Anan College	Year	2024	Course Title	Mathematics of Electronics and Information

Course Information

Course Code	5497E02	Course Category	Specialized / Elective
Class Format	Lecture	Credits	Academic Credit: 2
Department	Course of Civil Engineering	Student Grade	Adv. 2nd
Term	First Semester	Classes per Week	前期:2
Textbook and/or Teaching Materials	Enshu to Ouyo Bibunhouteishiki, Saiensu Sha		
Instructor	Sugino Ryuzaburo		

Course Objectives

1. We can understand Furier series and its transformation, and compute of its fundamental computation.
2. We can understand Laplace transformation and operational calsulus, and compute of its fundamental computaion.
3. We can understand the construction method of differental equation , and compute of its fundamental problems.

Rubric

	Ideal Level	Standard Level	Unacceptable Level
Achievement 1	We can understand Fourier series an its tranformations and apply these for the various problems.	We can understand Fourier series an its tranformations and compute these for the fundamental problems.	We can understand Fourier series an its tranformations, and compute of its elementary problems.
Achievement 2	We can understand Laplace transformations and the operation method and apply these for the fundamental problems.	We can understand Laplace transformations and the operation method and compute the fundamental problems.	We can understand understand Laplace transformations and the operation method and compute of its elementary problems.
Achievement 3	We can understand the construction method of differentail equation and apply these for the fundamental problems.	We can understand the construction method of differentail equation and compute the fundamental problems.	We can understand the construction method of differentail equation and compute of its elementary problems.

Assigned Department Objectives

B-2 D-1

Teaching Method

Outline	We are to make a concentration for our class and use the knowledges and techniques about basic mathematics to construction of understanding of Fourier and Laplace transeformation and building up the solutions of ordinary and partial differential equations.
Style	Our class is construction of the next three phases. 1. Review the important facts from the previous class. 2. Lecture about the new section. 3. Short exercises.
Notice	Please make a good preparation and self-review. You will build up the good style to do homework of the previous class.

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	Fourier Series	We can understand Fourier series and compute its fundamental problems.
		2nd	Fourier Series	We can understand the applications of Fourier series and compute its fundamental problems.
		3rd	Fourier Series	We can understand complex Fourier series and compute its fundamental problems.
		4th	Fourier Series	We can understand Fourier transeformation and compute its fundamental problems.
		5th	Fourier Series	We can understand Fourier intergrals and compute its fundamental problems.
		6th	Fourier Analysis	We can understand the frequency analysis using Fourier transeformation and compute its fundamental problems.
		7th	Fourier Analysis	We can understand the Fourier analysis of differential equation and compute its fundamental problems.
		8th	Mid-term examination	
	2nd Quarter	9th	Laplace Transeformation	We can understand Laplace transeformation and compute its fundamental problems.
		10th	Laplace Transeformation	We can understand the applications of Laplace transformation and compute its fundamental problems.
		11th	Laplace Transeformation	We can understand the basis and dimension of subspace and compute its fundamental problems.
		12th	Differential Equation and Its Function Space	We can understand the linear mapping of vector space and compute its fundamental problems.

		13th	Differential Equation and Its Function Space	We can understand the change of basis and representation matrix and compute its fundamental problems.
		14th	The Solutions of Partial Differential Equation	We can understand the construction method of partial differentail equation and explain of it.
		15th	The Solutions of Partial Differential Equation	We can compute the fundamental applicated problems using construction method of partial differential equation's solutions.
		16th	Final examination	

Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	60	0	0	0	40	0	100
Basic Proficiency	30	0	0	0	20	0	50
Specialized Proficiency	20	0	0	0	10	0	30
Cross Area Proficiency	10	0	0	0	10	0	20