

Certificate Course in Demography and Applied Statistics

1. Introduction

Certificate Course on Demography and Applied Statistics is designed for those who do not have proper knowledge on either demography or statistics but are interested or obliged to gain such knowledge in order to improve skills in the combination of these two disciplines as required by their employment. The Information Communication Technology stage as well as in the 21st century 4th Industrial Revolution demand more and more technical analyses with the mass amount of generated at every moment of time throughout the world in various sectors. This certificate course will provide a unique foundation to step into a meaningful data analysis, especially with a combination of rich demographic as well as statistical techniques in a very practical oriented way.

2. Objectives

The objectives of this Certificate Course are as follows:

- Demonstrate how any set of data can be evaluated and then clean data in order to improve quality of such data.
- Demonstrate their understanding of basic demographic and statistical concepts and techniques by practical application of quantitative reasoning and data visualization.
- Demonstrate how data can be analyzed from cohort and period perspectives.
- Improve the knowledge of the use of statistical packages such as SPSS, STATA, R and Python in demographic analyses.
- Create awareness of the Data Mining and Data Visualization and the appropriate use of GIS

3. Target Groups

This certificate course is designed for local and international participants; A/L pass outs, undergraduates, graduates and professionals who are interested or obliged to gain knowledge to improve skills in demography and statistics.

4. Admission Requirements

To be admitted as a student of this course, a candidate should possess any one of the following qualifications:

- a) Completion of G.C.E. (A/L) Examination with certified work experience in a relevant field equivalent for minimum six months
- OR
- b) Undergraduate/graduate from a state or private university
- OR
- c) Professionals with minimum of six months working experience in a relevant field
- AND
- d) Be at least 18 years of age
- AND
- e) Should possess basic knowledge in demography/statistics

5. **Medium of Instruction:** English

6. **Course Fee:** Local participants: Rs. 20,000 per participant
International participants: USD 300

7. **Course Duration:** 15 Weeks (72 Hours)

8. Teaching Methodology

- Lectures – online/offline
- Discussions/ lab sessions
- Quizzes and activities
- Lecturer guided self-studies
- Extensive use of case studies

9. Evaluation

Method	Marks (Out of 100)
Assignments (Individual/Group)	40
Class Attendance	10
Final Examination	50
Total	100

Pass mark for the course: 50%

Syllabus

1. Introduction to Demography
2. Introduction to Applied Statistics
3. Interaction between Demography and Applied Statistics
4. Basic Principles of Cohort Analysis
5. Basic Principles of Period Analysis
6. Analysis of Mortality I
7. Analysis of Nuptiality I
8. Analysis of Fertility I
9. Analysis of Migration I
10. Sampling
11. Exploratory Data Analysis
12. Descriptive Statistics
13. Inferential Statistics
14. Introduction to SPSS, STATA, R and Python
15. Introduction to Data Mining and Visualization
16. Introduction to GIS