Tsuyama College				Year 2022					Course Title	ourse Advanced Controls Title Engineering		
Course	Informat	tion			1							
Course Co	ode	0118					Course Category		Specialize	Specialized / Elective		
Class Forr	nat	Lecture	ıre			Credits		Academi	Academic Credit: 2			
Department Department Inform		Departi Techno Informa	tment of Integrated Science ology Communication and nations System Program			nce and d	nd Student Grade		5th	5th		
Term		Year-ro	Year-round					Veek 1				
Textbook Teaching	and/or Materials	Textbo	oks : "V	iks : "Wakariyasui Gendai Seigyo Riron" Mori, (Morikita Syuppan)								
Instructor YAGI Hideyuki												
Course Objectives												
Learning purposes : The purpose is to acquire applied concepts related to automatic control theory.												
Course Objectives : 1. To understand PID control theory. 2. To understand modern control theory.												
Rubric												
Achievement 1 Achievement 2		Exe	Excellent			Good		Acceptable			Not acceptable	
		Th PIE cor	The student can apply PID control theory to complex problems.		У	The student can understand the theory of PID control theory.		The student can understand the basic theory of PID control		asic trol.	The student will not try to understand the basic theory of PID control.	
		Th mc cor	The student can apply modern control theory t complex problems.		y y to	The student can understand the theory of modern control theory.		The s under theor	The student can understand the basic theory of modern con		The student will not try to understand the basic rol. theory of modern control.	
Assigne	d Depart	tment O	bjecti	ves								
Teachin	g Metho	d										
Outline		Genera Require Founda enginee	General or Specialized : Specialized Required, Elective, etc. : Elective subjects Foundational academic disciplines : Engineering / Electrical and electronic engineering / Control and system engineering									
		This cla	Relationship with Educational Objectives : This class is equivalent to "(2) Acquire basic science and technical knowledge".									
		Acquire	Acquire practical control theory used in the field and understand the application fields of control engineering.									
Style		Course Classes conduct learning	Course method : Classes are offered in 2 credit hours (90 minutes) per week. The student will deepen their understanding by conducting exercise guidance, confirmation tests, and assignment reports according to the progress of learning.									
		Grade e Exams Evaluat instruct will be class ho Howeve	Grade evaluation method : Exams (60%) + Confirmation tests (40%). Evaluate the results of each of the two examinations equally. Items that can be brought in for the test will be instructed each time. Those with poor grades will be retested and added so that the result of the regular test will be a maximum of 60 points. Confirmation tests performed during class and learning outcomes outside class hours (exercises for assignments, reports, etc.) are evaluated equally, and up to 40% is considered. However, learning outcomes that have passed the submission deadline will be evaluated up to 30%.									
		Precaut This is credit h	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 It requi	Course advice : It requires knowledge about "control engineering", so review it.									
Notice		Founda Enginee Related	Foundational subjects : Basic Electrical Controls (2nd year), Electronic and Information Circuits (4th), Control Engineering (5th) Related subjects :									
		Attenda Confirm you dec	Attendance advice : Confirm attendance at the beginning of class. Please note that you will be absent from school 3 times late. If you decide that it will interfere with other people's attendance, you may be asked to leave.									
Charact	eristics o	of Class	/ Divis	sion in Le	arni	ng	·					
Active		☑ Aided by ICT				Applicable to Rer		emote Class	ote Class Experienced			
Elective must complete subjects												
Course Plan												
			Them	e				Goa	als			
1st Semeste r	1st Quarter	1st	1					_				
		2nd	-					_				
		3rd	1									
		4th	1					_				
		SUI 6th	1					+				
		7th	:				+					
		-										

		8th									
		9th									
	2nd Quarte	10th									
		11th									
		12th									
		r 13th									
		14th									
		15th									
		16th									
2nd Semeste r		1st	Guidance								
		2nd	Basic form of PID	control system							
		3rd	Digital PID contro	l system							
	Qued	4th	I-PD control syste	em, P-ID control s	ystem						
	Quarte	r 5th	2 degrees of free	dom PID control s	ystem						
		6th	PID parameter tu Gain method)	ning (Ziegler-Nich	ols' Ultimate						
		7th	PID parameter tu	ning (CHR metho	d)						
		8th	2nd semester mic	l-term exam							
		9th	Return and comm	nentary of exam a	nswers						
	4th	10th	Dynamic system	and state equation	n						
		11th	System model an	d linearization (1)							
		12th	System model an	d linearization (2)							
	Quarte	r 13th	System coordinat	e transformation	(1)						
		14th	System coordinat	e transformation	(2)						
		15th	(2nd semester fin	al exam)							
		16th	Return and comm	nentary of exam a	nswers						
Evaluati	ion Me	thod and	Weight (%)								
	Exar		Presentation	Mutual Evaluations between students	Behavior	Portfolio	Assignment test	Total			
Subtotal		60	0	0	0	0	40	100			
Basic Proficiency		0	0	0	0	0	0	0			
Specialized Proficiency		60	0	0	0	0	40	100			
Cross Area Proficiency		0	0	0	0	0	0	0			