Faculty	Management and Social Science
Department	Economics
Course Title	Introductory Mathematics for Economics
Year of Study	**1**
Course Code	**ECN 103**
Credit Hours	**2**
Contact Hours	**30**
Mode of Delivery	**Classroom Lectures**

Mode of Assessment	Weight
Continuous Assessment **Final Examination**	30% 70%
Total	100%

Course Lecturer	Dr. O.J. Omokanmi	
Course Description	Introductory Mathematics for economists involves the understanding of basic mathematical concepts and tools needed in solving and addressing economic problems. Many economic problems are quantitative in nature and practitioners require an above average understanding of mathematics to resolve them. Hence, this course was introduced to students to aid the understanding of the required mathematical concepts.	
Course Objectives	This course would enable the understanding of the following: 1. The basic mathematical operations including linear algebra, gradients of a straight line and curves. 2. Basic indices and logarithmic functions 3. Matrix algebra 4. Differential and integral calculus 5. Application of mathematics in solving elementary economic problems	
Learning Outcomes	By the end of the course, students will be able to: 1. Solve basic mathematical equations such as linear, quadratic and simultaneous equations 2. Handle basic indicial and logarithmic equations 3. Solve some matrix algebra problems 4. Carry out some differential and integral calculus operations 5. Apply some of the mathematical topics in addressing some quantitative economics problems	
Teaching and Learning	The class will meet for two hours every week for a combination of both the lecture hours and tutorials.	

Detailed Course Content	The course begins with mathematical concepts in the social sciences; gradual focus on Set Theory; Factors and Exponents; Logarithms; Trigonometry; Different types of Equations as well as Functions and Progressions. Other topics include: Co-ordinate Geometry, Trigonometric Functions and their Inverse. Matrix algebra and calculus.	
	Course Content Sequencing	
Weeks	Detailed Course Outline	Allocated Time
Week 1	1. Introduction to Mathematical Economics • Explain the relationship between Economics and Mathematics • Describe how mathematics is used to solve quantitative problems in social sciences • Explain and solve linear equations	
Week 2	2. Equations • Describe and explain quadratic equations Using factorization and formula method • Describe and explain simultaneous equation using elimination and substitution methods	
Week 3,4	Set Theory • Explain the types of sets • Describe union, intersection and complement of sets • Explain set notations	
Week ,5	1. Progression • Arithmetic progression • Geometric progression 2. Continuous Assessment I	
Week six	Geometry • Plane geometry • Gradient of a straight line and gradient of a curve	
Week 7, 8	Matrix Algebral • Addition and subtraction of matrices • Multiplication of matrices • Laws of matrices • Determinants of 2 by 2 matrices • Solving a system of equations with determinants	
Weeks 9, 10, 11	Calculus • Rules of differential calculus	

	• Differentiation of implicit functions • Partial differentiation • Higher order differentiation • The derivatives • Integral calculus • Economic applications of differentiation and integration 3. Continuous Assessment II	
Week 12	Revision	
Week 13, 14	Examinations	