MAKERERE UNIVERSITY
MAKERERE UNIVERSITY BUSINESS SCHOOL
FACULTY OF VOCATIONAL AND DISTANCE EDUCATION
DEPARTMENT OF MANAGEMENT SCIENCE

PROGRAM	:	HIGHER EDUCATION CERTIFICATE IN BUSINESS STUDIES
COURSE TITLE	:	FOUNDATIONAL MATHEMATICS
COURSE CODE	:	HEC 101
CREDIT UNITS	:	4
CREDIT HOURS	:	60
ACADEMIC YEAR	:	2023/24
FACILITATORS	:	DR GIDEON NKURUNZIZA, SSEMWEZI PETER & FREDDIE SEMUKONO

Course Description
This course is intended to give students an understanding of aspects of Mathematics that are applicable to the real world. It provides students with the background and skills necessary for Higher Education study programs requiring some mathematics and other mathematical related courses.

Course Objectives:
By the end of this course, leaner should be able to;

a) Apply basic mathematical operations to solve problems
b) Solve problem containing whole numbers, decimals, fractions, percent, ratios, and proportions
c) Analyze and interpret data using common statistical procedures.
d) Use mathematical procedures to analyze and solve theoretical problems a variety of contexts.

Mode of Teaching/learning
Blended approach
Delivery methods
Lecture method, Student centered, Group discussions, and Tutorials.
Assessment methods

Test and Course work assignments	30%
Final examination	70%
Total	100%

Topics	Week No.	Lessons
1. Introduction	1	Meaning and importance of foundational mathematics, approaches/techniques of foundational mathematics, limitations.
2. Functions	2	Important definitions, graphs of functions; linear, quadratic and cubic functions, composite, inverse functions, solving simultaneous and quadratic functions.
3. Algebra	2	Real numbers, Fractions, Decimals, percentage and ratios, indices, application of algebra using 2 by 2 matrix algebra and Break even models.
4.Exponential and Logarithmic functions	3	Exponential expressions, the exponential function and its graph, logarithms, Natural logs, laws of logarithms, solving equations with logarithms and application of exponential and logarithmic functions.
5. Differentiation and Integration	3	Meaning of calculus, Rules of Differentiation and Integration, Economic Application of Calculus (differentiation and integration).
6. Financial Mathematics	2	Meaning and Importance, Compounding, Discounting, Appraisal techniques (Net Present Values and Internal Rate of Return).

REFERENCES

1. A Francis (1998) Business Mathematics And Statistics (5th Edition)
2. Jean E. Weber (1990), Mathematical Analysis, Business And Economic Applications (4th Edition)
3. Samuel Sejjaaka (1998), Quantitative Methods For Business And Social Sciences (2nd Edition)
4. ICSA, Paper 2, Study Book, Quantitative Techniques, BPP Publishers.
5. Semukono et al (2009) " Quantitative Methods (1st Edition)