X. Medium of instruction & examination will be English only.
The fee of the course is `1250/-
The students of this college will have to pay `1000/-only
- XI. Fee will be collected through M O or D D payable at Calicut in favor of Head of the Department of Statistics, Providence Women’s College, Calicut.

SYLLABUS

Module I

Methods of data collection, classification and tabulation. Data interpretation through Graphical representation.

Arithmetic mean, median, mode, relationship between them

Partitioned values-Quartiles, Deciles, Percentiles

Range, Mean Deviation, Standard Deviation

Assignment No: 1

Module II

Correlation analysis

Bivariate distribution:, Scatter Diagram, Coefficient of correlation, Calculation & interpretation of co-relational coefficient, partial & multiple correlation coefficients

Regression analysis

Lines of regression, Calculation of Regression coefficient

Assignment No: 2

Module III

Probability (In Brief)

Distributions in brief, Normal curve, Skweness, Kurtosis

Sampling distribution, Standard error

Assignment No: 3

Module IV

Hypothesis Testing

Type I & II error, Null Hypothesis, Alternative hypothesis, Acceptance & rejection of null Hypothesis, Level of significance

T-test, Z-test, P-value, Parametric & Non – Parametric tests & Anova

Assignment No: 4

Module V

Hands on training