## Mathematics 1

Basic Course Information				
Course Number	02005009	Subject Category	Compulsory (M)	
Class Format	Lecture	Credit Type and Number of Credits	2.5	
Department	Computer	Student Category	Year 1	
Period of Study	Semester 1	Classes per Week	5	
Required Materials	"Precalculus, mathematics for calculus" 7th edition by and Stewart, Redlin, and Watson and Precalculus", "College Algebra" 2nd edition by OpenStax			
Instructor	Jetjaroen Klangwang	Akinori Tanaka	Panitam Sammeta	

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Ann consciously gitted on a students will be able to:

Peacl the definition of a function the basics of functions and their graphs, function operations, and function transformations.

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Required without pose of functions including objectives and their graphs, function operations of functions and use the proceeding of the processing of t

Evaluation(Rubrio)	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement Fall  Can't draw graphs of quadratic. power, rational and radical functions or can't find the domain, range or inverse,		
Evaluation 1	Can draw graphs of any quadratic, power, rational and radical functions and find the domain, range and inverse.	Can draw graphs of basic quadratic, power, rational and radical functions and find the domain, range and inverse,			
Evaluation 2	Can solve complicated polynomial and rational equations and inequalities by both algebraic and graphic approach.	Can solve basic polynomial and rational equations and inequalities by algebraic or graphic approach.	Can't solve basic polynomial or rational equations or inequalities.		
Evaluation 3	Can draw graphs of complicated exponential, logarithmic and trigonometric functions using their properties.	Can draw graphs of basic exponential, logarithmic and trigonometric functions using their properties.	Can't draw basic exponential. logarithmic or trigonometric functions.		
Evaluation 4	Can solve complicated equations and inequalities with exponential logarithmic and trigonometric expressions.	Can solve basic equations and inequalities with exponential logarithmic and trigonometric expressions.	Can't solve basic equations or inequalities with exponential logarithmic or trigonometric expressions.		

## Relationship with Learning Outcomes Q(1) Wide knowledge on Science and Engineering and practical ability to apply them to solve problems in the society.

Teaching Method	
Outline:	
Class Format:	Lecture, Drill, Group Work, and Presentation
Please Note:	Class format is subject to change depending on students' prior knowledge and preparation

Semester 1	Contents and Method of Course	Goale	Related MCC
			1 1
		Can evoluin the definitions of	1
1st Week	Chapter 1 : Fundamentals	Can explain the definitions of intervals, absolute value, square root, and complex number,	
		root, and complex number.	
		Can define a function and draw graphs of basic functions. Can draw graphs by applying translation, reflection, and magnification,	1 1
2nd Week	Chapter 2: Functions	graphs of basic functions, Can draw graphs by applying translation.	
		reflection, and magnification.	
			1 1 1
		Can define linear functions and draw their graphs, Can solve linear equations and inequalities,	I 1 3
3rd Week	Chapter 2 : Linear Functions	draw their graphs. Can solve linear	
		equations and inequalities.	
4th Week	1st Quarter Examination (15%)	1st Week - 3rd Week	
			-
		Can explain and calculate absolute value. Can define absolute value.	
5th Week	Chapter 2 : Absolute Value Functions	functions and draw their graphs	
	0.0000 5.00000	functions and draw their graphs, Can solve absolute value equations	
		and inequalities.	
		Can define a sadratic functions and	-
6th Week	Chapter 3 : Quadratic Functions	draw their graphs, Can solve	1 1 1
OUTWEEK	O REPORT O - SECRETABLE PURCHOTE	Can define quadratic functions and draw their graphs, Can solve quadratic, higher-order equations and inequalities.	1 1
	1	ersu mequalities.	
		1	
		Consideration and account to the contract of t	
The second	Observe 2: Only and Constraint	Can define polynomial functions and draw their graphs, Can apply long division on polynomials and use the factor theorem for factorization.	
7th Week	Chapter 3 : Polynomial Functions	division on polynomials and use the	
	1	factor theorem for factorization.	
		1	
			1 1
	1	Can define rational functions and	1 1 1
8th Week	Chapter 3 : Rational Functions	draw their graphs, Can solve rational equations and inequalities.	
		rational equations and inequalities.	
9th Week	Midterm Examination (20%)	5th Week - 8th Week	
			1 1
		Can calculate radicals, Can define radical functions using definition of inverse functions. Can draw the graphs of inverse functions, Can solve radical equations and inequalities.	1 1
10th Week	Chapter 3 : Radical Functions	inverse functions. Can draw the	1 1
TOUT WORK	Chiapter C. Feducal For Clorie	graphs of inverse functions. Can	-
		solve radical equations and	
			1 1 1
		Can explain and calculate exponents, Can define exponential functions and draw their graphs.	
		exponents. Can define exponential	
11th Week	Chapter 4 : Exponential Functions	functions and draw their graphs. Can solve exponential equations	
		and inequalities	
		Can evolain and calculate	1 1 1
		Can explain and calculate logarithms, Can define logarithmic	1 1 2
12th Week	Chapter 4 : Logarithmic Functions	functions and draw their graphs.	
		logarithms, Can define logarithmic functions and draw their graphs, Can solve logarithmic equations and inequalities.	
		Todowno.	
	1		
13th Week	3rd Quarter Examination (20%)	10th Week - 12th Week	
			1 1 2
		Can calculate the value of the six	1 1 2
14th Week	Chapter 5 : Trigonometric Ratios	trignometric ratios and use them to find lengths and angles of a given	
		III NA HIERETINS AND ANGRES OF A given	
1401 Week			
I+UI WORK		triangle.	
1401 Week			1 1 1
1+U1 Week		Can understand how triangements	I 1 3
		Can understand how triangements	I 1 2
15th Week	Chepter 5 : Trisonometric Functions	Can understand how triangements	I 1 2
		Can understand how triangements	I 1 2
			I 1 3
		Can understand how trigonometric functions relate to right triangles and extend the definitions of the trigonometric functions beyond right triangles using the unit circle.  Con drow greetor of the three.	[ 1 2
15th Wesk	Chapter 5: Trisponometric Functions	Can understand how trigonometric functions relate to right triangles and extend the definitions of the trigonometric functions beyond right triangles using the unit circle.  Con drow greetor of the three.	I 1 2
		Can understand how trigonometric functions relate to right triangles and extend the definitions of the trigonometric functions beyond right triangles using the unit circle.  Con drow greetor of the three.	1 1 4
15th Wesk	Chapter 5: Trisponometric Functions	Can understand how trigonometric functions relate to right triangles and extend the definitions of the trigonometric functions beyond right triangles using the unit circle.	1 1 2
15th Week	Chapter 5: Trisponometric Functions	Can understand how trigonometric functions relate to right triangles and extend the definitions of the trigonometric functions beyond right triangles using the unit circle.  Con drow greetor of the three.	1 1 2
15th Wesk	Chapter 5: Trisponometric Functions	Can understand how trisonometric can understand how trisonometric and extend the definitions of the trisonometric functions beyond right triangles using the unit orde. Can draw graphs of the three trisonometric functions and determine the emploude, period, and transformations.	
15th Week 16th Week	Onsoter 5: Trisonometric Functions  Chapter 5: Grach of Trisonometric Functions	Can understand how trisonometric can understand how trisonometric and extend the definitions of the trisonometric functions beyond right triangles using the unit orde. Can draw graphs of the three trisonometric functions and determine the emploude, period, and transformations.	
15th Wesk	Chapter 5: Trisponometric Functions	Can understand how trisonometric can understand how trisonometric and extend the definitions of the trisonometric functions beyond right triangles using the unit orde. Can draw graphs of the three trisonometric functions and determine the emploude, period, and transformations.	
15th Week 16th Week	Onsoter 5: Trisonometric Functions  Chapter 5: Grach of Trisonometric Functions	Can understand how trisonometric can understand how trisonometric and extend the definitions of the trisonometric functions beyond right triangles using the unit orde. Can draw graphs of the three trisonometric functions and determine the emploude, period, and transformations.	
15th Week 16th Week	Onsoter 5: Trisonometric Functions  Chapter 5: Grach of Trisonometric Functions	Can understand how trigonometric functions relate to right triangles and extend the definitions of the trigonometric functions beyond right triangles using the unit circle.  Con drow greetor of the three.	
15th Week 16th Week	Onsoter 5: Trisonometric Functions  Chapter 5: Grach of Trisonometric Functions	Can understand how trapnometric lunction relate to right tringstee trapnometric functions are trapnometric functions beyond right triangles using the unit orde. Can draw graphs of the three categories are determined to amount of the trians categories are categories of the categories of can solve tripnometric equations and graphs of tripnometric functions.	
15th Week 16th Week	Chapter 5: Trisonometric Functions  Chapter 5: Graph of Trisonometric Functions  Chapter 5: Trisonometric Equations	Can understand how tripponnestric function relate to right tringible and obtained with the related to right tringible and obtained his deliberations of the and obtained his deliberation of the tripponnestric functions and determines the amelitude, period, and determines the amelitude, period, and terminorations.  Can solve tripponnestric equations and graphs of tripponnestric functions.	
15th Week 15th Week	Chapter 5: Trisonometric Functions  Chapter 5: Graph of Trisonometric Functions  Chapter 5: Trisonometric Equations	Can understand how tripponnestric function relate to right tringible and obtained with the related to right tringible and obtained his deliberations of the and obtained his deliberation of the tripponnestric functions and determines the amelitude, period, and determines the amelitude, period, and terminorations.  Can solve tripponnestric equations and graphs of tripponnestric functions.	
15th Week 16th Week	Onsoter 5: Trisonometric Functions  Chapter 5: Grach of Trisonometric Functions	Can understand how transcentrate functions related to first transfer functions for function beyond rain transcentrate. Function beyond rain transcentrate function beyond rain transcentrate functions about discontinuous functions and functions and functions and functions and functions are functions.  Can deliver transcentrate equations of functions are functions of functions and find the processing functions are functions and find the processing functions are find that the functions are find that the processing functions are find that the functions are find the functions are find that the functions are functions are functions.	
15th Week 15th Week	Chapter 5: Trisonometric Functions  Chapter 5: Graph of Trisonometric Functions  Chapter 5: Trisonometric Equations	Can understand how tripponnestric function relate to right tringible and obtained with the related to right tringible and obtained his deliberations of the and obtained his deliberation of the tripponnestric functions and determines the amelitude, period, and determines the amelitude, period, and terminorations.  Can solve tripponnestric equations and graphs of tripponnestric functions.	
15th Week 15th Week	Chapter 5: Trisonometric Functions  Chapter 5: Graph of Trisonometric Functions  Chapter 5: Trisonometric Equations	Can understand how transcentrate functions related to first transfer functions for function beyond rain transcentrate. Function beyond rain transcentrate function beyond rain transcentrate functions about discontinuous functions and functions and functions and functions and functions are functions.  Can deliver transcentrate equations of functions are functions of functions and find the processing functions are functions and find the processing functions are find that the functions are find that the processing functions are find that the functions are find the functions are find that the functions are functions are functions.	
15th Week 15th Week	Chapter 5: Trisonometric Functions  Chapter 5: Graph of Trisonometric Functions  Chapter 5: Trisonometric Equations	Can understand how transcentrate functions related to first transfer functions for function beyond rain transcentrate. Function beyond rain transcentrate function beyond rain transcentrate functions about discontinuous functions and functions and functions and functions and functions are functions.  Can deliver transcentrate equations of functions are functions of functions and find the processing functions are functions and find the processing functions are find that the functions are find that the processing functions are find that the functions are find the functions are find that the functions are functions are functions.	
15th Week 16th Week 17th Week	Chapter 5: Trigonometric Functions  Chapter 5: Graph of Trigonometric Functions  Chapter 5: Trigonometric Equations  Chapter 5: Trigonometric Equations  Chapter 5: Inverse Trigonometric Functions and Law of Sines and	On understand how triponorestric functions adults to grift through a function adults to grift through a function adults to grift through a function and the state of the state	
15th Week 15th Week	Chapter 5: Trisonometric Functions  Chapter 5: Graph of Trisonometric Functions  Chapter 5: Trisonometric Equations	Can understand how transcentrate functions related to first transfer functions for function beyond rain transcentrate. Function beyond rain transcentrate function beyond rain transcentrate functions about discontinuous functions and functions and functions and functions and functions are functions.  Can deliver transcentrate equations of functions are functions of functions and find the processing functions are functions and find the processing functions are find that the functions are find that the processing functions are find that the functions are find the functions are find that the functions are functions are functions.	
15th Week 16th Week 17th Week	Chapter 5: Trigonometric Functions  Chapter 5: Graph of Trigonometric Functions  Chapter 5: Trigonometric Equations  Chapter 5: Trigonometric Equations  Chapter 5: Inverse Trigonometric Functions and Law of Sines and	On understand how triponorestric functions adults to grift through a function adults to grift through a function adults to grift through a function and the state of the state	
15th Week 16th Week 17th Week	Chapter 5: Trigonometric Functions  Chapter 5: Graph of Trigonometric Functions  Chapter 5: Trigonometric Equations  Chapter 5: Trigonometric Equations  Chapter 5: Inverse Trigonometric Functions and Law of Sines and	On understand how triponorestric functions adults to grift through a function adults to grift through a function adults to grift through a function and the state of the state	
15th Week 16th Week 17th Week	Chapter 5: Trigonometric Functions  Chapter 5: Graph of Trigonometric Functions  Chapter 5: Trigonometric Equations  Chapter 5: Trigonometric Equations  Chapter 5: Inverse Trigonometric Functions and Law of Sines and	On understand how triponorestric functions adults to grift through a function adults to grift through a function adults to grift through a function and the state of the state	
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15th Week 16th Week 17th Week	Chapter 5: Trigonometric Functions  Chapter 5: Graph of Trigonometric Functions  Chapter 5: Trigonometric Equations  Chapter 5: Trigonometric Equations  Chapter 5: Inverse Trigonometric Functions and Law of Sines and	On understand how triponorestric functions adults to grift through a function adults to grift through a function adults to grift through a function and the state of the state	
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	Examination	Class Participation	Drill Submission	Report	Portfolio	Other
Basic Ability	75	10	15	0	0	0
Technical Ability						