Toyama College	Year	2023		Course Title	Fundamental Mathematics B I

Course Information

Course Code	0020		Course Category	General / Compulsory
Class Format	Lecture		Credits	School Credit: 1
Department	Department of Maritime Technology		Student Grade	1st
Term	First Semester		Classes per Week	2
Textbook and/or Teaching Materials	Fundamental Mathematics (dainihon-tosho)			
Instructor	Sakurai Hideto			

Course Objectives

In learning natural science and engineeeing knowledge of functions will be needed. In this lecture, quadratic functions and trigonometric functions will be discribed.

Rubric

	Ideal Level	Standard Level	Unacceptable Level
Achievement 1	Students can translate the general forms of qusadratic functions into the sutandard forms of quadratic functions and draw the graph of quadratic function	Students can translate the general forms of qusadratic functions into the sutandard forms of quadratic functions	Students can't translate the general forms of qusadratic functions into the sutandard forms of quadratic functions
Achievement 2	Students can find the maximum value and minimum valle of arbitrary quadratic functions	Students can find the maximum value and the minimum value of quadratic functions that represented by standard forms	Students can't find the maximum value and the minimum value of quadratic functions that represented by standard forms
Achievement 3	Students can slove quadratic equations and quadratic inequalitis	Students can slove quadratic equations	Students can't slove quadratic equations

Assigned Department Objectives

MCCコア科目

Teaching Method

Outline	During class teacher will confirm comphrehension of students orally Give homework
Style	Lectures and exercises by the teacher alone
Notice	Those who do not have a score of 50 can take the certification test upon request

Characteristics of Class / Division in Learning

☐ Active Learning	☐ Aided by ICT	☐ Applicable to Remote Class	☐ Instructor Professionally Experienced

Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance Functions and their graph	Students can understand the concept of functions and their graph
		2nd	Graph of the quadratic functions	Students can draw the graphs of quadratic functions given in stanard forms
		3rd	Graph of the quadratic functions	Students can translate general forms of quadratic functions into standard forms of quadratic functions
		4th	Determination of quadratic functions	Students can find quadratic functions that saticefied given conditons
		5th	Maximun and minimum of quadratic functions	Students can find the maxmun value and the minimum value of quadratic functions
		6th	Maximun and minimum of quadratic functions	Students can find the maxmun value and the minimum value of quadratic functions
		7th	Positional relationship of graph of quadratic functions and x oxis	Students can find out positional relation ship of quadratic functions and x axis
		8th	Mid-term exam	
	2nd Quarter	9th	Quadratic inequalities	Students can slove quadratic inequalities using graph of quadratic functions
		10th	Various functions	Students can draw the graph of basic cube fuuctions and quartic functions
		11th	Various functions	Students can find out whether given functions is even functions or odd functions
		12th	Various functions	Students can draw graph of first-order farctional functions
		13th	Various functions	Students can obtain inverse functions of basic functions
		14th	Various functions	Students can draw graph of basic irational functions
		15th	Final exam	
		16th	Various functions	Students can find equations of functions translated giiven functions

Evaluation Method and Weight (%)							
	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	83	0	0	0	17	0	100
Basic Proficiency	83	0	0	0	17	0	100
Specialized Proficiency	0	0	0	0	0	0	0
Cross Area Proficiency	0	0	0	0	0	0	0