


INTI INTERNATIONAL UNIVERSITY
COURSE STRUCTURE

PROGRAMME: DIPLOMA IN INFORMATION AND COMMUNICATIONS TECHNOLOGY

1.	NAME OF COURSE/MODULE: FUNDAMENTALS OF MATHEMATICS																				
2.	COURSE CODE: MAT1103																				
3.	RATIONALE FOR THE INCLUSION OF THE COURSE/MODULE IN THE PROGRAMME: The course provides necessary mathematics knowledge to an IT student. Mathematics relates students to various real-life contexts and enables students to think flexibly, critically and logically in solving a real-life problem. This course will provide students with a good foundation in the basic mathematical knowledge.																				
4.	STUDENT LEARNING TIME (SLT)	Total Face to Face					Total Student Independent Learning Time														
		L	T	P	O	A	OL	IL													
	L = Lecture T = Tutorial P = Practical O = Others A = Assessment OL = Online Learning IL = Independent Learning	24	14	0	4	6	14	70													
5.	CREDIT VALUE: 3																				
6.	PREREQUISITE: NONE																				
7.	LEARNING OUTCOMES: On completion of the course, students will be able to: 1. Solve various forms of equalities and inequalities problems. 2. Sketch a graph of linear and quadratic function, and solve exponential and logarithmic equations. 3. Solve system of equations, and perform operations on arithmetic and geometric sequences. 4. Compute the derivatives of algebraic functions and basic integration.																				
8.	SYNOPSIS: This course is designed to understand the relationship between mathematics and computing. A basic course, which students will study equations and inequalities, functions and their graphs, exponential and logarithmic functions, system of equations, sequences, differentiation and integration, and their applications in problem-solving. This course will provide students with a good foundation in the basics of mathematics as it relates to computing and able to develop a logical thinking process in students.																				
9.	MODE OF DELIVERY: Lectures and tutorials. Lectures are conducted both face-to-face and online.																				
10.	ASSESSMENT METHODS AND TYPES: <table><tr><th>Method</th><th>Types</th><th>Weightage (%)</th></tr><tr><td rowspan="3">Continuous Assessment</td><td>Test 1</td><td>20</td></tr><tr><td>Test 2</td><td>20</td></tr><tr><td>Assignments/Quizzes</td><td>20</td></tr><tr><td>Summative Assessment</td><td>Final Examination</td><td>40</td></tr></table>								Method	Types	Weightage (%)	Continuous Assessment	Test 1	20	Test 2	20	Assignments/Quizzes	20	Summative Assessment	Final Examination	40
Method	Types	Weightage (%)																			
Continuous Assessment	Test 1	20																			
	Test 2	20																			
	Assignments/Quizzes	20																			
Summative Assessment	Final Examination	40																			

CERTIFIED TRUE COPY


.....
Jaya Kumari Krishnan
Senior Officer
Admissions & Records
INTI International University

CERTIFIED TRUE COPY



 Jaya Kumar Krishna
 Senior Officer
 Admissions & Records
 INTI International University

11. **CONTENT OUTLINE OF THE COURSE/MODULE AND THE SLT PER TOPIC:**

Sessions	Topics	LO	L	T	P	OL	Total		
							O	A	IL
1 – 4	Equations and Inequalities Linear equations and rational equations. Applications of linear equations. Quadratic equations. Applications of quadratic equations. Polynomial and radical equations. Inequalities. Absolute value.	1	4	2	0	2	4	6	70
5 & 6	The Rectangular Coordinate System and Graphs of Equations The rectangular coordinate system. The slope of a nonvertical line. Writing equations of lines. Graphs of equations.	2	2	1	0	1			
7 – 10	Functions Functions and function notation. Quadratic functions. Transformations of the graphs of functions. Rational functions. Operations on functions. Inverse functions Test 1	2	4	2	0	2			
11 – 14	Exponential and Logarithmic Functions Exponential functions and their graphs. Applications of exponential functions. Logarithmic functions and their graphs. Applications of logarithmic functions. Properties of logarithms. Exponential and logarithmic equations.	2	2	2	0	2			
15 – 18	Linear Systems and Quadratic Systems Systems of linear equations. Graphs of inequalities. Solving nonlinear systems of equations	3	4	2	0	2			
19 – 22	Sequences and Series The binomial theorem. Arithmetic sequences and series. Geometric sequences and series. Test 2	3	2	2	0	2			
23 – 28	Differentiation and Integration Differentiate and integrate basic power, exponential, logarithmic and non-trigonometric terms. Calculate the maximum and minimum values	4	6	3	0	3			
	TOTAL		24	14	0	14	4	6	70

Learning Outcome (LO), Lecture (L), Tutorial (T), Practical (P), Other (O), Assessment (A), Online Learning (OL), Independent Learning (IL).

CERTIFIED TRUE COPY

.....
 Jaya Kumari Krishnan
 Senior Officer
 Admissions & Records
 INTI International University

12.	<p>MAIN REFERENCE(S) SUPPORTING COURSE:</p> <ul style="list-style-type: none">Gustafson, RD & Hughes, JD. College Algebra. 11th ed., Cengage Learning, 2013. <p>ADDITIONAL REFERENCES:</p> <ul style="list-style-type: none">Sullivan, M. College Algebra. 10th ed., Pearson, 2016.Washington, AJ. Basic Technical Mathematics with Calculus. 10th ed., Pearson, 2014.Dugopolski, M. College Algebra. 6th ed., Pearson, 2015.Beecher, JA, Penna, JA & Bittinger, ML. College Algebra. 5th ed., Pearson, 2016.Blitzer, RF. College Algebra. 6th ed., Pearson, 2014.		
13.	<p>OTHER ADDITIONAL INFORMATION:</p> <table><tr><td><p>Final Examination Format Duration: 2 hours Answer any FOUR out of FIVE structured-type questions.</p></td></tr><tr><td><p>Grading Scale A+ (90-100), A (80-89), A- (75-79), B+ (70-74), B (65-69), B- (60-64), C+ (55-59), C (50-54), C- (45-49), D (40-44), F (0-39)</p></td></tr></table>	<p>Final Examination Format Duration: 2 hours Answer any FOUR out of FIVE structured-type questions.</p>	<p>Grading Scale A+ (90-100), A (80-89), A- (75-79), B+ (70-74), B (65-69), B- (60-64), C+ (55-59), C (50-54), C- (45-49), D (40-44), F (0-39)</p>
<p>Final Examination Format Duration: 2 hours Answer any FOUR out of FIVE structured-type questions.</p>			
<p>Grading Scale A+ (90-100), A (80-89), A- (75-79), B+ (70-74), B (65-69), B- (60-64), C+ (55-59), C (50-54), C- (45-49), D (40-44), F (0-39)</p>			

CERTIFIED TRUE COPY


.....
Jaya Kumari Krishnan
Senior Officer
Admissions & Records
INTI International University