Tsuyama College		Year 2020				Course	Course Applied Electronics			
Course Informati	on					ı	1100	1		
Course Code 0130					Course Category		Specializ	Specialized / Elective		
Class Format	Lecture			Credits			Academic Credit			
Department	Department of Integrated Scier Technology Electrical and Elect Systems Program				Student Grade		5th			
Term							sses per Week 2			
Textbook and/or Teaching Materials	Reference bo	Textbooks : Kosaka Manabu"Koukou Sugaku de Master suru Control Engineering"(Corona Publishing), Reference books : Mori Yasuchika"Ensyu de manabu basic Control Engineering"								
Instructor	MINATOHAR	A Tetsuya								
Course Objective Learning purposes: Learn the basic of Fee Course Objectives: 1. To be able to explarespect to feedback s Rubric	edback-contro	basic control					oonse of sys	stems, sta	ability criterions with	
Kubi ic	Excellen			Good		Accer	ntable		Not acceptable	
Achievement 1	A studer understa theory re transfer	dent definitely rstands a basic y regarding a fer function.The should be over 80		A student mostly understands a basic theory regarding a transfer function. The score should be over 70 points.		Acceptable A student partly understands a basic theory regarding a transfer function. The score should be over 60 points.		a The	A student does not understand a basic theory regarding a transfer function. The score less than 60 points.	
A stude unders theory respon		dent definitely stands a basic y regarding a nse of systems. The should be over 80		A student mostly understands a basic theory regarding a response of systems. The		A student partly understands a basic theory regarding a response of systems. The score should be over 60 points.		a ems. The	A student does not understand a basic theory regarding a response of systems. The score less than 60 points.	
unders theory Achievement 3 stabilit respect system		tudent definitely lerstands a basic ory regarding a bility criterion with sect to feedback tems. The score		A student mostly understands a basic theory regarding a stability criterion with respect to feedback systems. The score		A student partly understands a basic theory regarding a stability criterion with respect to feedback systems. The score should be over 60 points		a with ack ore	A student does not understand a basic theory regarding a stability criterion with respect to feedback systems. The score less than 60 points.	
Assigned Departr	nent Objec	tives								
Teaching Method										
- Cucinity Freezieu	General or Specialized : Specialized Field of learning : Information and measure / control Required, Elective, etc. : Elective must complete subjects Foundational academic disciplines : Engineering / Electrical and Electronics Engineering / Control Engin								ring / Control Engineering	
Outline	Relationship with Educational Objectives : This class is equivalent to "(3) Acquire deep foundation knowledge of the major subject area".									
	Relationship with JABEE programs : The main goal of learning / education in this class is "(A)".									
	Course outline: The basic of traditional control theory is lectured. In the theory, thre relationship between input and output is represented with a transfer function which is subjected Laplace transformation the subject of the linearlized differential equation. By examining such transfer functions, control characteristics can be known.									
	Course method : Mainly, board-writing is used. Sometimes, practices with a computer simulation are used.									
Style	Grade evaluation method: Regular exams (70%) + Practices (30%). Examinations will be conducted a total of 2 times, and the evaluation ratios will be the same. A re-test will be conducted as necessary. Any materials involving textbook and reference books cannot be permitted to take in the examination.									
Notice	Precautions on the enrollment: This is a "class that requires study outside of class hours". Classes are offered for 15 hours per credit, but 30 credit hours are required in addition to this. Follow the instructions of your instructor for these studies.									
	Course advice: Laplace tfansformation which is a main analysis method of the traditional control theory needs basic mathematic techniques. Thus, a students is necessarry to establish the basic of mathematics.									
	Foundational subjects: Basic Control (2nd year) Related subjects: Control Engineering (5th year), Advanced Control Engineering (5th)									
	Attendance advice : If you are late for the start time, you will be treated as one absent after 20 minutes and as two absents after 65 minutes.									
Course Plan	1.					1-				
	The	me				Goa	is			

1st Quarter 1st Semeste		1st	Guidance				
		2nd	What is the Control? [feedback systems around us]		Deepen understanding of the feedback systems around us		
		3rd	Static and Dynamic systems [Practice of system expressions]		Deepen understanding of static and dynamic systems.		
		4th	Block diagram [Practice of block diagrams]		To be able to express control systems with block diagram.		
	1st Quarter	5th	Laplace transformation regarding transformation and inverse Laptransformations]	ansfer function lace	To be able to calculate a Laplace transformation.		
		6th	Laplace transformation regarding di equations [Practice of regular and inverse Lap transformations]		To be able to calculate a Laplace transformation of a differential equation.		
		7th	Inverse Laplace transformation [Pra regular and inverse Laplace transfor		To be able to calculate an inverse Laplace transformation. To be able to solve a differential equation using regular and inverse Laplace transformations.		
		8th	1st semester mid-term exam				
		9th	Return and commentary of exam ar	nswers			
2nd Quart		10th	Stability criteria using pole [Practice of stability criteria using po	ole]	Deepen understanding of stability criteria using pole.		
		11th	Fast response using pole [Practice of fast response using pole	2]	Deepen understanding of fast response using pole.		
	2nd	12th	System analysis using frequency charactice of system analysis using b		To be able to explain frequency characteristics of systems.		
	Quarter	13th	System analysis using frequency cha (2nd week) [Practice of system analysis using n diagram]		To be able to explain frequency characteristics of systems.		
		14th	Analysis of stability(Routh-Hurwitz, [Practice of stability analysis]	Nyquist)	To be able to discriminate stability or instability of control systems.		
		15th	(1st semester final exam)				
		16th	Return and commentary of exam answers				
<u>Evalua</u> ti	<u>on Met</u> h	od and \	Weight (%)				
			Examination	Practice		Total	
Subtotal			70	30		100	
Basic Proficiency			0	0		0	
Specialized Proficiency			70	30		100	
Cross Are	a Proficier	су	0	0		0	