Toyama College			Year	Year 2022		Co T	urse ïtle	Control Engineering I					
Course Information													
Course Code 0084					Course Catego	ry S	Specialize	d / Elective					
Class Forr	nat	Lecture			Credits	ç	School C	redit: 1					
Departme	Department Department		ent of Electronics and Computer		Student Grade	4th							
Term First Serr			ester		Classes per We	eek 2	2						
Textbook Teaching	and/or Materials												
Instructor	-	Oguma Hi	Hiroshi										
Course	Objectiv	es											
Electronics and Compter Engineering students are provided with fundamentals in classical control theory. While understanding the action of a system, I aim at understanding relevance with an electric circuit. Students can (1) master Laplace transform and the inverse Laplace transform which is the mathematics for analyzing classical control theory, (2)deduct a transfer function from the given block diagram, (3) understand the relationship of a fundamental electric circuit and block diagram.													
			Ideal Level of Achievement (Very Good)		Standard Level of Achievement (Good)		evement	Unacceptable Level of Achievement (Fail)					
Evaluatior	n 1		Able to calculate Laplace transform and an inverse Laplace transform unrestrictedly		Able to Calculate Laplace transform and inverse Laplace transforms, such as a delta function, a unit function, trigonometric functions, and an exponential function.		ce Laplace delta n, s, and an	Not able to calculate Laplace transform and inverse Laplace transforms, such as a delta function, a unit function, trigonometric functions, and an exponential function.					
Evaluation 2			Able to simplify the block diagram of feedback and feedforward, and derive a transfer functionun restrictedly.		Able to simplify the block diagram of feedback and feedforward, and derive a transfer function.		ick nd e a	Not able to simplify the block diagram of feedback and feedforward, and derive a transfer function.					
Evaluation 3			Able to derive a block diagram and a transfer function from an electric circuit restrictedly. Able to derive and a transfer electric circuit.		a block diagram function from an		Not able to derive a block diagram and a transfer function from an electric circuit.						
Assigne	d Depar	tment Obje	ectives										
JABEE B2 ディプロマ	゚ポリシー・	1											
Teachin	a Metho	- d											
Electronics and Compter Engineering students understands the contents of a lesson indicated to the svllabus.													
and they can perform explanation and calculation.													
Style			ation examinatio	n > I will carry ou	it the confirmat	tion exar	mination	, when evaluation requests and					
Notice		carries out	to those who a	re less than 60 po	oints and sufficie	ent study	is acce	oted.					
Charact	eristics (of Class / E	Division in Lea	arning	1								
☑ Active	Learning		□ Aided by IC	Т	Applicable t	o Remo	te Class	 Instructor Professionally Experienced 					
Course	Dlan												
			neme		Goals								
		1st G	Guidance			Guidance							
1st Semeste r	1st Quarter	2nd Ri	idimentary mathematics for control engineering			Impulse response, convolution							
		3rd Ri	udimentary mathematics for control engineering			Laplace transform							
		4th R	dimentary mathematics for control engineering			Inverse - Laplace transform							
		5th Ri	udimentary mathematics for control engineering			Partial fraction expansion							
		6th Ti	ransfer function (1)		Time re	Time response and frequency response							
		7th Ti	ransfer function (2)		Deduction of a transfer function								
		8th M	idterm exam										
	2nd Quarter	9th Sy	vstem and control (1)			Feedback system							
		10th Sy	stem and contr	trol (2)		Simplification of block diagram							
		11th Ti	ansient respons	onse (1)		Transient response of RC series circuit and RL series circuit							
		12th Ti	ansient respons	t response (2)		Transient response of RL, RC, RCL circuit and LC circuit							
		13th El	ectric circuit and	rcuit and block diagram		Deduction of block diagram on electric circuit							
		14th El ar	ectric circuit blo nd step response	ck diagram, atran e	Deduction of step response of the block diagram drawn from the electric circuit								
		15th Te	erm-end examin	xamination									
		16th Se	6th Scholastic evaluation and check										
Evaluati	ion Meth	od and We	eight (%)										

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	100	0	0	0	0	0	100
Basic Ability	20	0	0	0	0	0	20
Technical Ability	80	0	0	0	0	0	80
Interdisciplinar y Ability	0	0	0	0	0	0	0