**ABM 1204 BUSINESS STATISTICS**

2. INSTRUCTOR(s): Mr. P.N. Walekhwa (B.A. MUK, Uganda; MABM, MUK.) (Assistant Lecturer).

**3. COURSE TYPE AND LOCATION**: **Core for BAGM I, Faculty of Agriculture, Department of Agricultural Economics & Agribusiness**

**4. COURSE STRUCTURE**

3 Credit units: 30 lecture hours (2 contact hours per week for 15 study weeks) and 30 tutorial hours (2 contact hours per week for 15 study weeks)

**5. COURSE DESCRIPTION:**

Students undertaking this course will be introduced to basic statistical concepts and analytical tools required for business analysis, summary and presentation of business reports. Areas to be covered include: Basic concepts of statistics, Sources, types and uses of agribusiness statistics in Uganda, Methods of data collection with emphasis on collecting gender disaggregated data, Problems associated with collection and quality of business statistics, Data analysis, Measures of dispersion and location, Elementary Probability theory, probability distribution, Normal and Chi-square distributions, sampling theory, hypothesis testing.

**6. COURSE OBJECTIVES:**

**General objective**

* To equip agribusiness management students with quantitative and analytical skills required for efficient and effective agribusiness planning and management.

**Specific objectives**

To equip students with knowledge and skills to:

1. Collect quality statistical data for efficient and effective agribusiness planning.
2. Effectively process, analyze, summarize and communicate agribusiness information in a precise and concise manner

**7. RECOMMENDED REFERENCES FOR READING**

* Wisniewski M., 1997, Quantitative methods for Decision makers, Second Edition, Pitman Publishing, London.
* Francis A., 1998, Business mathematics and statistics, 5 th Edition, Letts Educational Aldine Place, London
* UBOS Publications

**8. COURSE CONTENT, METHODS OF INSTRUCTION AND TOOLS REQUIRED**

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| **TOPIC** | **CONTENT** | **METHOD OF INSTRUCTION / Time allocated** | **TOOLS/ NEEDED** |
| Introduction | * Definition of statistics
* Uses of statistics
* Types of business statistics

 Descriptive and inferentialRelevance of statistics in Uganda | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,Handouts,Markers  |
| Data and Information | * Definition
* Types of data

 Primary and secondary * Categorization of data
 | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
|  | * Advantages and disadvantages of each of the types of data
* Sources of data
* Methods of data collection

Sources of data and methods of data collection | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
|  | * Sampling
* Census
* Population
* Samples

Sampling and differences between census, population and samples | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
| Sampling frame and techniques | * Sampling frame
* Random sampling
* Quasi random sampling
* Simple random sampling

Major sampling techniques in Uganda | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
|  | * Stratified sampling
* Systematic sampling
* Multi-stage sampling
* Cluster sampling
* Quota sampling

Major sampling techniques in Uganda | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
| Data and their accuracy | * Data classification
* Discrete and continuous data
* Errors and their causes

Data and Errors | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
| Data and their presentation | * Frequency distributions and Charts
* Rules for compiling grouped data
* Histograms
* Frequency polygons and curves Graphs
* Bar graphs

Major forms of data presentation in Uganda | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
| Statistical Measures | * Arithmetic mean
* Mean for grouped and un-grouped data
* Median for grouped and ungrouped data

Major Statistical Measures | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
|  | * Mode for grouped and ungrouped data

The mode | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
| Measures of dispersion and skewness | * The range
* Mean deviation
* Standard deviation
* Coefficient of variation
* Quantiles and quartile deviation

Measures of dispersion | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
| Probability theory and probability distributions | * Set theory
* Theoretical and empirical probability

Theoretical and empirical probability | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
|  | * Rules of probability
* Conditional probability

Rules of probability  | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
|  | * Normal probability distributions
* Chi-square distributions

Normal probability distributions | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
| Hypothesis testing | * Type I errors
* Types II errors
* Null hypothesis

Hypothesis Testing | Interactive lecture (2 hrs)Tutorial (2 hrs) | LCD Projector,BB/Chalk,HandoutsMarkers |
| 16-17  | * Revision Time
* Final Examination
 | Written Examination | BB/ChalkAnswer booklets |

**9. SUMMARY OF TIME NEEDED**

Lectures 30 hrs

Tutorials (and assignments) 30 hrs

**10. COURSE ASSESSMENT:**

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| Continuous assessment (Quizzes): | There will be 3 Quizzes arising from tutorials and assignments during week 5, 10 and 15 of the semester | 10% |
| Continuous assessment (Assignments and tests): | Students will sit and submit at least 2 assignments and at least 2 tests  | 30% |
| University Examination: | Final examination during week 16-17 of the semester | 60% |