

**Basics course in Biostatistics: Practical Approach,**  
**SGPGIMS, LUCKNOW**  
**DEPT OF BIOSTATISTICS & HEALTH INFORMATICS, SGPGIMS LUCKNOW**  
**[Time: 15.30hrs to 17.30hrs, Monday to Friday]**  
**Venue: Statistical Computing Lab, Dept of Biostatistics & HI, 5<sup>th</sup> Floor**

*Program for Classes (Brief theory followed by Practical)*

**Day 1:**

Introduction to Statistical Computing and SPSS:

- How to create data file in SPSS, Open SPSS sheet, Discussion about data view and variable view.
- In variable view, enter the variable name and other related information like value, label, type of variable etc.
- Insert new variable or delete exit variable, enter the data in data view, save the file.
- How to Import data from Excel, open new sheet while existing sheet is already open.
- Treatment of the data. Go to “Transform”-Compute variable (i.e., Generate new variable) by using combination of two or more variables example compute BMI by using weight and height

**Day 2:**

- Re-code into different variables i.e., coding the variable where original variable data are unchanged, safe and a new variable created.
- Re code into same variable i.e., change the current variable through using any cut off value or code. Here the original variable changed.
- Sort the cases in ascending or descending order.
- Sort the variable in terms of different criteria.
- Split file
- Select Cases
- Introduction of the Graphs in SPSS (Box plot and Error bar)

**Day 3:**

Descriptive Statistics

- Measures of Central Tendency
- Measures of Dispersion
- Test of normality of data

|  |
|--|
| ➤ Introduction of P/NP Methods   |
| <b>Day 4:</b>  |
| <ul style="list-style-type: none"> <li>➤ One sample t test, One sample Wilcoxon test</li> <li>➤ Independent samples t test, Mann Whitney U Test</li> <li>➤ One Way ANOVA, Kruskal Wallis H test.</li> </ul>            |
| <b>Day 5:</b>  |
| <ul style="list-style-type: none"> <li>➤ Paired samples t test, Wilcoxon signed rank test.</li> <li>➤ Repeated Measures ANOVA, Friedman Test</li> <li>➤ Chi-square test, Fisher exact test, McNamara's test</li> </ul> |
| <b>Day 6:</b>  |
| ➤ Univariable and multivariable binary Logistic regression analysis.   |
| <b>Day 7:</b>  |
| <ul style="list-style-type: none"> <li>➤ Computation of Sample size / Power using Online and Offline available software's.</li> <li>➤ Randomization in Clinical trials</li> </ul>                                      |
| <b>Day 8:</b>  |
| <ul style="list-style-type: none"> <li>➤ Kaplan Meier Method</li> <li>➤ Cox proportional hazards model</li> </ul>  |
| <b>Day 9:</b>  |
| <ul style="list-style-type: none"> <li>➤ Computation of Diagnostic accuracy, ROC Curve, Kappa agreement (Unadjusted and adjusted)</li> <li>➤ Computation of Correlation coefficient (Pearson, Spearman)</li> </ul>     |
| <b>Day 10: [ 16.30hrs to 17.30hrs]</b>   |
| Practical Exam for 100 Marks   |

**(Prof Uttam Singh)**  
**Course Coordinator & Head,**  
**Dept of Biostatistics & Health Informatics**  
**SGPGIMS, Lucknow**