

Akashi College		Year	2020		Course Title	Mathematics I B
Course Information						
Course Code	0005		Course Category	General / Compulsory		
Class Format	Lecture		Credits	School Credit: 2		
Department	Architecture		Student Grade	1st		
Term	Year-round		Classes per Week	2		
Textbook and/or Teaching Materials	高遠他:「新 基礎数学」大日本図書高遠他:「新 基礎数学 問題集」大日本図書					
Instructor	KATOH Masaki					
Course Objectives						
To understand and solve problems related to trigonometric functions, figures, equations, and sequences.						
Rubric						
		Ideal Level	Standard Level		Unacceptable Level	
1)Trigonometric functions		Can fully understand the definition of trigonometric function and competently solve problems using trigonometric functions.	Can understand the definition of trigonometric function and solve problems using trigonometric functions.		Can not understand the definition of trigonometric function or solve problems using trigonometric functions.	
2)Equations and graphs		Can fully understand the relationship between equations and graphs, and solve problems related to straight lines and quadratic curves.	Can sufficiently understand the relationship between equations and graphs, and solve problems related to straight lines and quadratic curves.		Can not understand the relationship between equations and graphs, or solve problems related to straight lines and quadratic curves.	
3)sequences		Can fully understand and sum the general term of a sequence.	Can understand and sum the general term of a sequence.		Can not understand and sum the general term of a sequence.	
Assigned Department Objectives						
学習・教育到達度目標 (D) 学習・教育到達度目標 (F) 学習・教育到達度目標 (G)						
Teaching Method						
Outline	To learn about trigonometric functions, figures and their equations, and sequences. Learn the fundamentals of mathematics required in college.					
Style	Lecture with problem-solving.					
Notice	Preparation and review of the content learned are indispensable. 7 absences will be excused.					
Course Plan						
			Theme		Goals	
1st Semester r	1st Quarter	1st	Triangle ratio and its application		Can calculate the triangle ratio.	
		2nd	Triangle ratio and its application		Can calculate the obtuse angle trigonometric ratio.	
		3rd	Triangle ratio and its application		Can solve triangle problem using the sine theorem.	
		4th	Triangle ratio and its application		Can solve triangle problem using the cosine theorem.	
		5th	Trigonometric function		Can calculate the value of an angle using the trigonometric functions.	
		6th	Trigonometric function		Can express angles using the arc method.	
		7th	Summary		Can solve problems related to the content learned.	
		8th	Mid term exams			
	2nd Quarter	9th	Trigonometric function		Can explain the interrelationship and nature of trigonometric functions.	
		10th	Trigonometric function		Can draw the graph of a trigonometric function.	
		11th	Trigonometric function		Can solve the triangular equation and triangular inequality.	
		12th	Additive theorem and its application		Can calculate trigonometric ratio using the additive theorem.	
		13th	Additive theorem and its application		Can derive the formula of the sum of products, etc. And do calculations using them.	
		14th	Additive theorem and its application		Can synthesize trigonometric functions.	
		15th	Summary		Can solve problems related to the content learned.	
		16th	End term exams			
2nd Semester r	3rd Quarter	1st	Point and Straight line		Can calculate the centroid of a triangle, and the Interior division point.	
		2nd	Point and Straight line		Can calculate the line equation.	
		3rd	Point and Straight line		Can calculate linear equations satisfying the conditions of parallel or Vertical lines.	
		4th	Quadratic curve circle		Can solve the circle equation.	
		5th	Quadratic curve circle		Can solve the ellipse equation and calculate the approximate shape.	

		6th	Quadratic curve circle	Can solve the parabolic equation and calculate the approximate shape, and the hyperbolic curve.
		7th	Summary	Can solve problems related to the content learned.
		8th	Mid term exams	
	4th Quarter	9th	Quadratic curve circle	Can calculate tangent of a quadratic curve.
		10th	Quadratic curve circle	Can show the area represented by inequality (Coalition).
		11th	Sequence	Can calculate the general term of an arithmetic progression.
		12th	Sequence	Can calculate the general term of an arithmetic progression.
		13th	Sequence	Can calculate the sum of various sequences.
		14th	Sequence	Can calculate the general term of the recurrence formula and can prove it using mathematical induction.
		15th	Summary	Can solve problems related to the content learned.
		16th	End term exams	

Evaluation Method and Weight (%)

	Examination	Assigments	Participation	Total
Subtotal	60	10	30	100
Basic Proficiency	60	10	30	100
Specialized Proficiency	0	0	0	0
Cross Area Proficiency	0	0	0	0