Fundamental Concepts of Statistics

1. **Synopsis**
   This block aims at providing students an introduction to basic concepts and use of statistics. Students would be able to understand the proper use for the measures of descriptive statistics, basic concepts of probability distributions, sampling and sampling distributions, and how to make inference on the population with sample statistics.

2. **Course Intended Learning Outcomes** (CILOs)
   Upon completion of this course, students will be able to:

$CILO_1$	know the key measures of location and dispersion of a set of data, and recognize the features of the measures
$CILO_2$	explain probability distributions and their parameters
$CILO_3$	master the concepts of sampling, sampling distribution and sample statistics
$CILO_4$	make inference on the population by observing and analyzing sample data

3. **Content, CILOs and Teaching & Learning Activities**

Course Content	CILOs	Suggested Teaching & Learning Activities
Descriptive Statistics	$CILO_1$	Lecturing and Discussion with some online learning materials provided
Probability Distributions and Sampling Distributions	$CILO_{2,3}$	Lecturing and Discussion with some online learning materials provided
Inferential Statistics	$CILO_4$	Lecturing and Discussion with some online learning materials provided
An Overview of Commonly Used Statistical Methods in Research	$CILO_4$	Lecturing and Discussion with some online learning materials provided

4. Assessment

Assessment Tasks	Weighting (%)	CILO
(a) Online Test(s)	40	$CILO_{1, 2, 3, 4}$
(b) Quiz	60	$CILO_{1, 2, 3, 4}$

5. Required Text(s)

Nil

6. Recommended Readings

Bluman, A (2006). Elementary statistics: a step by step approach (6th ed.). US: McGraw-Hill

Freund, J.E. (2001). Modern elementary statistics (10th ed.). N.J.: Prentice Hall.

Hogg, R.V., Tanis, E.A. (2010). Probability and statistical inference (8th ed.). Pearson/Prentice Hall.

Hogg, R.V. & Tanis, E.A. (2009). Probability and Statistical Inference (8th ed.), Pearson/Prentice Hall

Rees, D.G. (2001). Essential statistics (4th Ed). Boca Raton, FL: Chapman & Hall.

7. Related Web Resources

Nil

8. Related Journals

Nil