



KENYA UNIVERSITY
SCHOOL OF APPLIED SOCIAL SCIENCES
DEPARTMENT OF EDUCATION

PROBABILITY AND STATISTICS11 - BMA: 2102

PREQUISITES: PROBABILITY AND STATISTICS 1- BMA: 1102

PURPOSE: To equip students with basic skills in statistical concepts, probability theory and applications used in solving statistical problems.

COURSE OBJECTIVES: By the end of the course the learners should be able to:-

- (a) Describe discrete and continuous random variables
- (b) Define basic discrete and continuous distributions
- (c) Describe basic distribution functions
- (d) Describe Bivariate normal distribution
- (e) Solve problems on statistical inferences

TOPIC	SUBTOPIC	CONTENT	References:
Random variables	Discrete	Probability distribution functions of a random variable, expectation and variance	Gupta K. and Kapoor S. Fundamentals of statistics Vikas, New Delhi
Discrete random variable	Binomial distribution	Definition, expectation, and variance, Poisson distribution and normal as approximations of binomial	Purna C.B(2009) probability and statistics
	Poisson and normal	Normal distribution as an approximation of Poisson Hyper geometric Distribution, probability density function	
Continuous distribution	Normal	Exponential and Bivariate probability distribution	
		Beta and gamma distribution , Moments, probability generating functions	
Review	Cat/ assignments	Course outline	Answer/questions
EVALUATION	COURSE	Assignments/projects -15% Cat I, II, III -15% Final examination - 70% Total -100%	

Teaching/ Learning methods lectures and tutorials, group discussion, demonstration and assignments

Recommended text books

1. Hogg R.V. and Craig A. T (1989) Introduction to Mathematical Statistics, Macmillan.
2. James I. and Dietrich Frank Statistics (3rd Edition) Macmillan
3. Yuri Suhov, Mark Kelbert(2005) Probability and Statistics By example: Basic Probability And Statistics Volume 1 Cambridge University Press.