# ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD

## *(Department of Home and Health Sciences)*

**Course: Biostatistics (7510)**                    **Semester: Spring, 2013**

**Level: Post Graduate**                              **Credit: 3(2+1)**

## <u>CHECKLIST</u>

1.  Course Book                 (Unit 1–9)
2.  Theory Assignment           One
3.  Practical Assignment        One
4.  Assignments Forms           Eight
5.  Schedule for submitting the assignments and tutorial meetings.

*Note:*      *If any one item of the above-mentioned content list is missing from your study pack, kindly contact:*

*Mailing Officer*
*Mailing Section*
*Services & Operational Block*
*Allama Iqbal Open University,*
*Sector H-8, Islamabad*

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*(Department of Home and Health Sciences)*

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**Total Marks: 100**

# ASSIGNMENT No. 1
**(Unit 1–9)**

*Note: All questions are compulsory. Distribution of marks is given against each.*

Q.1 Explain the term frequency distribution with example. Discuss indices of central tendency and variation.          (12)

Q.2 Discuss Probability with its types and its role in statistics.          (12)

Q.3 What are levels of prevention typically targeted in screening the programs? Explain the importance of sensitivity and specificity in screening programs.          (12)

Q.4 What are commonly used tests of statistical significance for different types of data? Explain in details.          (12)

Q.5 Define sampling and various sampling techniques for obtaining a respecentative sample of particular population with examples.          (12)

Q.6 What is importance of correlation in data analysis? Explain statistical techniques used to define relationship between x and y.          (12)

Q.7 Differentiate between correlation, linear regression and multiple regressions. What are the measure of correlation and its limits.          (12)

Q.8 Write short notes on followings:
   a)   Placebo effect          (04)
   b)   Informed consent          (04)
   c)   Multiple causation          (04)
   d)   Establishing causation          (04)

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# ASSIGNMENT No. 2

**Total Marks: 100**

*Note: This assignment will be completed during the workshop under the close supervision of your tutor.*

1.  Develop a data sheet on SPSS (Statistical Package for Social Sciences). You can enter data related to Nutritional indicators of the countries. (25)
    *Source: World population data sheet by population reference bureau available on net. Website: www: prb.org  OR  as advised by the tutor in the workshop.*

2.  Analyse the data related to health and nutrition, making frequency distribution, measure of central tendency, measure of dispersion, cross tabulation, chi square test (non parametric, parametric test) and regression analysis. (25)

3.  Write a report on your findings. (50)

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# Course Outlines: BIOSTATISTICS (7510)

**Level: M.Sc**                                                      **Credit Hours: 3(2+1)**

**Unit–1:  BIOLOGICAL VARIABILITY**

**Unit–2:  PROBABILITY**

**Unit–3:  SCREENING**

**Unit–4:  STATISTICAL SIGNIFICANCE**

**Unit–5:  SAMPLING**

**Unit–6:  CORRELATION**

**Unit–7:  MULTIPLE REGRESSIONS**

**Unit–8:  RANDOMIZED CLINICAL TRIALS**

**Unit–9:  ASSOCIATION AND CAUSATION**

*Recommended Books:*
*1)  A Study Guide to Epidemiology and biostatistics; J. Richard Hebel and Robert J. Mc Carter (2006) Jones & Bertlett Publishers*
*2)  Basic Biostatistics (Statistics for Public Health Practices; B Burt Geretman (2008) Jones An) Bartlett Publishers.*
*3)  Bio-Statistics for health Students with Manual on Software Application by M. Hanif, Munir Ahmed and Aftab Ahmed published by ISOSS, Lahore.*

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