



Davao del Sur State College
Brgy. Matti, Digos City, Davao del Sur

Mathematics in the Modern World

Arch. Jason B. Santos, MBA





MATHEMATICS IN THE MODERN WORLD

Course Pack for
BSABE Students

Arch. JASON B. SANTOS, MBA

Davao del Sur State College
Matti, Digos City, Davao del Sur



Table of Contents

MATHEMATICS IN OUR MODERN WORLD.....	3
MODULE 1:.....	3
LESSON 1: PATTERNS AND NUMBERS IN THE WORLD	4
Introduction:	4
Analysis	5
Abstraction.....	5
Application:	7
LESSON 2: FIBONACCI SEQUENCE.....	8
Analysis	8
Abstraction:.....	8
Application	16
LESSON 3: PATTERNS AND REGULARITIES IN THE WORLD	16
Analysis	17
Abstraction.....	17
Application	19
LESSON 4: BEHAVIOR OF NATURE	19
Analysis	19
Abstraction.....	19
Application	21
LESSON 5: APPLICATIONS OF MATHEMATICS IN THE WORLD	22
Analysis	22
Abstraction.....	22
Application	23
Lesson 6 and 7: Basic Concepts and Linear Inequalities	25
Introduction	25
Analysis	25
Application (Concept Clarification)	30
MODULE 2:.....	30
Lesson 1: Mathematical Systems.....	30
Analysis	31

PART I: INTRODCUTION TO MODULAR ARITHMETIC.....	32
.....	32
PART 2: APPLICATION OF MODULAR ARITHMETIC.....	34
PART 3: INTRODUCTION TO GROUP THEORY	41
ACTIVITY 1. INTRODUCTION TO MODULAR ACTIVITY	46
ACTIVITY 2. APPLICATIONS OF MODULAR ARITHMETIC.....	47
ACTIVITY 3. INTRODUCTION TO GROUP THEORY	48
Lesson 2 and 3: Geometry of Linear Inequalities and Simplex Method	50
Introduction	50
Analysis	50
Lesson 4: Introduction of Apportionment and Voting.....	69
Introduction	69
Analysis	70
.....	90
Application (Concept Clarification)	90