



BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)

Biostatistics Unit, Department of Community Medicine,

Medical College, Pune



Certificate course in “Biostatistics in Medical Research”

Registrations open for Batch-II

Batch starts from 04th January 2020

Medical statistics is the study of human health and disease. Its applications ranging from biomedical laboratory research, to clinical medicine, to health promotion, to national and global systems of health care to medicine and the health sciences, including public health, forensic medicine, epidemiology and clinical research. It is a branch of statistics commonly named as biostatistics. It is the science of summarizing, collecting, presenting and interpreting data in medical approach and using this data estimate the magnitude of associations and test hypotheses. It has a main role in medical investigations. Biostatistics has played an integral role in modern medicine. Statisticians help researchers design studies, analyze data from medical experiments, decide what data to collect, help interpret the results of the analyses, and collaborate in writing articles to describe the results of medical research. Biostatistics helps researchers make sense of the data's collected to decide whether a treatment is working or to find factors that contribute to diseases. Medical statisticians design and analyze studies to identify the real causes of health issues as distinct from chance variation.

Biostatistics is well recognized as an essential tool in medical research, clinical research and health research. Biostatistics is the branch of statistics applied to biological areas or medical sciences or medical research. Biostatistics not only covers the health, medicine, and nutrition but also covers the agriculture, genetics, biology, biochemistry, demography, epidemiology, anthropology and many others. Biostatistics helps to evaluate many life and death issues in medicine. The aim of this certificate course is to educate the medical faculties and residents about the applications of biostatistics so that they are proper and accurate conclusions may be drawn from the study.

✓ Competencies –

After finishing this course participants will have knowledge and skills pertaining to-

- 1) Tabular and graphical presentation of data.
- 2) Data cleaning, data validation, normality of data.
- 3) Decision and application of appropriate statistical test on different types of data.
- 4) The concept of statistical analysis and interpretation of data.
- 5) Participants will be introduced to SPSS & STATA.

Course Design	Certificate Course in Biostatistics in Medical Research
Course Duration	03 Months (4 th January-2020 to 28 th March-2020) (Two courses are run per year commencing January & July)
Days & Timing	Every Saturday (Half day-04hrs)-01:00pm -05:00 pm
Eligibility Criteria (Basic Qualification)	M.B.B.S./B.D.S./B.P.T./B.A.M.S./B.H.M.S./B.Sc./Any Graduate
Methodology of Course	Theory Lectures + Practical With Hands on Microsoft Excel
Evaluation	Written Examination (Theory + Practical)
Intake Capacity (Batch of Candidate)	20
Fees Structure	Rs-10,000 (One time)
Certification by	Bharati Vidyapeeth (Deemed to be University), Pune
Course run by	Biostatistics Unit, Department of Community Medicine, Bharati Vidyapeeth (DTU) Medical College, Pune
Faculty	Qualified and experienced faculties
Last Date of Registration	31 st December 2019

Course Content

Total Allocated Time (48 hours) = Theory(20 hours) + Practical (25 hours) + Exam (03 hours)

Sessions

01. Data, data sources, data types, scale, measurement of scales, tabulation & graphical presentation of data, hands on sessions on graphical presentation
 02. Descriptive statistics, measure of central tendency, measure of dispersion, coefficient of variations, hands on sessions on measure of central tendency & dispersion
 03. Probability and its distributions, normal distributions & its characteristics, examples of probability and normal distributions.
 04. Introduction to sampling, sampling techniques, probability & non probability sampling,
 05. Study Design, Sample size estimation with their examples
 06. Testing of hypothesis, hypothesis, null, alternative, One-sided, two-sided hypothesis, level of significance, type-I, type-II error, power of test.
 07. Parametric test: t-test- one sample, paired, intendent t-test, ANOVA, hands on session on these test.
 08. Parametric test: One sample, 2 sample proportions test, hands on session on these test.
 09. Non-Parametric test: Chi-square, kappa statistics, odds ratio, sign test, median test, Mann Whitney test, hands on session on these test.
 10. Non-Parametric test: Chi-square & Fishers exact test, hands on session on these test.
 11. Measure of relationship, correlation, rank order correlation, hands on session on correlation & Confidence interval, Regression Analysis, Simple, Linear, logistic regression analysis.
- Paper discussion & revision 1
Revision 2
Final Exam (Written + Practical)

Duration of Hours:

- 20 hours allotted – For Theory lectures
- 24 hours allotted – For Practical & Hands on Sessions
- 04 hours allotted – For Written + Practical Exam- Total 100 marks

Exam Pattern:

- Internal Assessments – 25 marks (weekly assignments)
- Final Theory examination – 25 marks
- Final Practical Examination - 50 marks
- For Passing 50% marks are essential
- In case, participant does not secure desired marks, additional examination will be conducted after 1 month, those who do not qualify in first attempt. Second time failure will be appear with next batch

To Register for the course use following link.

- <https://forms.gle/YV9so627w8oAmTLE8>

Contact Details:

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