

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

**UNIVERSITY EXAMINATION FOR BACHELOR OF LOGISTICS AND SUPPLY
CHAIN MANAGEMENT FOR FIRST YEAR SECOND SEMESTER**

COURSE: BBM 3122: BUSINESS STATISTICS 1

DURATION: 2HOURS

APRIL 2017

MAIN CAMPUS

Instructions: Answer Question ONE and any other TWO Questions in this Paper

QUESTION ONE (30 MARKS)

- (a) States any five methods of data collection. (5mks)
- (b) Examine the relevance of business statistics as a tool of management (5mks)
- (c) In a class of 100 students studying at JOOUST main campus, 36 are male and studying BBA, 9 are male but not studying BBA, 42 are female and studying BBA, 13 are female and are not studying BBA, calculate the probability that a student is studying BBA given that he is male. (6mks).
- (d) The frequency distribution below shows the growing percentage scores in Business statistics for BBA students of BUC

Grouped score (%)	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
No of students	6	8	8	15	10	4	3	1

- (i) Using 50% as an assured mean calculate the actual mean score for the distribution (5mks)
- (ii) Compute the mode and median score for the distribution (5mks).
- (e) A problem in Business statistics is given to five students A, B, C and D and E. Their chances of solving it are $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{6}$. respectively. What is the probability that the problem will be solved. (4mks).

QUESTION TWO (20 MARKS)

(a) Compute harmonic mean from the following

(10mks)

x	20	25	30	35	40	45	50
f	3	8	12	15	10	7	5

(b) The distribution of weight measured to the nearest kilograms (kg) of 50 school boys was as shown below.

Weight(kg)	Frequency
60.5 and under 62.5	1
62.5 and under 64.5	5
64.5 and under 66.5	11
66.5 and under 68.5	15
68.5 and under 70.5	10
70.5 and under 72.5	5
72.5 and under 74.5	2

Construct and estimate from the ogive (frequency cumulative curve) the number of boy who weighed;

- (i) Less than 65kg
 - (ii) Less than 73.5kg
 - (iii) Between 63.5 and 73.5kg
 - (iv) Estimate the weight below which 20 of the school boy lie
- (10mks).

QUESTION THREE (20 MARKS)

The managers of an import agency are investigating the length of time that customers take to pay their invoices, the normal terms for which are 30days net. They have checked the payment record of 100 customers chosen at random and have compiled the following table

Payment in	No of customers
5 to 9 days	4
10 to 14 days	10
15 to 19 days	17
20 to 24 days	20
25 to 29 days	22
30 to 34 days	16
35 to 39 days	8
40to 44 days	3

Required: calculate

- (i) The mean payment time (5mks)
- (ii) The standard deviation (8mks)
- (iii) The variance (2mks)

(b) State the main five methods of measuring dispersion (5mks)

QUESTION FOUR (20 MARKS)

The table below shows the distribution of heights to the nearest 40 students.

Height(cm)	145-149	150-154	155-159	160-164	165-169	170-174	175-170
frequency	2	5	16	9	5	2	1

Calculate

- (a) The mean and median (take assumed mean to be 157) (10mks)
- (b) Standard deviation, variance and mode (10mk)

QUESTION FIVE (20 MARKS)

- (a) State any five problems encountered in the construction of the consumer price index. (5mks)
- (b) Given the prices and quantity of five products for two given periods 2013 and 2014 in which 2013 is taken to be the base year as below

	2013		2014	
commodity	Quantity	price	Quantity	price
A	15	300	20	350
B	12	400	15	250
C	7	150	7	200
D	8	250	6	200
E	5	100	1	400

Determine each of the following indices and interpret your results

- (i) The laspayees index (6mks)
- (ii) The paasches price index (6mks)
- (iii) Fisher's ideal price index taking 2013 as the sale year (3mks)

SCHOOL OF BUSINESS AND ECONOMICS
JARAMOGI OGINGA ODINGA UNIVERSITY (MAIN CAMPUS REGULAR)

BBM 3122: BUSINESS STATISTICS 1

Course Outline: JANUARY-APRIL 2017

Instructor: Mr. Amos Asembo

Class meets: Wednesday

Time: 8.00am -10.00am

Course Description

This course provides the learner with the skills and competencies necessary for them to articulate and analyze the basic statistical skills and be able to apply them practically in solving real business problems in society. To achieve this, the course will be presented through class lecturing, discussions and presentation.

Learning objectives: the objective of this course is to impart the learners with statistical skills and knowledge to enable him/her relate, compare and critically analyze the various business variables to assist him/her come up with the right business management decisions.

Expected learning outcomes.

At the end of learning exercise the learner is expected to:

1. Understand the meaning and scope of business statistics.
2. Understand the nature of statistical enquiry, collection, classification and presentation of data.
3. Understand frequency distribution and measures of central tendencies, measures of dispersion, skewness and kurtosis.
4. Understand index number

TOPICS COVERED

Week	Topic
ONE	-- Meaning and scope of business statistics
Two	–Nature of statistical enquiry
Three	–collection, classification and presentation of data
Four	–collection, classification and presentation of data

Five	–classification and presentation of data
Six	—frequency distribution
Seven	—measures of central tendencies
Nine	—measures of dispersion
Ten	–measures of dispersion
Eleven	–CAT
Twelve	–skewness and kurtosis
Thirteen	–index number

Teaching methodology

Lecture, discussion and presentation

Grading

Assignment	10%
Sit –in-test	20%
Semester Examination	70%

Required reading

1. Douglas .A. Lind, William G. Marchel, Samuel A.Wather 13th Edition(2008), statistical techniques in business and Economics.
2. Gerald kether ,(1993) statistics for management and Economics
3. Terry Lucey (2002) Quantitative Techniques
4. Murray R. Spiegel,(2008) Theory and problems of statistics
5. N.A Saleemi (2011) Quantitative Techniques simplified
6. Any other relevant resource materials in statistics including relevant websites.

NB: Please consult the librarian for more E-Learning.

Signed

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Course instructor

Dean SBLs