Advanced Mechanical and Control System Engineering Course	Year	2021

Department Goals

			1			Class									
Соι	urs		Cours	Cuality	Cuality		<u>Hours </u> 1st Y	per wee	šк	Adv	2nd Y			-	Divisio
e Cat	ea	Course Title	e Code	Credit Type	Credit s	1st	150 1	2nd		1st		2nd		Instru	n in Learni
ory			Code	71		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q		ng
Ge	El ec	Distochasta	0000	Acade		2				<u> </u>					Ele cti ve
ne ral	tiv e	Biotechnology	0006	mic Credit	2							TA Norito	sub jec ts		
Ge ne ral	El ec tiv e	Practical English I	0007	Acade mic Credit	2	2								RAMB O Eric	Ele cti ve sub jec ts
Ge ne ral	El ec tiv e	Theory of International Culture	0008	Acade mic Credit	2	2								SUGIY AMA Akira	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Methods of Scientific Experiments	0001	Acade mic Credit	2	2								YAMA GUCHI Daizo, KAWA I Masah iro	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Reading on Technical English	0002	Acade mic Credit	2	2								CHO Feifei	
Sp eci ali ze d	El ec tiv e	General Aspects of Engineering I	0003	Acade mic Credit	2	2								HIROK I Kazua ki,MO RITOM O Hiroki	
Sp eci ali ze d	El ec tiv e	General Aspects of Engineering II	0004	Acade mic Credit	2			2						_ TAKA _ GI Kenji	Ele cti ve sub jec ts
ali ze d	Co m pu Iso ry	Thesis Work I	0005	School Credit	8	8		8						SHIBA TA Norito, YAMA GUCHI Daizo, MAEZ AWA Takan obu,K ONISH I Daijiro ,INOU E Hiroyu ki,HOS OTANI Kazun ori,NI SHIKA WA Kotaro	Req uir ed sub jec ts
Sp eci ali ze d	El ec tiv e	Information Science	0009	Acade mic Credit	2			2						TERA MOTO Takay uki	

<u> </u>			-					
Sp eci ali ze d	El ec tiv e	Basic Practice in Information Processing I	0010	School Credit	1	2	TAKET ANI Hisash i	Ele cti Sub je ts
Sp eci ali ze d	El ec tiv e	Practice in Information Processing I	0011	School Credit	1	2	TERA MOTO Takay uki	Ele cti ve Sub jec ts
Sp eci ali ze d	El ec tiv e	Basic Practice in Information Processing II	0012	School Credit	1	2	TAKET ANI Hisash i	
Sp eci ali ze d	El ec tiv e	Practice in Information Processing II	0013	School Credit	1	2	TERA MOTO Takay uki	Ele cti Sub je ts
Sp eci ali ze d	El ec tiv e	Linear Algebra	0014	Acade mic Credit	2	2	MATS UDA Osam u	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Energy System Engineering	0015	Acade mic Credit	2	2	HOSO TANI Kazun ori,SA EKI Fumihi ro	Ele cti veb jec ts
Sp eci ali ze d	El ec tiv e	Advanced Design Engineering	0016	Acade mic Credit	2	2	KONIS HI Daijiro	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Applied Creative Engineering	0017	Acade mic Credit	2	2	KONIS HI Daijiro	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Advanced Control Apparatus	0018	Acade mic Credit	2	2	INOUE Hiroyu ki	Ele cti veb jec ts
Sp eci ali ze d	El ec tiv e	Environmental Science Theory	0019	Acade mic Credit	2	2	KOBA YASHI Toshir o	Ele cti veb jec ts
Sp eci ali ze d	El ec tiv e	Engineering Ethics	0020	Acade mic Credit	2		HOSO TANI Kazun ori,MI YASHI TA Takuy a	Elei vebc jec ts
eċi ali	Co m pu Iso ry	Experiments of Mechanical and Control Systems	0021	School Credit	4	4 4	NOMU RA Kensa ku,IN OUE Hiroyu ki	R e q u i r e d s u b j e c t s
Ge ne ral	El ec tiv e	Practical English I	0026	Acade mic Credit	2	2	RAMB O Eric	Ele cti ve sub jec ts
Ge ne ral	El ec tiv e	Social Sciences	0027	Acade mic Credit	2		KADO YA Hiden ori	

Ge ne ral	El ec tiv e	Modern Philosophy	0028	Acade mic Credit	2		KAMIY A Ken	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Special Lecture on Advanced Engineering	0022	Acade mic Credit	1	Intensive	HOSO TANI Kazun ori,TE RAMO TO Takay uki,KO NISHI Daijiro	Ele cti ve Sub jec ts
Sp eci ali ze d	El ec tiv e	Production Control Engineering	0023	Acade mic Credit	2		KAWA I Masah iro	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Practice on Regional Cooperation	0024	Acade mic Credit	1		HOSO TANI Kazun ori,TE RAMO TO Takay uki	Ele cti ve Sub jec ts
Sp eci ali ze d	Co m pu Iso ry	Thesis Work II	0025	School Credit	8	8 8	KONIS HI Daijiro ,INOU E HiroyU ki,HOS OTANI Kazun ori,CH O Feifei, NONA KA Shogo ,OKE Shinic hiro	
Sp eci ali ze d	El ec tiv e	Mathematical Engineering	0029	Acade mic Credit	2	2	YOKO TANI Masaa ki	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Scientific Investigation	0030	Acade mic Credit	2		YAMA GUCHI Daizo	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	System Control Engineering	0031	Acade mic Credit	2		YAGI Hidey uki	
Sp eci ali ze d	El ec tiv e	Fluid Mechanics	0032	Acade mic Credit	2	2	SAEKI Fumihi ro	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Applied Control Engineering	0033	Acade mic Credit	2		TAKET ANI Hisash i	
Sp eci ali ze d	El ec tiv e	Computational Mechanics	0034	Acade mic Credit	2	2	KOBA YASHI Toshir o	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Strength and Fracture of Materials	0035	Acade mic Credit	2	2	SHIOT A Hirohi sa	Ele cti ve sub jec ts

Sp eci ali ze d	El ec tiv e	Vibrational Engineering	0036	Acade mic Credit	2	2	YAMA MOTO Yoshin ori	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Electric Energy Engineering	0037	Acade mic Credit	2	2	OKE Shinic hiro	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Functional Materials	0038	Acade mic Credit	2	2	YAMA GUCHI Daizo	Ele cti ve sub jec ts
Sp eci ali ze d	El ec tiv e	Long Term Internship	0039	Acade mic Credit	2	Intensive	HOSO TANI Kazun ori,TE RAMO TO Takay uki,KO NISHI Daijiro	Ele cti ve Sub jec ts
Sp eci ali ze d	El ec tiv e	Practice on International Communication	0040	Acade mic Credit	1	Intensive	KONIS HI Daijiro ,HOSO TANI Kazun ori,TE RAMO TO Takay uki	Ele cti ve sub jec ts

Tsuyama Co	ollege	Year	202	1			Course Title	Biotec	hnology		
Course Informati	on										
Course Code	0006				Course Cate	gory	General	/ Elective	9		
Class Format	Lecture				Credits Academic Cre			c Credit:	dit: 2		
Department	Advanced Me Engineering	echanical and Course	d Contro	ol System	Student Grade Adv. 1st						
Term	First Semest	-			Classes per V		2				
Textbook and/or Teaching Materials	Kodansha "B	o not specify, liotechnology echnology and	Text S	Series Genet	erence mater ic Engineering	ials in a g" Jikky	a timely mai /o Shuppan	nner dur "Basic S	ing class. Reference book: eries for Life Sciences		
Instructor	SHIBATA No										
Course Objective	s										
Learning purpose : Understand intelligent mechanics based on biological knowledge by learning the principles, techniques and applications of genetic engineering, tissue engineering and biomimetics. Also, understand bioengineering based on natural science through this lecture.											
Course Objectives : 1. Understand the pri 2. Understand tissue 3. Understand biomin	enaineerina u	isina ES cells	and iPS	S cells.	5 5,		nical point o	f view.			
Rubric											
	Excellen	t	G	Good		Accep	table		Not acceptable		
Achievement 1	explain enginee using nu	ring technolog ucleic acids, a an be useful i	and e	Explain gene engineering ising nucleic	technology eng		Understand genetic engineering technology using nucleic acids.		Not reached		
Achievement 2	applicati tissue ei	and and expla ion examples ngineering us and ES cells.		Explain appli examples of engineering cells and ES Wear.	tissue Under using iPS engine		Understand tissue engineering using iPS cells and ES cells.		Not reached		
Achievement 3	explain a example that take the char	anding and application es of biomime e advantage of acteristics of ganisms and nciples.	of t	example of t hat makes t	of biomimetics biomim		Understand the principles of biomimetics that take advantage of the characteristics of living organisms.		Not reached		
Assigned Departr											
Teaching Method											
	General or S	pecialized : S	Speciali	zed							
		•	•		cs/Tissue engi	ineerin	g				
	Foundational	l academic dis	iscipline	es : Biology/	/Biological Sci	ence					
		with Educatic equivalent to			nan creative t	talent,	rich in pract	ical abilit	ties".		
Outline		with JABEE p als of learning			is class is "(A), A	-1.				
	but also to b tissue engine	ng has expan ioengineering	g basec omimet	l on mechar tics. In this	nical engineer	ina. Th	ie core techi	nologies	edicine and agriculture, are genetic engineering, om the basic explanation		
Style	assignments	the main poi	accord	ding to the a	content of the	rd etc. e lessor	based on th a, and review	e hando v and se	uts. Timely, report lf-study will be		
Grade evaluation method : The score of the final exam (70%) is evaluated by adding the reports up to each regular exam (30%). No retest will be conducted.							gular exam (30%). No				

			This is a including	ns on the enrollme class that requires both class time ar side of class hours	study outside of nd study outside	class hours. A class time. Follo	total of 45 hours o ow the instructions	of study is require s of the instructor	ed per credit, regarding		
			Course ac I will exp so if you		ts so that you can t, please take it.	n understand ev	/en if you do not h	ave basic knowle	edge of biology,		
Notice			Foundatio (4th year		logy (1st year), (Chemistry I (2n	d year), Chemistry	/ II (3rd year), A	pplied Biology		
			Related s	ubjects : Applied (Chemistry (4th y	ear)					
			class time		ou have any ques	tions about the	rt assignments. The lecture or anythin				
Charact	eristic	s o	• •	Division in Lea							
Active	e Learni	ng		□ Aided by ICT	-	☑ Applicable t	o Remote Class	Instructor Pr Experienced	ofessionally		
Elect	tive	S	ubjec	t s							
Course	Plan			-1							
				Theme			Goals Understand the b	enefits of applyir	ng organisms to		
		-	1st (Guidance			technological dev	elopment			
				Genetic engineerin	g I		Understand the n by the PCR meth role of each part	od, and further u of the actual PCR	nderstand the machine.		
		,	3rd C	Genetic engineerin	g II		Understand the method of measuring the amount of DNA by real-time PCR using the PCR method and the principle and mechanism of the sequencing device that determines the base sequence based on the PCR method.				
	1st		4th C	Genetic engineerin	g III		Understand principle and mechanism of DNA typing method using PCR method				
	Quarte		5th (Genetic engineerin	g IV		Understand the p recombination in	rinciples of gene	tic Its		
			6th C	Genetic engineerin	g V		Understand the p recombination in from actual exam	animals and plar	on of genetic Its to industry		
			7th 1	issue engineering	I		Understand ES ce basis of tissue en production metho	gineering, and u	nderstand their		
1st			8th 1	issue engineering	II		Understand the b tissue engineerin	ioactive substand g using iPS cells a	ces required for and ES cells		
Semeste r			9th 7	issue engineering	III		Understanding the scaffolding materials used in tissue engineering from a materials engineering perspective				
			10th 7	issue engineering	IV		Considering the possibility of tissue engineering from the aspects of cell engineering and medical engineering based on actual examples of tissue regeneration using iPS cells and ES cells				
			11th E	Biomimetics I			Understand the c applies and utilize organisms	verall picture of l es the characteris	biomimetics that stics of living		
	2nd Quarte		12th E	Biomimetics II			Mechanically und developed from t geckos	erstand the adhe he hands of cock	sive tape leburs and		
			13th E	Biomimetics III			Optically and mee fibers developed butterflies and th imitating shark sl	from the scales c e swimsuit devel	of Morpho		
			14th E	Biomimetics IV			Understand the n Shinkansen, whic found in honeyco walls, and the sh	h uses the hones mb structures, c	comb structure ushions and		
				Late term exam)							
				Return of the late t he answer	term exam and e	explanation of					
Evaluat	ion Me	etho	od and W	eight (%)				1			
Examinatio				Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total		
Subtotal		70		0	0	0	0	30	100		
Basic Proficienc	cy	70		0	0	0	0	30	100		
Specialized Proficiency 0				0	0	0	0	0	0		

Cross Area Proficiency 0	0	0	0	0	0	0
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Tsı	uyama C	ollege		Year	2021		Co T	ourse Fitle	Practical English I
Course 1	[nformat	ion							
Course Co	de	0007				Course Categor	ry	General /	Elective
Class Forn	nat	Lecture				Credits		Academic	Credit: 2
Departme	nt	Advance Engineer	d Me ring (echanical and Course	Control System	Student Grade		Adv. 1st	
Term		First Ser	neste	er		Classes per We	ek	2	
Textbook Teaching I		Successf	^f ul Ke	eys to the TO	EIC, Goal 500 (Kir	ihara); Handout	ts, Dicti	onary	
Instructor		RAMBO	Eric						
Course (Objective	es							
 [Learning purpose] To improve overall English ability as measured by the TOEIC. To improve presentation and communication skills by presenting research results and interacting with the audience. [Course Objectives] 1. Develop the English communication skills, and acquire basic English proficiency to understand and convey basic information and ideas about familiar matters and one's specialty. 2. Be able to give presentations at a level that is acceptable at international conferences. 3. Be able to prepare a speech manuscript written in English that is grammatically correct and logical. 4. To raise the score of language tests such as TOEIC as a means of measuring your achievement. • After understanding the other person, such as a technician or the general public, you can convey your own opinions and thoughts in an easy-to-understand manner and devise an explanation method, and gain a sufficient understanding. 									
Rubric									
			Ic	leal Level		Standard Level			Unacceptable Level
Achieveme	ent 1		ve co id	ery well to und	formation and niliar matters	Has acquired E reasonably wel and convey bas and ideas abou matters and on	l to und sic infor it familia	lerstand mation ar	Has not acquired English proficiency to understand and convey basic information and ideas about familiar matters and one's specialty.
Achievement 2				an make a sm resentation at an be used at onferences.	a high level that	Can make a smooth			Cannot make a smooth presentation at an acceptable level that can be used at international conferences.
Achieveme	ent 3		le re lis	an fully solve evel vocabulary ading compre- stening compr roblems.	hension, and	Can generally solve TOEIC 400- point level vocabulary, grammar, reading comprehension, and listening comprehension problems.			Cannot solve TOEIC 400-point level vocabulary, grammar, reading comprehension, and listening comprehension problems.
Assigned	d Depart	ment Ob	oject	tives					
Teaching	g Metho	dt							
	<u> </u>	General Areas of Basic dis	stud sciplin	5,	nguages English and Ameri		0	· •	
Outline		advance understa Relations "(F) Dev	tionship with Advanced Course learning goals: course aims to learn from the advanced course "(6) Through off-campus training, special lectures on inced technology, and participation in academic societies, we will cooperate with the local community and erstand the importance of seeing things from a global perspective. It is a subject equivalent to. tionship with engineer education program: The main goals of learning and education in this subject are Development of communication ability and presentation ability, F-3: To be able to communicate in ish, which is an essential foreign language for engineers. ".						
			s will	be able to ma					ions and techniques that are
		·		•	ations, and also p	•			a the expressions studied in the
Style		Grade ev	/alua	same time, wation method: o regular exar	50% weekly exer	EIC textbook to cises (Assignme	prepare ents, qu	for taking izzes, Pow	g the expressions studied in the the TOEIC test. rerPoint presentations.), 50% the
Notice Precautions for taking this course: This course is a "course that requires study outside of class hours". A to of 45 hours of study is required per credit, including the class hours and study outside of class hours. For study outside of class hours, follow the instructions from the instructor. Notice Course advice: Actively participate in classes and submit assignments within the deadline. Given the curred situation in which TOEIC is widely accepted as a means of judging English proficiency, have a positive att towards taking the TOEIC test. Basic subjects: English IV (4th), Elective English I (4), English V (5), Elective English II (5) Related subjects: Technical English reading (Specialty 1) Attendance advice: Admission after the start of class is considered to be late, and one credit hour will be counted as absent for two late arrivals.									y outside of class hours. For the deadline. Given the current oficiency, have a positive attitude English II (5)
Characte	eristics o			ision in Lea					
☑ Active				Aided by IC		Applicable t	o Remo	te Class	Instructor Professionally
		ubjec		- / -					Experienced
Course I			. 3						
Theme							Goals		
1st Semeste r 1st Quarter Course introduction, e-learning ar explanation. TOEIC Unit 1									

	1		1			1				
		2nd	Describing compa etc.) TOEIC Unit 1	ny profiles (prod	ucts, sales,	Understand com practice.	pany profiles.	Effective TOEIC		
		3rd	Quiz; Researching TOEIC Unit 2	a company and	products.	Understand how Effective TOEIC	to research a practice.	a company.		
		4th	Making visual aids of profit. TOEIC U		rstand the role	Can make good visual aids. Understand profit. Effective TOEIC practice.				
		5th	PPT-1 corrections TOEIC Unit 3	, practice.		Can deliver the presentation smoothly. Effective TOEIC practice.				
		6th	Deliver PPT-1			Deliver the pres effectively.	entation smoo	othly, use visual aids		
		7th	Summary and pre TOEIC Unit 4	eparation for the	midterm exam.	Know all the voc TOEIC lessons;	abulary and g Explain PPT-1	grammar from the in writing.		
	8th Midterm exam									
		9th	Check answers ar Midterm exam. T	nd correct mistake DEIC Unit 4	es from the	Learn from mist Effective TOEIC		lidterm exam.		
		10th	Select and researd TOEIC Unit 5	ch a new compar	ıy.	Conduct effectiv Effective TOEIC				
	11th		Research the com TOEIC Unit 6	ipany's foreign op	perations,	n 				
	2	12th	PPT-2 corrections TOEIC Unit 7	, practice.		Can deliver the Effective TOEIC	presentation s practice.	smoothly.		
	2nd Quarte	r 13th	Deliver PPT-2			Deliver the pres questions effectively.	entation smoo	othly, answer		
		14th	Summary and pre TOEIC Unit 7	pare for the Fina	ıl exam.	Know all the vocabulary and grammar from the TOEIC lessons; Explain PPT-2 in writing.				
		15th	(Final exam)							
		16th	Check answers ar Midterm exam. Su strategies.	nd correct mistake ummary of Englis	es from the h learning	Learn from mistakes on the Midterm exam. Plan for future English learning.				
Evaluati	ion Me	thod and	Weight (%)							
	Examination		Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total		
Subtotal	Ē	50	30	0	0	0	20	100		
Basic Proficienc			30	0	0	0	20	100		
Specialize Proficienc)	0	0	0	0	0	0		
Cross Area Proficiency 0			0	0	0	0	0	0		

Tsuyama Co	ollege	Year	2021			ourse Title	Theor	y of International e			
Course Informati	on										
Course Code	0008			Course Cate	gory	General	/ Electiv	e			
Class Format	Lecture			Credits		Academ	ic Credit	2			
Department	Advanced Me Engineering		Control System	Student Grad	de	Adv. 1st					
Term	First Semest	er		Classes per \	Classes per Week 2						
Textbook and/or Teaching Materials	Textbooks :	"No Text.(Use	Printed) Refere	nce Book:"Chu	uugokugo	Gakusu a	and Ibun	karikai Handbook"(Alc)			
Instructor	SUGIYAMA Akira										
Course Objectives											
Learning purposes : I abandon cultural pr future Course Objectives : 1. I understand the © 2. I understand e 3. I can explain a cl	side unlike Ja xistence of otl	pan of the Chi her culture and	ina society. d wear a viewpoil		-	in the day	/time tha	at will develop more in			
Rubric					1			1			
	Excellen	-	Good		Accepta	ble		Not acceptable			
Achievement 1	unlike o permit i the coor	stand culture neself and I t and can have peration with it nsal heart		elf and I	unlike oneself and I u		dI	I understand culture unlike oneself and cannot permit it			
Achievement 2	neighbo China, s circums think ab and Jap	and culture of ring country ocial cances and car out the Japan anese thought nat you should	Through a c with Japan, understand ese neighboring c, China, socia	I can culture of country l	with Japan, I can of understand culture of		re of	I cannot understand culture of neighboring country China, social circumstances.			
Achievement 3	thought	scribe a claim, of the self wit and persuasiv	h Ithought of t	be a claim, a he self with	I can describe a claim, a thought of the self with passion.			I cannot describe a claim a thought of the self well			
Assigned Depart	ment Objec	tives									
Teaching Method General or Specialized : General Field of learning : Foreign culture Foundational academic disciplines : Chinese/Oriental History/Chinese Philosophy/Chinese Literature Relationship with Educational Objectives : This class is equivalent to "(6) By attending off-campus training, special lectures on advanced technology, study groups, etc., and also by coordinating with the regional community, students come to understand the importance of a global perspective." Relationship with JABEE programs : The main goal of learning / education in this class is "(B) B-2", also "B-1" is involved. Course outline : The summary of the class: I comment on modern circumstances in China with traditional Chinese culture. I											
give the problem book appropriately. Course method : The method of the class: I concentrate 15 weeks in first piriod. In one class, I lecture with one theme in conjunction with the Chinese culture. The examination enforces twice of examining it in the middle examination and term end. I am going to impose two reports. Style Grade evaluation method : 70% of results of two times of examinations assume it 30% of specific gravity by two problem reports. I can wear a viewpoint the problem report understands Chinese and China society how long and to permit sense of values different from oneself how, and it is just in a point of reference.											

		This is a including	ons on the en class that reo g both class ti utside of class	quires study outside of me and study outside	class hours. A t class time. Follo	total of w the i	45 hours of the second	of study is ro s of the inst	equired per credit, ructor regarding	
Notice		Course a Paying a addition necessa		ews about China and T and the point well, and	aiwan as prepai l attend it to rec	rations ceive th	learning to le authoriza	perform be ation of the	eforehand. In bachelor as it is a	
		Society	I (4th)	s : World History (1st y actice on International			, , , ,			
		It is imr	nce advice : ortant to pay f tardy time is	interest to the news a over 20 minutes, I as	nd news such a sume it lack sec	s a nev ction ha	vspaper or andling.	TV to be al	ways related to	
Charact	eristics c	f Class /	' Division ir	n Learning						
Active	Learning		□ Aided b	by ICT	Applicable t	o Remo	ote Class	Instruction Experience	tor Professionally ed	
Elect	ive s	ubjec	ts							
Course	Plan					1				
			Theme			Goals				
		1st	Why do yo le	arn China?					e Pekingology.	
		2nd	3 1 7	nd language, race		race.			aphy and language,	
		3rd	China	history and Cultural Re		I understand Chinese history of after the war and the actual situation of the Cultural Revolution.				
		4th	The national families	consciousness and prir	nciple of whole	and w	hole familie	es principles		
	1st Quarter	5th	Sinocentrism	, Confucianism and Do	ke	I unde Doke.	erstand Sind	ocentrism, (Confucianism and	
		6th	Ethical view t the view of h historical per	that human nature is b uman nature as funda spective	asically evil, mentally good,	basica	lly evil and nentally go	the view of	at human nature is human nature as hinese historical	
		7th	mid-term tes	t		I confi conver	rm the und ntional lear	lerstanding ning conten	degree of Its.	
1st Semeste		8th	Return and commentary of the midterm examination				I supplement an insufficient part of the past learning understanding.			
r		9th	One-child pol	licy and the issue of ag	ing	I understand the one-child policy and issue of aging in China. I subscribe to references and make a problem report.				
		10th	Social polariz	ation		I understand the difference problem that the China society has.				
		11th	Taiwan and H	Hong Kong		I unde and Ta		ory and situ	uation of Hong Kong	
	2nd	12th	environmenta	al destruction		I unde	erstand an e	environmen	tal problem of China.	
		13th	Counterfeit b	rand		I unde of viola	erstand cou ation of tra	nterfeit bra demark.	nd in China, the issue	
		14th	The present of Subscription report	of the Chinese compan of references, making	y of the problem	lthe Ch	inese natio	articular the mal enterpr ake a probl	e current situation of ise. I subscribe to em report.	
		15th	Term-end ex	amination		I confi convei	rm the und ntional lear	lerstanding ning conten	degree of Its.	
		16th	Return and c examination	ommentary of the tern	n-end	I supp learnir	lement an 1g understa	insufficient Inding.	part of the past	
Evaluat	ion Meth	od and \	Veight (%)							
		Examina	ation	Problem report	Assginment		Quiz		Total	
Subtotal		70		30	0		0		100	
Basic Prof	,	70		30	0		0		100	
Specialized 0				0	0		0		0	
Cross Are Proficienc		0		0	0	0			0	

Tsuyama Co	follege Year 2021 Course Methods of S Title Experiments							ds of Scientific iments	
Course Informati	on								
Course Code	0001				Course Cate	gory	Speciali	zed / Eleo	ctive
Class Format	Lecture				Credits		Academic Credit: 2		
Department	Engineering		d Cont	rol System	Student Grad		Adv. 1s	t	
Term	First Semest	er			Classes per V	Week	2		
Textbook and/or Teaching Materials	Textbooks :	Introduction	to the	e Daguchi Me	thod" by Kazı	lo Tat	tebayashi (J	USE)	
Instructor	YAMAGUCHI	Daizo,KAWA	I Mas	ahiro					
Course Objective	S								
Learning purposes : S to be able to carry ou	Students will le It appropriate	earn about th and reliable e	ne Tag experi	uchi Method iments and d	l, a technique levelop techni	devel ques.	loped from t	he Desigr	n of Experiments, in order
Course Objectives : 1. Understand the rol 2. Understand the co 3. To understand the	e and concept ncept and exp parameter de	t of paramete lain the processign in the te	er desi edure echnol	ign and be a of paramete logy develop	ble to explain er design of dy ment stage.	the p /nami	rocedure. c characteri	stics.	
Rubric									
	Excellen	t		Good		Acce	ptable		Not acceptable
Achievement 1	concept design a	and the role a of parameter nd be able to the procedure	r D	Understand concept of p design and i procedures.	arameter	conc desig	erstand the ept of parar on and its pr the materia	neter ocedures	Not reached the left column.
Achievement 2	of paran dynamic	and the conce neter design (characteristi able to explain edure.	of ics	and procedu parameter d	Understand the concept and the concept and procedure of parameter design of c characteristics. Understand the concept and procedure of parameter design of dynamic characteristics by looking at the material.			Not reached the left column.	
Achievement 3		and the er design in t ogy developm	the nent	parameters	development	advid the c in th deve	erstand, with ce of a supe design of pa e technolog elopment ph ing at the m	rvisor, rameters ical ase,	Not reached the left column.
Assigned Departr	nent Objec	tives	•				0		
Teaching Method									
reaching riceroa		pecialized : S	Special	lized					
		ing : Basic ar			al Sciences				
	Foundationa	academic di	isciplin	nes :					
Outline	Relationship This cl	with Education ass is equival	onal O lent to	bjectives : (1) Cultiva	ate human cre	ative	talent, rich	in practica	al abilities".
	Relationship The m	with JABEE p ain goals of le	orogra earnin	ims : ig / educatio	n in this class	are "	(A), A-1, als	so "A-2" a	nd "A-3" is involved.
	Course outline : In the natural sciences, where demonstration and reproducibility are important, experimentation is one of the most important means of natural cognition. In this course, students will learn about the Taguchi Method, a technique that evolved from the Design of Experiments method, in order to be able to carry out appropriate and reliable experiments and to develop techniques.								
	Course meth progress to o	od : Lectures leepen their (s will t under	be based on standing.	the textbook.	Exerc	cises will be	given on	the computer as students
Style	(1) Distributi (2) Evaluatio	ation method on of marks: on criteria: Stu n the achieve	: Exam udent	nination (rep s will be eva c objectives a	ort method) 1 luated on the and their basic	.00%. basis : appli	of their bas ication. 60 p	ic content oints or r	t and understanding of the nore is a passing score.
	(3) Re-examination: Students who score less than 60 points will be re-examined if the teacher deems it necessary.								the teacher deems it

		In ad	tions on the enrollm dition to the 15 created to follow the inst	dit hours per crea	dit, students are ceachers regardi	e required to study ng these studies.	/ 30 credit hours	. Students are			
	Course advice : Students are expected to take an active role in acquiring knowledge in a wide range of fields, including some that are not their own. It is essential that students prepare for the course by studying and reviewin and that they maintain an interest in technological development and quality control.										
Notice		Founda	Foundational subjects : Experiments and graduation theses in the department (2nd-5th years).								
		Speci Electro	subjects : al Study on Mechar nic and Information Systems Engineerii	Experiment on M	lechanical and						
		how to		Late arrival after	s examples of ca 15 minutes fron	nse studies will be n the start of a cro	given so that st edit hour will res	udents can learn sult in an absence			
Charact	eristic	s of Class	/ Division in Lea	arning							
☑ Active		•	☑ Aided by ICT	Г	☑ Applicable t	o Remote Class	☑ Instructor P Experienced	rofessionally			
Elect Course		subje	cts								
Course			Theme			Goals					
		1st	Guidance, Chap1 s			To be able to un	derstand engine	ered systems.			
		2nd	Chap2 Introductio outside class time	n to Parameter D	Design 1 (Study	Be able to under procedures of pa	stand the role, c	oncepts and			
		3rd	Chap2 Introductio outside class time	n to Parameter D	Design 2 (Study	Be able to under parameter designed	stand examples n.	of desirable			
	1-+	4th	Chap3 Parameter characteristics 1 (Assignment (3) Ch	Study outside cla	ic ss time:	Understand the concept and procedure of parameter design of dynamic characteristics.					
	1st Quarte	r 5th	Chap3 Design of k outside class time	(inetic parameter : Assignment (3)	Be able to under characteristics ar noise ratio.	stand the types nd how to calcula	of dynamic ate the signal-to-				
		6th	Chap 4: Paramete development phas Assignment (4) Ch	se 1 (Study outsid	echnology de class time:	Be able to under by objective fund					
		7th	Chap 4: Paramete development phas Assignment (4) Ch	se 2 (Študy outsid	echnology de class time:	Be able to under design with basic	stand examples c functions.	of parameter			
1st		8th	1st semester mid-	term exam		Be able to understand an example where the goal					
Semeste r		9th	Chap5 Parameter Chap6 Parameter cannot be measur Assignment (5 and	design when inpo ed (Study outside	ut/output e class time:	is to have a non-linear relationship between inputs and outputs. Understand the parameter design using the dynamic functional window method.					
		10th	Chap7 Designing p output cannot be time: Assignment	measured (Study	input and outside class	Be able to understand software debugging using orthogonal tables.					
		11th	Chap8 Loss function class time: Assign	on and its use 1 ((Study outside	Be able to understand the tolerance design of systems using loss functions.					
	2nd Quarte	r 12th	Chap8 Loss function class time: Assign		(Study outside	Be able to under desirability and c					
		13th	Chap9 MT System Assignment (9) Ch	1 (Study outside	e class time:	Be able to under challenges of and	stand the conception of the stand the stand the standard standard standard standard standard standard standard s	ot and technical tion.			
		14th	Chap9 MT System Assignment (9) Ch	2 (Study outside	e class time:	Be able to under distance in MT sy		Mahara's bis			
		15th	Chap10 Taguchi M Process Reform (S Assignment (10) (1ethod and Devel Study outside clas	opment ss time:	Explain the prob methods and the organisational us	e status and resu	ilts of			
		16th	Summary								
Evaluati	ion Me	thod and	Weight (%)		1						
		Examination (Report)	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total			
Subtotal	:	100	0	0	0	0	0	100			
Basic Proficienc	y!	50	0	0	0	0	0	50			
Specialize Proficienc	ed 1	50	0	0	0	0	0	50			
Cross Are Proficienc	a ()	0	0	0	0	0	0			
	·/				1	_1	1	-			

ollege	Year	2021			Course Reading on Techni Title English		ng on Technical h	
on								
0002			Course Cate	gory	Specialized / Elective			
Lecture			Credits		Academic Credit: 2			
Engineering	Course	Control System		de Adv. 1st				
First Semest	er		Classes per	Week	2			
-								
S								
d communicat ch for appropr are slides in E	te them in an iate English p nglish on the	easy-to-understa apers and to und contents of acade	and manner. erstand their o emic English p	conten	ts. and to make			
-								
Excellen	t	Good		Accer	otable		Not acceptable	
To be at appropri articles, their cor make pl	ble to search f ate English to understand ntents, and to ans to reflect	To be able t To be able t appropriate articles, to u their conten	English Inderstand	To be	e able to sea opriate Englis		Can not be able to search for appropriate English articles.	
in Englis introduc in Englis on the c	h and give an tory presenta h (or Japanes ontents of an	in English ar tion introductory ie) in Japanese	and give an bry presentation Be all se on the in En		Be able to prepare slides in English.		Can not be able to prepare slides in English.	
evement 3 research in English, and presentation about own slides about own prepare slides about own research in English.					Can not be able to prepare slides about own research in English.			
	tives							
Field of learn Foundational Relationship This class is lectures and acquired a gl Relationship The main q Course outlir In this cours course is des develop pres	ing : Commo academic dis with Educatio equivalent to academic soc lobal perspect with JABEE p goals of learni te : se, students w signed to deve entation and	n and basic natur ciplines : Enginee nal Objectives : "(6) Through ex- ieties, the studer ive. rograms : ng / education in vill read articles a elop reading comp communication s	ering / Mechar tracurricular a thas learned this class are nd introduce li prehension ski	ctivitie to wor "(F) iteratu lls whi	es and partic k with local ., F-2:", a re, focusing le confirming	commu also "A-2 on acad	hities and as well has " is involved. emic English papers. This ized knowledge. and to	
Course method : The class will start with a literacy course on English papers and presentations in English, followed by a presentation of an outline of an English paper selected by the students using PowerPoint, various media, a the board. In addition, students will be required to write a report (1) to (3) selected by the instructor. The class will be conducted with a lot of time allocated for discussions (including presentations) between the instructor and students. After 4 weeks: Students who are scheduled to present next week will publish the selected papers, and other students will prepare questions for the next week in English (submitted as reports). After 4 weeks: Students who are scheduled to present the next week will publish their selected papers. Grade evaluation method :						Point, various media, and I by the instructor. The tations) between the t week will publish their lish (submitted as publish their selected		
 Presentations (20% of the presentation, 20% of the slides, and 20% of the discussion), 30% of the report and 10% of the quiz (written test) will be evaluated comprehensively. Precautions on the enrollment : This is a class that requires study outside of class hours. A total of 45 hours of study is required per credit including both class time and study outside class time. Follow the instructions of the instructor regarding study outside of class hours. Course advice : 							ly is required per credit, e instructor regarding s a prerequisite. ctronic control engineering	
	Lecture Advanced Me Engineering First Semest CHO Feifei S o develop the and communicate ch for appropriate slides in E erstand question Excellen To be at appropriaticles, their commake platintroduce in Engliss introduce in Engliss on the carticle aresearch to be ab question Be able In Engliss on the carticle aresearch to be ab question Japanes ment Object General or S Field of learn Foundational Relationship This class is lectures and acquired a g Relationship The class will be instructor an selected pap resentation the board. Ir class will be instructor an selected pap reports). After papers. Grade evalua Presentation the class will be instructor an selected pap reports). After papers. Grade evalua Presentation Actendanc	On 0002 Lecture Advanced Mechanical and Engineering Course First Semester CHO Feifei S o develop the ability to under the communicate them in an ch for appropriate English praces erstand questions in English on the erstand questions in English articles, to understand their contents, and to make plans to reflect them in own activities Be able to prepare slide in English and give an introductory presenta in English (or Japanese) on the contents of an article in English. To be able to give a presentation about ov research in English, art to be able to aiswer questions in English (or Japanese). ment Objectives General or Specialized : Sp Field of learning : Commo Foundational academic dis Relationship with Educatio The main goals of learni Course outline : In this course, students w course is designed to deve develop presentation and presents the contents of E Course method : The class will start with a presentation of an outline the board. In addition, stu class will be conducted wit instructor and students. A selected papers, and other reports). After 4 weeks: Sp papers. Grade evaluation method Precautions on the enrollm This is a class that require including both class time a study outside of class hour course advice : Precautions on the enrollm This is a class that require including both class time a study outside of class hour course advice shourded wit instructor and students. A selected papers, and other reports). After 4 weeks: Sp papers. Grade evaluation method Presentations (20% of the and 10% of the quiz (writt Precautions on the enrollm This is a class that require including both class time a study outside of class hour course advice : Preparator al students. I selected papers, and other reports). After 4 weeks: Sp papers.	On 0002 Lecture Advanced Mechanical and Control System Engineering Course First Semester CHO Feifei S o develop the ability to understand the contents of acade erstand questions in English papers and to und are slides in English on the contents of acade erstand questions in English and to respond to their contents, and to articles, to understand their contents, and to articles, to understand their contents of an appropriate English and to respond to the apheop in English. Be able to search for appropriate English. To be able to appropriate articles, to understand their contents of an article, to understand their contents of an article, to understand their contents of an article in English. To be able to search for appropriate in English, and to be able to appanese) on the contents of an article in English, and to be able to answer questions in English (or Japanese). ment Objectives General or Specialized : Specialized Field of learning : Common and basic natur Foundational academic societies, the studer acourse is designed to develop reading comparese is designed to develop reading comparese is designed to develop reading comparese is designed to advelop reading compareses. Course met	On Course Cate 0002 Course Cate Lecture Credits Advanced Mechanical and Control System Student Grai Engineering Course Classes per 1 First Semester Classes per 1 CHO Feifei C S Odevelop the ability to understand the contents of academic adaminuicate them in an easy-to-understand their of are slides in English on the contents of academic English articles, to understand to respond to them in Jap Excellent To be able to search for appropriate English and to respond to them in Jap To be able to search for appropriate English articles, to understand their contents, and to their contents, and their contents, of an articles, to understand their contents, of an articles, to understand their contents of an articles, to understand their contents of an articles, to understand articles, to understand their contents of an article in English, and to be able to give a presentation about own research in English, and to be able to answer questions in English (or Japanese). To be able to give a oresert in English, and to be able to answer questions and coluction of bacterial sciences General or Specialized : Specialized Field of learning : Common and basic natural sciences Foundational academic disciplines : Engineering / Mechar Relationship with Educational Objectives : The class sis equivalent to "(6) Through extracurricular a lectures and aca	On Course Category Lecture Credits Advanced Mechanical and Control System Student Grade First Semester Classes per Week CHO Feifei Student Grade S odevelop the ability to understand the contents of academic English d communicate them in an easy-to-understand manner. ch or appropriate English papers and to understand their content are slides in English on the contents of academic English papers erstand questions in English and to respond to them in Japanese. Excellent Good Accegt To be able to search for appropriate English and their contents. To be able to search for appropriate English and give an introductory presentation in English and give an introductory presentation in Japanese on the contents of an article in English. To be able to prepare slides in English. and give an presentation about own research in English (or Japanese). Be able to prepare slides in English. To be able to answer questions in English (or Japanese). To be able to give a presentation about own research in English (or Japanese). The dation shout own research in English (or Japanese). To be able to give a presentation acdemic disciplines : Engineering / Mechanical English. Introductory presentation in Imgalsh (or Japanese). To be able to give a presentation about own research in English (or Japanese). The class unit gistin (the disciplines : Engineering / Mechanical English	Jinege Tetal 2021 Title On	Direge Tell Englis On Course Category Specialized / Electure Idvanced Mechanical and Control System Student Grade Adv. 1st Engineering Course First Semester Classes per Week 2 CHO Feifei S Chorse Category Specialized / Electure CHO Feifei S Chorse Category Specialized / Electure CHO Feifei S Chorse Category Specialized / Electure Chorse Category Specialized / Electure Chorse Category Specialized / Electure Chorse Category Specialized / Electure Chorse Category Specialized / Electure Chorse Category Specialized / Electure Chorse Category Advecture Chorse Category Student Grade Advecture Chorse Category Chorse Category Student Grade Advecture Chorse Category Chorse Category Student Grade Advecture Chorse Category Chorse Category Student Grade Acceptale Chorse Category To be able to search for appropriate English and toresponte in Daginshand give	

☑ Active Learn	iing	□ Aided by ICT	Applicable t	e to Remote Class Instructor Professionally Experienced				
Course Plan								
		Theme		Goals				
	1st	Guidance, Research activities class time: Assignment (1) R ①)						
	2nd	Research activities and pape class time: Assignment (2) A (2))	rs (Learning outside bout the laboratory					
	3rd	Literacy education on acader (Learning outside of class tin Submission rules, Decision o paper (3))	ne: Assignment (3)					
1st	4th	Presentation skills in English hours: Assignment (4) Abou (English), Preparation of Eng	t`my résearch					
Quarter Presentation of an outline of an article in Englis (1) (Study outside of class time: Assignment (Preparation of questions in English (2))								

Presentation of an outline of an article in English (2) (Study outside of class time: Assignment (6) Preparation of questions in English (3))

Presentation of an outline of an article in English (3) (Study outside of class time: Assignment (7) Preparation of questions in English (3))

Presentation of an outline of an article in English (4) (Study outside of class time: Assignment (8) Preparation of questions in English (4))

Presentation of an outline of an article in English

(5) (Study outside of class time: Assignment (9) Preparation of questions in English (5))

Presentation of an outline of an article in English (6) (Study outside of class time: Assignment (10) Preparation of questions in English (6))

Presentation of an outline of an article in English (7) (Study outside of class time: Assignment (11) Preparation of questions in English (7))

Presentation of an outline of an article in English (8) (Study outside of class time: Assignment (12) Preparation of questions in English (8))

Presentation of an outline of an article in English (9) (Study outside of class time: Assignment (13) Preparation of questions in English (9))

Return and commentary of exam answers

6th

7th

8th

9th

10th

11th

12th

13th

14th

15th

16th

Regular Exams

2nd

Quarter

1st Semeste

Evaluation I	Method and W	/eight (%)					
	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	20	20	20	0	30	10	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	20	20	20	0	30	10	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama Co	llege	Year	202	1			Course Title	e Gener Engin	ral Aspects of eering I	
Course Information	on								_	
Course Code	0003	0003 Course Category Specialized / Elective								
Class Format	Lecture				Credits		Academic Credit: 2			
Department	Advanced Mechanical and Control System Engineering Course Student Grade					de	Adv. 1st			
Term	First Semeste	er			Classes per \	Neek	2			
Textbook and/or Teaching Materials	有機機能材料	第2版(荒オ	木孝二,	, 明石満, 高原	ī淳,工藤一秋,	, 東京(化学同人)			
Instructor	HIROKI Kazu	aki,MORITO	MO Hir	oki						
Course Objectives	5									
Learning purposes : To understand that the properties and functionality of various materials are determined at the atomic and molecular levels and at the level of molecular assemblies. Students will also understand that it is possible to evaluate the properties and functions of materials in detail by making full use of analytical instruments. Through this lecture, we aim to acquire the skills to manage so- called "materials" including mechanical materials not only from a macroscopic perspective but also from a microscopic perspective. Course Objectives : 1. Students will be able to explain the functions and properties of materials from the microscopic viewpoint of atoms, molecules, and molecular assemblies. 2. Students will understand the operating principles and characteristics of a variety of analytical instruments.										
Pubric										
Rubric	Excellent	+		Good		Acco	ntablo		Not accentable	
Achievement 1	Students explain i words th propertie from the viewpoir molecule assembl	t s will be able n their own le functions a es of materia microscopic th of atoms, es, and mode les, giving examples.	to and ils cular	Good Students will explain in the words the fu properties of from the mic viewpoint of molecules, a assemblies.	eir own nctions and materials croscopic	Stude funct of ma micro of ate	ions and paterials from the paterials from the paterials from the paterial second seco	erspective ecules, and	Not attained to the left.	
Achievement 2	understa principle characte analytica and expl own wor analyze	will be able and the opera s and ristics of al instrument: ain them in t rds. To be ab the actual da l by oneself.	Tating Students will be able to understand the operating principles and characteristics of analytical instruments ble to and explain them in their a lown words.					Not attained to the left.		
Achievement 3										
Assigned Departn	nent Objec	tives								
Teaching Method	1									
	General or S	pecialized : S	Speciali	ized						
	Field of learn	ing : Commo	on and	basic natura	al sciences					
	Foundational	academic di	isciplin	es : Material	s Engineering	(Stru	ctural and	1 Functiona	al Materials)	
			•		5 5	•			rning objectives (2)	
	-									
Outline	Relationship	with JABEE p	orograi	ms :The mai	n goals of lea	rning	/ educatio	on in this c	lass are "(A) A-1".	
	Course outline :All materials can be regarded as a set of "atoms and molecules" from a microscopic viewpoint. In the first half of this lecture, we will look at various functional materials at the atomic and molecular level, and try to bridge the gap between microscopic properties (electronic states of molecules and atoms, bonding modes) and macroscopic properties (thermal, mechanical, etc.) of materials. In the latter half of the lecture, various instrumental analyses, which are methods to evaluate the properties of materials, will be outlined. Through this lecture, students will learn to look at materials as "substances" and develop skills to process and handle them appropriately.									
	Course meth	od : Mainly le	ecture	-based.						
Style	Grade evaluation method : In principle, the evaluation will be based on the scores of mini-reports and presentations given in each class (50%) and the regular exam (50%). The evaluation method will be discussed with the students.									
	This is a class that requires study outside of class hours. A total of 45 hours of study is required per credit, including both class time and study outside class time. Follow the instructions of the instructor regarding study outside of class hours.									
	Course advic	e : Motivatio	n to le	arn is impor	tant. A proact	ive at	titude is r	ecessary.		
Notice	Foundational of Materials I	subjects : C and II (3 an	themist nd 4 ye	try I (2 years), Applie	s), Materials S d Chemistry (Scienc 4 year	e (2 years rs)	s), Chemist	try II (3 years), Mechanics	
	Attendance advice : If you attend lectures with a passive attitude, you will never learn the contents. Be sure to read the designated sections of the textbook before the lecture. Be careful not to rely on easy memorization. In order to understand the essence of the discipline of chemistry, I would like you to always keep thinking logically while attending the lectures.									
Characteristics of	Class / Div	vision in Le	earnir	ng						

Active Learning	☑ Aided by ICT		☑ Instructor Professionally Experienced
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Course	Dlan								
Course			Theme			Goals			
		1st	Guidance for the f	irst half					
		2nd	Fundamentals of I		anical Materials		emistry required	wledge of materials for this course	
		3rd	Optoelectronic ma	iterials		Students will ur materials such	nderstand the p as optical lense	roperties of optical s and optical fibers.	
	1st	4th	Electrical and Elec	tronic Functiona	l Materials	Students will un dielectric and co	nderstand the volume the volume term of the second se	arious properties of rials.	
	Quarter 5th		Mechanics and str	ength functional	materials①		nderstand the m plymer materials elasticity.	nechanical s and the general	
		6th	Mechanics and str	ength functional	materials②	Students will un structures of va elasticity polym	rious high strer	roperties and ngth and high	
		7th	Summary of the f	irst half		To check the de through reading	egree of retention g of papers.	on of knowledge	
		8th	Guidance for the s	second half					
1.04		9th	Preface to Machin	e Analysis		Students will un features, and c	nderstand the a autions of instru	dvantages, Imental analysis.	
1st Semeste r		10th	Thermal Analysis		Students will understand the principles of typical thermal analysis such as thermogravimetric analysis and differential scanning calorimetry, the information obtained, and how to interpret the data.				
		11th	Mechanical streng	th analysis		Students will un measurement e obtained, and h	equipment, the	rinciples of strength information the data.	
	2nd Quarter	12th	Microscopic obser	vation		microscopic obs	servations such	rinciples of typical as SEM and TEM, how to interpret	
		13th	Surface Analysis			Students will understand the principles of typical surface analysis such as XPS, the information obtained, and how to interpret the data.			
		14th	X-ray analysis			Students will understand the principles of typical X-ray analysis such as XRD, the information obtained, and how to interpret the data.			
		15th	final exams						
		16th	Returning exams,	General summa	ry	Reviewing the p the discussion of various function	on how to hand	s, we will deepen le and evaluate	
Evaluat	ion Met	hod and	Weight (%)						
		xamination		Mutual Evaluations between students	Behavior	Portfolio	Other	Total	
Subtotal	5	0	0			0	50	100	
Basic Proficienc	y O		0			0	0	0	
Specialize Proficienc	ed 5 Sy 5	0	0	0	0	0	50	100	
Cross Are Proficienc	a 0 y 0		0	0	0	0	0	0	

Tsuyama C	ollege	Year	2021			ourse Title	Genera	al Aspects of ering II	
Course Informat	ion								
Course Code	0004			Course Cate	gory	Specialized / Elective			
Class Format	Lecture			Credits		Academic	Academic Credit: 2		
Department		ed Mechanical and ring Course	Control System	Student Grad	de	Adv. 1st			
Term	Second	Semester		Classes per V	Week	2			
Textbook and/or Teaching Materials	Textboo	k: Do not specify,	and distribute ref	erence mater	ials in a ti	imely mar	ner duri	ng class.	
Instructor	TAKAGI	Kenji							
Course Objective	es								
detailed examination structure analysis an extremely minute pro	of the fin d various ecision ma vill deepen	e structure is prog structure prediction achines that work our understandin	gressing by analys ons. Against this b inside cells, and it ig of machines and	is methods in ackground, it is possible to control syste	cluding X is possibl develop ems from	-ray cryst le to rega existing n	al struct rd biofur nechanic	materials. In addition, ure analysis, NMR nctional materials as al engineering theories. f functional materials	
Rubric									
	Exc	ellent	Good		Acceptat	ble		Not acceptable	
Achievement 1	adju biof can givi	properties and ustment method c unctional materia be fully explained ng concrete mples.	ls the propertie	es and methods of	Explain t biofuncti	the proper ional mate	ties of erials.	You have not reached the left.	
Achievement 2	ther met mat exp	structural and modynamic analy hods of biofunctic erials can be fully lained by giving crete examples.	onal the structure	al and mic analysis	thermod	structural lynamic an s for biofu s.	nalysis	You have not reached the left.	
Achievement 3	The design method of new biofunctional materials can be fully explained by giving concrete examples. Be able to fully explain how to design new biofunctional materials. Be able to fully explain new biofunctional materials. Be able to fully explain new biofunctional materials.						You have not reached the left.		
Assigned Depart	ment Ob	ojectives							
Teaching Method	ł								
	General	or Specialized : S	pecialized						
	Relation	ring ship with Educatio						dynamics, measurement uman creative talent, rich	
Outline	1 .	cal abilities". shin with 1ABFF n	orograms : The ma	ain goals of lea	arnina / e	education i	in this cl	ass are "(A) A-1.	
		• •	5	5	5.			ch as biology, medicine	
	and agri	culture, but also t engineering, tissu	o bioenaineerina l	based on mec biomimetics.	hanical er	naineerinc	1. The co	ematically explain from	
	Course r	method : I will exp	plain the main poi	nts while expl	aining on	the board	l etc. ba	sed on the handouts. review and self-study will	
Style	be encou	uraged.		corung to the	content		on, dila	review and self-study Will	
Style			: The score of the retest will be cond		70%) is ev	valuated b	by adding	g the reports up to each	
	Precauti	ons on the enrollr	nent : This is a cla	uss that requir	es study and study	outside of outside of	class ho lass time	ours. A total of 45 hours e. Follow the instructions	
	of the in	structor regarding	study outside of	class hours.				e. Follow the instructions	
	Course a that inte	advice : It is recor rests you.	nmended that you	ı refer to the l	literature	to learn n	nore abc	out the part of the lecture	
Notice	Foundational subjects : Biology I (1st year), Chemistry I (2nd), Chemistry II (3rd), Applied Biology (4th), Applied Chemistry (4th)								
	Related subjects: Biotechnology (MS-1 or EC-1) 科目名の英語表記は教育課程表(英語版)で確認。それぞれ最初の科目のみ "year" まで書く。 例: "Japanese IV (4th year), Theory of Japanese Culture (4th)								
		nce advice :							
Characteristics o	f Class /	Division in Le	arning	1					
Active Learning		□ Aided by IC	Т	☑ Applicable	e to Remo	ote Class	Ins Experi	structor Professionally enced	
Elective s	ubjec	ts							
Course Plan		T L							
		Theme			Goals				

		1st	guidance									
		2nd	Overview of	biofunctional m	naterials engine	Outlin	e of biofunctio	nal materials ei	ngineering			
		3rd	What is a bic	functional mat	erial?		Under biofur	Understand the types and categories of biofunctional materials.				
		4th	Properties ar	nd handling of t	piofunctional m	naterials	Under	stand the prop ials and how t	perties of biofur o handle them.	nctional		
	3rd Quarter	5th	How to make	e biofunctional	materials		Under prepa	stand the generic stand the generic stand the generic standard stand Standard standard stand	eral principles a nal materials.	ind methods of		
		6th	Mechanism c biofunctional	f manufacturin materials	ig equipment f	or		stand the mec cing biofunctio	hanism of equi nal materials.	pment for		
		7th	Purification o	f actual biofun	ctional materia	als	It is m mater	nanufactured u ial.	sing an actual	biofunctional		
2		8th	Microstructur	re of biofunctio	nal materials		Under mater		ostructure of b	iofunctional		
2nd Semeste r		9th	Structural an materials 1	alysis method	for biofunction	al	Under analyz mater	stand X-ray di zing the micros ials.	ffraction as a m structure of biot	nethod for functional		
		10th	Structural analysis method for biofunctional				Understand nuclear magnetic resonance as a method for analyzing the microstructure of biofunctional materials.					
	4+6	11th	Thermodyna materials	mic properties	of biofunctiona	al	Under mater		tional analysis	of biofunctional		
	4th Quarter	12th	Functionally materials	advanced desig	n of biofunctio	onal	Understand the advanced and improved design of biofunctional materials.					
		13th	Functional so materials	phistication m	ethod for biofu	inctional	Understand the actual method of advanced and improved design of biofunctional materials.					
		14th	Bioreactor de	esign and opera	ation		Understanding how to obtain large quantities of biofunctional materials.					
		15th	Final exam									
		16th					Test r	eturn				
Evaluat	ion Met	hod and	Weight (%)	1								
	Exa	mination	Presentation	resentation between students		0	Other	Assignment	Total			
Subtotal	70		0	0	0	0		0	30	100		
Basic Proficienc	y 0		0	0	0 0			0	0	0		
Specialize Proficienc			0	0 0 0			0	30	100			
Cross Are Proficienc			0	0 0 0				0	0	0		

Tsuyama Col	lege	Year	2021			Course Title	Thesis	Work I	
Course Informatio	n								
Course Code	0005			Course Cate	gory	Specializ	ed / Con	npulsory	
	Experiment			Credits		School C	redit: 8		
	Advanced Me Engineering		Control System	Student Grad	de	Adv. 1st			
-	Year-round			Classes per \	Week	8			
Textbook and/or Teaching Materials									
		rito,YAMAGUCI SHIKAWA Kota		WA Takanobu,	,KONIS	HI Daijiro,I	NOUE Hi	royuki,HOSOTANI	
Course Objectives									
Learning purpose: Obtain the skills to identify engineering and technical problems and to solve them concretely, and to gain the basic knowledge and design skills as an engineer. Course Objectives 1. Using ICT and ICT tools to collect and analyze information in the technical field of specialization to obtain an overview of trends in advanced technology, and to understand the objective of research. 2. Form a research plan independently, conduct the experiments and analysis in details and evaluate the validity of the results. 3. Exchange opinions and ideas with many engineers through research presentations at academic conferences and practical training outside the school. 4. Contribute to the local community and the world by recognizing the responsibility that engineers bear to society and by developing the ability to evaluate corporate activities from multiple perspectives.									
	Excellen	+	Good		Accep	tahlo		Unacceptable	
Achievement 1	betweer research collectin analyzin informat understa	g essential tion, and and the purpos rch in relation	ationship chnology and ends by arranging, and n, and in relation to in relation to ationship chnology and ends by arranging, and through own survey and utilize the information. Think about whether the information is correct or utilize it based on the literature and materials					Cannot explain the details of documents and materials studied.	
Achievement 2	special r to solve problem	ke plans for esearch projec engineering s and analyze lain logically.	Can make a plan based of objectives, a explain the results of te evaluating a and surveys	on research and logically methods and sting and assumptions	plan b object the m of test	nake a resea based on res tives and ex ethods and ting and eva options and ys.	earch plain results	Cannot make a research plan based on research objectives and explain the methods and results of testing and evaluating assumptions and surveys.	
Achievement 3	clearly v using ba	lain opinion vithin a time lir sic forms of presentation.	nit Can give a pusing basic forms.	presentation presentation		stand basic ntation form	s.	Cannot give a basic presentation.	
Achievement 4	enginee based of technolo and natu career d evaluate with the	ibility that responsibility that engineers have to society can describe the cannot explain the							
Assigned Departm	ent Objec	tives							
Teaching Method									

		In this of required	as part of this subject.	•	de the school (off-campus practical training) is						
		skills so *Genera	that they are not disconnected from al or specialized: Specialized	the technologi	get deepen knowledge and improve their research es handled in the real world.						
		*Found *Relation	f study: Experiments and practical tra ational academic disciplines: Engineer onship with Educational Objectives :	ing / Mechanio							
		This sul	oject is equivalent to "(4) By actively on sable ability to solve problems and find nicate and cooperate effectively with the	nd solutions, a	pecialty research the student has developed the nd can creatively design and undertake research, ers, and present findings at academic						
Outline		The ma	*Relationship with JABEE programs : The main goals of learning / education in this class are "(E), E-1", also "A-3", "C-1", "D-1", "D-3", "E-2", "E- 3", "F-1", "G-2" and "H-2" are involved. In this course, students will be involved in the development of the following abilities: "Conceptual ability in								
		etc.", "A	skills", '"Ability to identify problems", " ind safety, culture, economy, environ from these problems", "Ability to expr Ability to plan and implement continuc ion, students are required to attend a	ess the concep ously".	t of the following abilities; "Conceptual ability in gnize problems from the perspective of public ics", "Ability to find a solution under the constraints of in diagrams, sentences, formulas, programs, gingeering ethics						
		*Course	e outline:								
		their kn Learnin	s will develop the ability to identify ar owledge and research and developme g outcomes will be submitted as a sur s will make external presentations at	ent skills throu mmary of the i	mid-term presentation.						
		Method	ocedures and course content and me of the class								
		lindeper	dently on each research theme.		nduct experimental or analytical research in the engineering research, how to write scientific						
		and tec	nnical papers, and how to make prese	entations and o	liscussions.						
Style		In the f the con In this o the prace	ditions indicated in the course plan. course, students will be required to m ctical training outside the school (subr	ake a presenta	y their supervisors and other instructors based on ation of the theme (10%), and a presentation on sentation materials and implementation of						
		In addit lecture will be o	resentation) (10%). n addition, the preparation of the midterm presentation (outline, preliminary draft) and the report on the ecture on engineering ethics will be considered as professional competence (70%), and the internship report vill be considered as cross-disciplinary competence (10%). n the evaluation, the level of achievement will be evaluated for each item of (A) and (C) to (H) of the								
		education	onal program, and the student will pa valuation score does not reach the pa	ss if the total e	avaluation score is 60% or more. Judance will be given and re-evaluation may be						
		A total of class ho	ours.	edit, including	of class hours. both the relevant class hours and study outside ructors regarding study outside of class hours.						
			or students: An extremely large amo								
		given ei have lea relevant	nvironment. As preparatory studies, s arned so far to plan their research pro	tudents are ex jects, find out d analytical teo	endently in order to maximize the results in the spected to make full use of the knowledge they the status of their research in the field, survey chniques, summarize and discuss the results,						
Notice			bjects: All subjects that have been st s are required to do preparatory stud		ments as instructed by the instructor.						
		Advice	on taking this course: This is the most	: important an	d main course in the major. Therefore, students						
	are expected to take the initiative and do their best in all a In the second year, students are required to submit a "Cor of the Results of the Integrated Studies" in order to obtain for Academic Degrees and University Evaluation. In additid submit a research plan and a summary of the results of th from the National Institution for Academic Degrees and Ur Also, students are required to submit a research record at				rse Plan for the Integrated Studies" and "Summary a bachelor's degree from the National Institution n to the above, it is necessary for students to eir studies when they receive a bachelor's degree versity Evaluation.						
Charact	eristics o		Division in Learning		the end of the first and second semesters.						
☑ Active	Learning		☑ Aided by ICT	Applicable t	to Remote Class Experienced						
Requi	red s	ubjec	t s		· · ·						
Course	Plan	1									
			Theme		Goals						
1st Semeste			Guidance		Recognize one's current situation at any time and consider the studies and activities that are currently necessary in order to move toward a desired future state.						
Semeste r	Quarter	2nd	Research theme and research plan		Collect necessary information appropriately from books, the Internet, and questionnaires.						
		3rd Research theme and research plan			Select, organize, classify, and use the collected information.						

	1		1							
		4th	Research theme a	and research plan		Know that it is ne and accuracy of information.	ecessary to consident considered and cite	der the reliability d sources of		
		5th	Research theme a	and research plan		Know that they a and scope of influ disseminate.	re responsible fo Jence of the infor	r the content mation they		
		6th	Research theme a	and research plan		Know that you m and copyright int disseminating inf	o consideration v	l information vhen		
		7th	Research theme a	and research plan		Collect informatic difference betwee state (issues).	on in order to rec	ognize the and the current		
		8th	Research theme a	and research plan		Organize and compose multiple pieces of information.				
		9th	Theme Presentati	on		Correctly transmit (present) information using tools and methods appropriate to the purpose and target audience.				
		10th	Trial and verificat	ion of experiment	s and analysis	Read and unders certain foreign la		anese and		
		11th	Trial and verificat	ion of experiment	s and analysis	Write correctly in language to com	Japanese or a s	pecific foreign		
		12th	Trial and verificat	ion of experiment	s and analysis	Understand what specific foreign la	others say in Ja			
	2nd Quarter	13th	Trial and verificat	ion of experiment	s and analysis	Understand the p carry it out in Jap language.	ourpose of a conv	ersation and fic foreign		
		14th	Trial and verificat	ion of experiment	s and analysis	Draw charts and communication.	graphs for smoo	th		
		15th	Trial and verificat	ion of experiment	s and analysis	Adopt attitudes (language, etc.) fo	affirmation, repe	tition, body		
		16th	Trial and verificat	ion of experiment	s and analysis	Able to listen to c				
		1st	Trial and verificat	and verification of experiments and analysis			Learn consensus-building conversations.			
		2nd	Trial and verificat	ion of experiment	s and analysis	Practice specific r such as group wo	nethods for cons ork and workshop	ensus building, os.		
		3rd	Trial and verificat	ion of experiment	s and analysis	Understand and I and preparation f training.	be able to practic	e the purpose		
		4th	Trial and verificat	ion of experiment	s and analysis	Understand and I be done to preve	pe able to practic nt disasters and	e what should		
	3rd Quartei	- 5th	Trial and verificat	ion of experiment	s and analysis	Use diagrams and factor diagrams, which are effective analyzing the cur	d tables such as o tree diagrams, a ve in finding prob	characteristic		
		6th	Trial and verificat	ion of experiment	s and analysis	Understand that consideration of l or common sense	problem solving ogical procedure	requires s, not intuition		
2nd		7th	Trial and verificat	ion of experiment	s and analysis	Think logically an through group we kinds of techniqu	d rationally to so ork and worksho	os, úsing all		
Semeste r		8th	Trial and verificat	ion of experiment	s and analysis	Identify engineer rational manner.				
		9th	Trial and verificat	ion of experiment	s and analysis	Explain to others the conclusion.	the thought proc	cess that led to		
		10th	Trial and verificat	ion of experiment	s and analysis	Propose solutions	s of appropriate s	cope and level.		
		11th	Trial and verificat			Develop logic and				
		12th	Trial and verificat	ion of experiment	s and analysis	Express the logic conclusions using	of the process of words, sentence	f reaching es, charts, etc.		
	4th	13th	Trial and verificat	ion of experiment	s and analysis	Act in compliance				
	Quarter	14th	Trial and verificat	ion of experiment	s and analysis	Act with consider others.	ation for the circ	umstances of		
		15th	Trial and verificat	ion of experiment	s and analysis	Recognize the impact and effects of technology or society and nature and be able to enhance the responsibility that engineers should bear to society.				
		16th	Trial and verificat	ion of experiment	s and analysis	Understand how put them into pra	to write reports a	and be able to		
Evaluati	Evaluation Method and		Weight (%)							
		xamination	Presentation	Mutual Evaluations between students	Self evaluation	Research task	Other	Total		
Subtotal	C)	20	0	0	80	0	100		
Basic Proficienc			0	0	0	0	0	0		
Specialize	ed c)	10	0	0	70	0	80		
Proficiency 0			1							

Cross Area Proficiency	0	10	0	0	10	0	20
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Tsuyama Co	llege	Year	2021				Course Title	Inforn	nation Science
Course Information	pn								
Course Code	0009				Course Cate	gory	Specializ	ed / Elec	tive
Class Format	Lecture				Credits		Academi	c Credit:	2
Department	Advanced M Engineering	echanical and Course	Control S	System	Student Grad	de	Adv. 1st		
Term	Second Sem	lester			Classes per \	Week	2		
Textbook and/or Teaching Materials	Physics Sim	ulation with H	TML5						
Instructor	TERAMOTO	Takayuki							
Course Objectives	5								
Learning purposes : S it, visualization techno and design the system	ology, HTML5	, and its opera	ation and	d design r	nethods. Base	ed on t	the lecture, a	each stu	e basic concepts behind dent will actually study outer exercises.
Course Objectives : 1. To be able to syste 2. To be able to use H 3. To be able to solve	ITLM5 as a to	ool for scientifi	ic commu	unication.		simulat	tion.		
Rubric				•					
	Exceller	nt	Goo	bd		Accep	otable		Not acceptable
Achievement 1	Understand the fundamentals of physical simulation systematically basics of physical Does				Does not meet the requirements of the left.				
Achievement 2	a tool fo	can be applied or science nication.	tool		a science communication requ			Does not meet the requirements of the left.	
Achievement 3	problem exempla appropr	ary manner us iate technique tc. for a given	sing tool es, pro	ls, etc. to	ate technology, c. to solve the to some extent		e the imum	Does not meet the requirements of the left.	
Assigned Departn	nent Objec	tives	•						
Teaching Method									
-	General or S	pecialized : Sp	pecialized	d					
	Field of lear	ning : Lecture							
	Foundationa fields/compu	l academic dis utational scien	ciplines : ce relate	: Informa d	tion science,	inform	ation engine	ering an	d related
Outline	Relationship knowledge".		nal Obje	ctives :Tł	nis class is equ	uivaler	nt to "(2) Ac	quire bas	sic science and technical
	Relationship information	with JABEE pr technology, C-	rograms -1", also	:The mai "A-1, " a	n goals of lea nd "C-2" is in	rning , volved	/ education i	n this cla	ass are "(C)Mastery of
	incorporated lecture, we a describing re	rmation technology, C-1", also "A-1, " and "C-2" is involved. rse outline : With the development of computer and communication technologies, computers have been rporated in various fields, and IT (information technology) of systems has become indispensable. In this ure, we aim to acquire basic information technology, focusing on physical simulation technology for cribing real-world information in a computer, which is an important technology for constructing rmation systems.							
Style Course method: The class will be based on students' preliminary exercises and their presentations. In the course, students are expected to acquire all the knowledge necessary for information processing. Studen are required to write reports to deepen their understanding. In addition, presentations and presentations be given so that students can organize and present the information they have compiled.						n processing. Students			
	Participation	ation method in the presen ssignments 10	tation an	ig and exe nd discuss	ecution of exe sion 40%. Res	ercises sults of	and submis f peer evalua	sion of a ation of p	ssignments 50%. resentations and

	of study	ns on the enrollm is required per cre structor regarding	dit, including bot	th class time and	study outside of o study outside cla	class hours. A tot ass time. Follow t	al of 45 hours he instructions	
	Course a refer to " software.	dvice : Please try 1 Introduction" in th	to make use of it ne textbook to ur	in your own res iderstand the ou	search activities. A Itline and downloa	as a preparatory s ad and install the	study, please related	
	Foundatio	onal subjects : Cou	urses and exercis	ses related to inf	formation processi	ing in each depar	tment	
Notice	Seminar	ubjects : Enginee for Basic Informat minar for Applied	ion Processing II	(1st year), Sen	hinar for Applied II	nformation Proce	ssing I (1st	
	from any topics, bu and pape to their o	ce advice : The cc where. Due to the ut the focus is on i rrs and to present wn themes. It is r ary to make effort y.	nature of the conformation proce at conferences. Successary to get	ourse, it is not ne essing technique Students are ene used to the envi	ecessarily necessa s that are necessa couraged to deepe ronment of the ex	ry to be familiar ary for engineers on the necessary vercises, and at the	with all the to write reports parts according the same time, it	
Characteristics of	f Class /	Division in Lea	irning	1		1		
Active Learning		□ Aided by ICT	Γ	Applicable t	to Remote Class	Instructor Pr Experienced	ofessionally	
Course Plan								
	-	Theme			Goals			
:	1st v	General explanatio with Basic Informa [Guidance].			Understanding th	e Overview		
	2nd I	Registration in the personal information [Setting].	exercise system on and exercise e	and setting of environment	Checking the exe	rcise environmer	ıt	
	3rd	Introduction to 3D Objects)	Computer Graph	nics (3D	Understand 3D objects and be able to explain them through exercises			
3rd Quarter		Introduction to 3D Objects)	Computer Graph	nics (Primitive	Understand primi explain them thro	itive objects and ough exercises.	be able to	
	5th	Introduction to 3D and Light Sources)	Computer Grapl	nics (Shadows	Understand shad able to explain th			
	6th	Introduction to 2D of jqPlot)	graphic depictio	n (basic form	Understand the b to explain it throu	asic form of jqPlo ugh exercises.	ot and be able	
		Introduction to 2D options)	graphic depictio	n (jqPlot	Understand the o explain them thro	ptions of jqPlot a ough exercises.	nd be able to	
8	8th	Introduction to 2D options)	graphic depictio	n (jqPlot	Understand the o explain them thro	ptions of jqPlot a ough exercises.	nd be able to	
Semeste	9th I	Physical simulation (basic concept)			Understand the basic concepts and be able to explain them through exercises. Physical simulation (basic concept)			
r :	10th I	Physical simulation	n (objects in 3-D	space)	Understand objects in three-dimensional space and be able to explain them through exercises.			
		Physical simulatior velocity motion)	n (algorithm for c	constant	Understand the a motion and be at exercises.			
4th Quarter		Physical simulatior notion)	n (algorithms for	accelerated	Understand the a and be able to ex Physical simulatic motion)	plain it through e	exercises.	
		Physical simulatior algorithms)	n (high-precision	computational	Understand high- algorithms and be exercises.	precision compute able to explain	tational them through	
:	14th	Physical simulatior motion) Jnderstand high-p algorithms and be exercises.	recision computa	ational	Understand Newton's equations of motion and be able to explain them through exercises.			
	15th							
Evaluation Metho	16th	leight (%)						
	nination	Presentation	Behavior	Problem	Other	Total		
Subtotal 0	0 40 10 0				50	0	100	
Basic		0	0	0	0	0	0	
Proficiency 0 Specialized 0		40	10	0	50	0	100	

Cross Area Proficiency 0	0	0	0	0	0	0
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Tsuyama Co	ollege	Year	2021			Course Title		Practice in nation Processing I	
Course Information	on							<u></u>	
Course Code	0010			Course Cate	gory	Specializ	ed / Elec	tive	
Class Format	Lecture			Credits		School C	redit: 1		
Department	Advanced Me Engineering	echanical and Course	Control System	Student Gra	de	Adv. 1st			
Term	First Semest	er		Classes per	Week	2			
Textbook and/or Teaching Materials									
Instructor	TAKETANI H	lisashi							
Course Objectives	5								
Learning purposes : Improvement of the p a Web page is making Course Objectives :	programming J.	skill which ca	n be utilized for a	a study and im	provem	nent of the o	compute	r literacy ability by which	
 The student can ur The student can ur It's possible to und 	nderstand me	chanism of a	Web page and m	ake each Web	page.		each fie	ld.	
Rubric									
	Excellen	t	Good		Accept	table		Not acceptable	
Achievement 1	informa effective	dent can utiliz tion machiner ely based on r tion ethics.		information Itilize		lent can util nation mach		The student dose not reach the following.	
Achievement 2	dent can expla ism of a Web nd it can be effectively.	ain The studer exhibits a W	t makes and /eb page.	The s Web p	tudent mak bage.	es a	The student dose not reach the following.		
Achievement 3	h The student basic knowl the informa which can f specifically.	tion field	the ou knowle inform	e student can explain outline of basic wledge about the prmation field which i fit each field.		The student dose not reach the following.			
Assigned Departr	nent Objec	tives							
Teaching Method									
Outline	Field of learr Foundationa Relationship This class is be utilized fo Relationship The main go Course outlin	General or Specialized : Specialized Field of learning : Information, measureme Foundational academic disciplines : Overall Relationship with Educational Objectives : This class is equivalent to "(2) Knowledge be utilized for a design of a machine and a Relationship with JABEE programs : The main goal of learning / education in th Course outline ;			field teo icy and and (C	chnology is practical us -1)", also "(acquired se is learn (A-1) and	l and the ability which can ned". d (C-2)"is involved.	
	ethics, is lea	rned in order a programmi	urpose, and the r to utilize a comp ng on the interne	uter and a net	g it for work su	various ope uch as utiliza	eration m ation of i	ability as the everyday ethod and information nformation, information	
Style	The student Grade evalua	maneuvers b ation method anding and th						nation center mainly. ork), 80% and	
Notice									
	Foundationa	n the latter pe l subjects : practice relat	ed to information	processing te	chnolog	gy of each d	epartme	nt	
	Attendance a When it's wi 3 times of la	thin class star	ting for 20 minut	es, it's made	ateness	s and 1 defi	cit is don	e with the department by	
Characteristics of	Class / Div	vision in Le	arning						
Active Learning		Aided by IC		Applicab	e to Re	mote Class	□ Ins Exper	structor Professionally ienced	
Elective Su	ubjects								
Course Plan									

			Theme			Goals				
		1st	Guidance and sys information cente	tem configuratior r.	n in an overall	Understanding of overall information	f a system config on center.	juration in an		
		2nd	Notice of network	use and use of a	ın e-mail	Notice of networ	k use and use of	an e-mail		
		3rd	Investigation abouinternet	ut the problem fo	r using the	Investigation about the problem for using the internet				
	1st Quarter	4th	Investigation repo	ort and discussior	1	Investigation rep	ort and discussion	on		
			About the kanji us	sed on the compu	iter.	About the kanji u	used on the comp	outer.		
			Basis of a prograr	nming (1)		Basis of a progra	mming			
		7th	Basis of a prograr	nming (2)		Basis of a progra	mming			
1st Semeste		8th	Basis of a prograr	nming (3)		Basis of a progra	mming			
r		9th	Basis of a prograr	Basis of a programming (4)			mming			
		10th	Programming pro	blem (1)		Programming pro	oblem			
		11th	Programming pro	blem (2)		Programming pro	Programming problem			
	2nd	12th	About markup lan	bout markup language for Web page.			nguage for Web	page.		
	Quarter	13th	Making of an easy	Naking of an easy Web page			y Web page			
		14th	Making of a Web	page about each	study (1)	Making of a Web	page about each	n study		
		15th	Making of a Web	page about each	study (2)	Making of a Web page about each study				
		16th	Revival of a home sound and an anim	page with a mov mation	vement, a CGI,	Revival of a home page with a movement, a CGI, sound and an animation				
Evaluat	ion Met	hod and	Weight (%)							
		xamination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total		
Subtotal	0		20	0	0	80	0	100		
Basic Proficienc	Basic Proficiency 0		0	0	0	0	0	0		
Specialized Proficiency 0 20		20	0	0	80	0	100			
Cross Are Proficienc			0	0	0	0	0	0		

Tsuyama Co	ollege	Year	2021	L			Course Title		ce in Information ssing I
Course Information	on				_				
Course Code	0011				Course Cate	gory	Special	ized / Ele	ctive
Class Format	Lecture				Credits		School	Credit: 1	
Department	Advanced Me Engineering	echanical and Course	Contro	ol System	Student Grad	de	Adv. 1	st	
Term	First Semest	er			Classes per V	Week	2		
Textbook and/or Teaching Materials									
Instructor	TERAMOTO 7	Takayuki							
Course Objective	s								
Learning purposes : T judge and evaluate in	o acquire info formation.	ormation proc	cessing	skills throu	igh exercises a	and to	o deepen th	e knowled	dge and skills necessary to
Course Objectives : 1. To be able to creat 2. To be able to use s 3. To be able to solve	preadsheet so	oftware to orc	s for ea ganize (ach researc data and cr	h topic. reate effective	grap	hs for their	own rese	arch topics.
Rubric									
	Excellen	t	G	iood		Acce	ptable		Not acceptable
Achievement 1	docume be subm academi	ole to prepare nts at the leve nitted to c conferences n research	el to de w s on ae th	ith the forr	n accordance mat of inferences on	refor	e able to pr matted doc research to	ument or	Cannot create a document on his/her own research topic that meets the purpose.
Achievement 2	organize effective own rese	to use neet software data and cre graphs on th earch topics a t can be usec	e to eate of neir of at a gr	o be able to preadsheet rganize ger nd create e raphs for th esearch top	software to neral data effective neir own	to spreadsheet software to organize data and create effective graphs for their own research topics to		tware to nd create for their	Cannot organize data and create effective graphs using spreadsheet software in relation to their own research theme
Achievement 3	problem	ble to solve s by fully utili e for a given t	izina so	o be able to oftware to s roblem.	o use solve a given	solut prob	e able to pr tion to a giv lem by usin vare.	en	Cannot solve a problem or propose a solution to a given problem.
Assigned Departr	nent Objec	tives							
Teaching Method									
		pecialized : S	pecializ	zed					
	Field of learn	ing : Experim	nent an	d practice					
	Foundational	academic dis	scipline	s : Informa	ation science, software relat	inforr ted	nation engi	neering a	nd related fields/ Statistical
Outline	Relationship knowledge".	with Educatio	onal Ob	jectives :Th	his class is equ	uivale	ent to "(2) A	.cquire ba	sic science and technical
	Relationship information t	with JABEE p echnology, C	orogram C-1", als	ns :The mai so "A-1, " a	in goals of lea Ind "C-2" is in	rning volve	/ educatior d.	n in this cl	ass are "(C)Mastery of
	information of course, stude	ationship with JABEE programs :The main goals of learning / education in this class are "(C)Mastery of prmation technology, C-1", also "A-1, " and "C-2" is involved. urse outline : Information retrieval, organization, management and integration, presentation, and prmation dissemination using information technology are the literacy skills of modern engineers. In this urse, students who have already mastered the basic literacy skills are given exercises to acquire more vanced application skills, customization skills, and expression skills.							
Style	Course method :The class will be conducted mainly through exercises. Exercises will be conducted so that students can acquire the overall knowledge required for information processing. Students are required to write reports to deepen their understanding. In addition, students will make presentations and presentations to organize and present the information they have compiled.								
	Participation		ntation						assignments 50%. presentations and

Notice		of stud of the i Process Applied papers Founda Related Informa	tions on the enrollm y is required per cre nstructor regarding advice : This course sing I. However, it is Information Process of the conference to tional subjects : Co I subjects : Engined ation Processing Base ance advice : The co nywhere. Due to the	edit, including bot study outside of e cannot be taker s possible to take sing II. As a prep o which you belor urses and exercis ering Ethics (1st y sic Exercise II (1s pontents are indep	th class time and class hours. In at the same tin Seminar in Fun paratory study to ng. In addition, ses related to inf year), Information st year) endent of each	I study outside cla me as Seminar in damental Informa o be done in adva review how to use formation procession on Processing App other, so that stud	ss time. Follow t Fundamental Infi ition Processing I nce, research infi the seminar roc ing in each depar lication Exercise dents can study b	he instructions ormation I or Seminar in ormation on the m. tment II (1st year), oy themselves		
		topics,	but the focus is on pers and to present own themes. It is r ssary to make effort	information proce at conferences.	essing technique Students are en	s that are necessa couraged to deepe	ary for engineers on the necessary	to write reports parts according		
Charact	eristics	of Class	/ Division in Lea	arning	1		1			
Active	Learnin	g	□ Aided by IC	Т	□ Applicable t	o Remote Class	Instructor Pr Experienced	ofessionally		
Elect	ive	Subje	cts				•			
Course	Plan	1				1				
			Theme		<u></u>	Goals				
		1st	General explanatic with Basic Informa [Guidance].			Understanding th	e Overview			
		2nd	Registration in the personal informati [Setting].			Able to set up the the exercise.	e exercise enviro	nment and start		
		3rd	Exercises to maste techniques (forma unification).			Understand basic document creation techniques (formatting, document style unification) and confirm the contents through exercises.				
		4th	Exercises to master document creation	er the basic techn n (cross-referenci	niques of ng).	Understand the b creation (cross-re content through	eferencing) and c	of document onfirm their		
	1st Quarter	5th	Exercises to master techniques (image	er basic documen e processing, etc.	t creation).	Understand basic (e.g., image proc contents through	essing) and conf			
		6th	Workflow creation	exercise.		Understand the c confirm its conter				
1st Semeste		7th	Exercises with free PDF files.	e software, includ	ling creating	Understand free s creation, and rev exercises. Exercises with fre PDF files.	iew its contents t	hrough		
r		8th	Exercises in basic techniques and ma	spreadsheet soft acro language (1)	ware)	To understand the basic skills of spreadsheet software and exercise 1 macro language, and to confirm the contents through exercises.				
		9th	Exercises in basic techniques and ma			To understand the basic skills of spreadsheet software and exercise 2 of macro language, and to confirm the contents in the exercise				
		10th	Exercises in sprea	dsheet software a	applications (1)	Understand sprea exercises and cor practice.(1)	adsheet application of the second sec	on example nt through		
		11th	Exercises in sprea	dsheet software a	applications (2)	Understand sprea exercises and cor practice.(2)	adsheet application of the second sec	on example nt through		
	2nd Quarter	12th	Exercises in sprea	dsheet software a	applications (3)	Understand sprea exercises and cor practice.(3)	adsheet application of the second sec	on example nt through		
		13th	Preparation and plassignment (1)	resentation of a c	comprehensive	Comprehensive p	presentation to co	onfirm		
		14th	Preparation and precentation of a comprehensive Comprehensive presentation to confirm							
		15th								
_		16th								
Evaluat	ion Met	thod and	Weight (%)	Mutural	1		1			
	E	ixamination	Presentation	Mutual Evaluations between students	Problem	Other	Total			
Subtotal	0		40	10	0	50	0	100		
Basic Proficienc			0	0	0	0	0	0		
Specialize	ed o)	40	10	0	50	0	100		

Cross Area Proficiency 0	0	0	0	0	0	0
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							Title		nation Processing II
Course Information	on								
Course Code	0012				Course Cate	jory	Specializ	ed / Elec	tive
Class Format	Lecture				Credits		School C	redit: 1	
Department	Advanced Me Engineering	echanical and Course	Control S	System	Student Grad	de	Adv. 1st		
Term	Second Sem	ester			Classes per \	Neek	2		
Textbook and/or Teaching Materials									
Instructor	TAKETANI H	isashi							
Course Objectives	S								
Learning purposes : A basis of a system of Beginner's course acc Course Objectives : 1. The student can a	uisition of Vis	sio (figure mal	utilize pro	vare with ograming	n the high fund	t for a r	problem sol	ution.	
 It's possible to utili An electric circuit a 	ze numerical	formula proce	essing sof	tware an	id physical sin	nulation	n software.		
Rubric									
	Excellen	t	Goo	d		Accept	table		Not acceptable
Achievement 1	hievement 1 a basi can be put to good use in a problem solution. a basi utilize enviro				can acquire NIX and aming		udent can u iming envin IX.		The student dose not reach the following.
Achievement 2The student can utilize appropriate software and do a problem solution.The A student can utilize numerical formula processing software and physical simulation software.The student can use numerical formula processing software and physical simulation software.The student can use numerical formula processing software and physical simulation software.The student can use numerical formula processing software and physical simulation software.The student dose not reach the following.									
Achievement 3The student can utilize VISIO for each problem solution.The student can draw an electric circuit and a network figure using VISIO.The student can draw an basic electric circuit and network figure using VISIO.The student dose not reach the following.									
Assigned Departr	nent Objec	tives							
Teaching Method									
	Field of learn Foundational Relationship This class is	pecialized : Sp ing : Informa l academic dis with Educatio equivalent to	tion, mea sciplines : nal Objec "(2) Kno	asuremen Overall ctives : owledge o	territory/ info	rmatics field teo	chnoloav is	acquirec	and the ability which can
Outline	be utilized fo Relationship	or a design of a with JABEE p	a machine rograms :	e and a s :	system, a poli	cy and	practical us	e is leari	ned".
	The compute Information technology h	The main goal of learning / education in this class is "(C) and (C-1)", also "(A-1) and (C-2)"is involved. Course outline : The computer literacy ability learned in Basic practice I in Information Processing or Applied practice I in Information Processing is understood about a system of the UNIX which becomes a basis of a computer technology higher the one in a place of learning and a study and the technology with the basic command as a basis. It's also learned about a shell script.							basis of a computer
Chula	Course meth The student		y a PC in t	the appli	cation semina	ir room	in an overa	all inform	nation center mainly.
Style				olishment	which face e	ach pro	blem (repo	rt and w	rork), 80% and
	This class is semester ho of a teacher	in charge abo	h requires ith learnir	s learnin ng outsic ng in sch	g in schooltim le the schoolti ooltime outsic	e outsio me con le.	de". Learnir ncerned anc	ng for 45 I the sch	hours is needed per a ooltime. Follow directions
Notice	Course advice : 1. Review the contents of I or Basic Practice I in Information Processing and Applied practice I in Information Processing as the learning of preparations performed beforehand. 2. Even if it's taken, which can be taken in the first term, Basic Practice I in Information Processing and or Applied practice I in Information Processing.								
	Foundational Basic Practic	l subjects : e I in Informa	ition Proc	essing a	nd or Applied	practic	e I in Infor	mation P	Processing.
	Attendance a When it's wit 3 times of la	thin class star	ting for 2	0 minute	es, it's made la	ateness	and 1 defi	cit is don	ne with the department by
Characteristics of	Class / Div	vision in Lea	arning		1				
Active Learning		Aided by IC	Т		Applicable	e to Rei	mote Class		structor Professionally ienced
Course Plan									

			Theme			Goals			
		1st	Guidance						
		2nd	Numerical formula	processing soft	"maxima"	Numerical formu	la processing sof	t "maxima"	
	24	3rd	Numerical formula Equation, simultar differential and int	a processing by " neous equation, p egral calculus	maxima" procession and	Numerical formula processing by "maxima" Equation, simultaneous equation, procession and differential and integral calculus			
	3rd Quarter	4th	Physical simulation	n by "Phun" (1)		Physical simulation	on by "Phun"		
		5th	Physical simulation	n by "Phun" (2)		Physical simulation	on by "Phun"		
6th		Presentation of Ph	ysical simulation	object	Presentation of P	hysical simulatio	n object		
2nd						CentoOS guide			
Semeste		8th	Environmental im	provement on Ce	ntoOS	Environmental in	nprovement on C	entoOS	
		9th	C programming or	n CentoOS (1)		C programming of	on CentoOS		
		10th	C programming or	n CentoOS (2)		C programming of	on CentoOS		
		11th	C programming or	n CentoOS (3)		C programming of	on CentoOS		
	4th	12th	Basic knowledge a	about Unix, job co	ontrol and shell	Basic knowledge	about Unix, job	control and shell	
	Quarter	13th	File system and be	ehavior of all kind	ds' command	File system and I	pehavior of all kir	nds' command	
		14th	Shell programmin	hell programming on CentoOS			Shell programming on CentoOS		
		15th	File operation by s	shell		File operation by shell			
		16th	Basic operation of	Visio		Basic operation of Visio			
Evaluati	ion Met	hod and	Weight (%)						
	E	xamination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total	
Subtotal	0		20	0	0	80	0	100	
Basic Proficienc	Basic Proficiency 0 0		0	0	0	0	0	0	
Specialized 0 20		20	0	0	80	0	100		
Cross Are Proficienc			0	0	0	0	0	0	

Tsuyama College		Year	Year 2021			Course Title	Practice in Information Processing II		
Course Information	on			1					
Course Code	0013			Course Cate	gory	Specializ	ed / Elec	tive	
Class Format	Lecture		Credits		School C	redit: 1			
Department	Engineering	Course	Control System	Student Grade		Adv. 1st			
Term	Second Semester			Classes per V	Week	2			
Textbook and/or Teaching Materials									
Instructor	TERAMOTO	Takayuki							
judge and evaluate in Course Objectives :	o acquire info formation.		-				knowled	ge and skills necessary to	
1. Understand the con 2. To be able to creat 3. To be able to creat	e a manual fo	or using the sy	stem and to expl	ain how to us	e it to o	thers.	l other de	ocuments.	
Rubric									
	Excellen	t	Good		Accept	able		Not acceptable	
Achievement 1	be able docume	ing system ar to create nts at a level submitted to	typesetting s		Understand the typesetting system, and be able to create necessary documents to some extent.			Cannot create documents that meet the purpose.	
Achievement 2	manual system,	ole to write a for using the and to be abl how to use it	TeX manual for u e to system and	xplain to others how to s		To be able to create a manual for using the TeX system.		Cannot write a manual for using the TeX system.	
Achievement 3 circuit c flowcha		ole to create iagrams, rts, Gantt chai ropriately for sks.	circuit diagra rts, flowcharts, (flowcharts, Gantt charts, etc. to some extent for		Able to create a circuit diagram, flowchart, Gantt chart, etc. for a given task.		Cannot create a circuit diagram, flowchart, or Gantt chart for a given task.	
Assigned Departr	nent Objec	tives							
Teaching Method									
	General or S	pecialized : Sp	pecialized						
	Field of learning : Experiment and practice								
	Foundational academic disciplines : Information science, information engineering and related fields/ Statistical science related, computer systems related, software related								
Outline	Relationship with Educational Objectives :This class is equivalent to "(2) Acquire basic science and technical knowledge".								
	Relationship with JABEE programs :The main goals of learning / education in this class are "(C)Mastery of information technology, C-1", also "A-1, " and "C-2" is involved.								
	Course outline : In this class, students who have already mastered basic computer literacy skills are given exercises to acquire more advanced system management skills, teaching skills for beginners, and expressive skills.								
Style	Course method :The class will be conducted mainly through exercises. Exercises will be conducted so that students can acquire the overall knowledge required for information processing. Students are required to write reports to deepen their understanding. In addition, students will make presentations and presentations to organize and present the information they have compiled.								
/.~	Grade evaluation method : Planning and execution of exercises and submission of assignments 50%. Participation in the presentation and discussion 40%. Results of peer evaluation of presentations and submitted assignments 10%.								
Notice	Precautions on the enrollment : This is a class that requires study outside of class hours. A total of 45 hours of study is required per credit, including both class time and study outside class time. Follow the instructions of the instructor regarding study outside of class hours.								
	Course advice : This course cannot be taken at the same time as Seminar in Fundamental Information Processing I. However, it is possible to take Seminar in Fundamental Information Processing II or Seminar in Applied Information Processing II.As a preparatory study to be done in advance, do some preliminary research on setting up the TeX system environment.								
	Foundational subjects : Courses and exercises related to information processing in each department								
	Related subjects : Engineering Ethics (1st year), Information Processing Application Exercise I (1st year), Information Processing Basic Exercise I (1st year)								
	Attendance advice : The contents are independent of each other, so that students can study by themselves from anywhere. Due to the nature of the course, it is not necessarily necessary to be familiar with all the topics, but the focus is on information processing techniques that are necessary for engineers to write reports and papers and to present at conferences. Students are encouraged to deepen the necessary parts according to their own themes. It is necessary to get used to the environment of the exercises, and at the same time, it is necessary to make efforts to establish an environment where similar exercises can be performed in each laboratory.								

Charact	eristics	of Class /	Division in Lea	arning						
Active Learning Aided by ICT Applicable to Remote Class Instructor Professional Experienced								rofessionally		
		Subjec	ts							
Course	Plan					1				
			Theme			Goals				
2nd Semeste r 4th			Overview [Guidand		ruction of the	Understanding the Overview				
		2110	Overview of the Telearning environm	ent and exercises	5.(1)	Understand the TeX system and be able to set up an exercise environment.(1)				
		3rd	Overview of the Te learning environm	ex system, const ent and exercises	ruction of the s.(2)	Understand the TeX system and be able to set up an exercise environment.(2)				
		4th	Learning about the plate making syste	e history and tech ems	nnology of	Understand the history and technology of typographical systems and be able to confirm the contents through exercises.				
	3rd Quarter	5th	Exercises on handl and image files (El	ling metafonts, P PS, etc.)	ostScript fonts	Understand the handling of metafonts, PostScript fonts, and image files (EPS, etc.), and be able to confirm the contents in exercises. Exercises on handling metafonts, PostScript fonts and image files (EPS, etc.)				
		6th	jLaTeX manual wr	iting exercise (1)		Understand the jLaTeX manual and be able to check the contents through exercises.(1)				
		7th	jLaTeX manual wr	iting exercise (2)		Understand the jLaTeX manual and be able to check the contents through exercises.(2)				
		8th	jLaTeX manual wr	iting exercise (3)		Understand the jLaTeX manual and be able to check the contents through exercises.(3)				
	4th Quarter	9th	jLaTeX manual wr	iting exercise (4)		Understand the jLaTeX manual and be able to check the contents through exercises.(4)				
			Create flowcharts using Visio(1)	and various desig	gn drawings	Understand how to create flowcharts and various types of blueprints using Visio and be able to confirm the contents through exercises(1)				
		11th	Create flowcharts using Visio(2)	and various desig	gn drawings	Understand how to create flowcharts and various types of blueprints using Visio and be able to confirm the contents through exercises(2)				
		12th	Preparation for lec drawings using Vis	tures on various sio	design	Understand various design drawings in Visio and be able to confirm the contents through exercises				
		13th	Lecture on various	design drawings	using Visio(1)	Understand and be able to explain various design drawings in Visio to others(1)				
		14th	Lecture on various	s design drawings	s using Visio(2)	Understand and be able to explain various design drawings in Visio to others(2)				
		15th				-				
			Summarize the ex evaluation	ercise and condu	ct a peer	Summarize the exercise and conduct a peer evaluation				
Evaluati	<u>on Met</u>	hod and V	Veight (%)		1		1	1		
E		amination	Presentation	Mutual Evaluations between students	Behavior	Problem	Other	Total		
Subtotal 0			40	10	0	50	0	100		
Basic Proficiency 0			0	0	0	0	0	0		
Specialized Proficiency 0			40	10 0		50	0	100		
Cross Area Proficiency 0			0	0	0	0	0	0		

Tsuyama Co	ollege	Year	202	2021			Course Title	Linear Algebra		
Course Information	on									
Course Code	0014			Course Category		y Specialized / Elec				
Class Format	Lecture				Credits		Academic Credit:		2	
Department	Advanced Mechanical and Cont Engineering Course			ol System	Student Grade		Adv. 1st			
Term	First Semester Classes per Week 2									
Textbook and/or Teaching Materials										
Instructor MATSUDA Osamu										
Course Objectives										
In this course, you wi normal form, quatern Acquire the basic idea 1. 1. Understand n-di 2. Understand the cor 3. Geometrically expla 4. Explain the represe 5. Understand the coo 6. Understand quater	ions, and gro a of the theor mensional nu ncept of inner ain the differe entation matri ncept of Jorda	ups. y of n-dimens mber vector s product and nce in space of x and the cha an normal forr	sional r space. distan deform ange of m.	number vect ce. nation depen	or space.			rn new cc	oncepts such as Jordan	
Rubric										
	Excellen	Excellent Good			Accept		ptable		Not acceptable	
Achievement 1	n-dimer	A good understanding of n-dimensional number vector spaces.			Understand about 70% of the n-dimensional number vector space.		Understand about 60% of the n-dimensional number vector space.		Don't understand the n- dimensional number vector space.	
Achievement 2		understanding oduct and 	ι	About 70% I Inderstandir Product and	ng of inner	unde	About 60% have an understanding of inner product and distance.		Don't understand the inner product and distance.	
Achievement 3	the diffe deforma dependi matrix c	It is possible to explain the difference in the deformation of space depending on the type of matrix geometrically and precisely.		spatial deformation depending on the type of		Geometrically, about 60% of the differences i spatial deformation depending on the type of matrix can be explained		rences in ion e type of	It is not possible to geometrically explain the difference in the deformation of space depending on the type of matrix.	
Achievement 4	Explain the		(r	Explain abou epresentation and basis ransformati	on matrices	Explain about 60% representation mat and basis transformations.		natrices	Can't explain the representation matrix and the change of basis.	
Achievement 5		a of Jordan form is well pod.		About 70% o Normal form	of the Jordan is known.		ut 60% of th nal form is k		Don't understand the idea of Jordan normal form.	
Achievement 6	quatern	understanding ions and the of space.	Č C	Inderstand of quaternion otation of s	ns and the	Understand about 60% of quaternions and the rotation of space.		nd the	Don't understand the quaternion and the rotation of space.	
Assigned Departr	nent Objec	tives								
Teaching Method										
	General or S	pecialized : S	peciali	zed						
	Field of learning : Natural science Common / Basic									
	Required, Elective: Elective must complete subjects									
	Foundational academic disciplines : Mathematical science / Mathematics / Analysis basics									
Outline	Relationship with Educational Objectives : This subject corresponds to the learning goal "(2) Acquire basic science and technical knowledge".									
	Relationship with JABEE programs : The main goal of learning / education in this class are "(A) , A-1".									
	Class Outline: In Applied Mathematics I, you will learn the basics of probability theory and statistics. In probability theory, we look at the theory of distributions (binomial distribution, Poisson distribution, normal distribution) and the central limit theorem, which are important in statistical processing. Learn the equations of correlation and regression line as an arrangement of two-variable data. Finally, learn how to estimate and test the population.									
	Course method : Focus on understanding the content on the board, and assign as many exercises as possit to deepen understanding.							many exercises as possible		
Style	Grade evaluation method : 4 regular exams (50%) and other exams, exercises, reports and effort of class(50%). etc, A re-examination may be conducted. The retest will be evaluated in the same way as the main test, with an upper limit of 80 points. Textbooks, notebooks, etc. are not allowed for the exam.									

Precautions on enrollment : Students must take this class class hours missed) in order to complete the academic y Course advice: This course teaches the basic ideas of program importance. Notice Foundational subjects : Fundamental Mathematics (1st y and Integral I (2nd), Differential and Integral II (3rd), Diff							ability and statistical methods required for ar), Fundamental Linear Algebra (2nd), Differential ferential Equations (3rd) s after the third year ted as absent after a warning.			
		5					o Remote Class	Experienced	,	
Elective subjects										
Course Plan										
		Theme 1st Guidance					Goals			
		<u>1st</u> 2nd		-dimensional spa	ce number vecto	r space	Understanding the definition of n-dimensional space number vector space			
				ot product and G ethod	ram-Schmidt ort	hogonalization	Understanding th understanding Gr method	e definition of in am-Schmidt's or	ner product and thogonalization	
1st Quarter		r 4th	n Tr	ransformation of	space by matrix	Part 1	Understanding th matrix Part 1	e deformation of	space by a	
			n Tr	ransformation of	space by matrix	Part 2	Understanding th matrix Part 2	e deformation of	space by a	
1st		6th	n Re	Relationship between representation matrix and coordinates			Understanding th representation m	e relationship be atrix and coordir	tween the nates	
Semeste r		7th	n Di	Dimension theorem			Understanding th	e dimensional th	eorem	
		8th		id-term exam		Confirm basic matters				
		9th		ordan normal forr		part 1 Understanding Jordan Normal F				
		10	th Jo	ordan normal forr	n part 2		Understanding Jordan Normal Form Part 2			
		11	th Jo	ordan decomposition 1 part 1			Understanding of Jordan Decomposition 1 Part 1			
	2nd	12	th Jo	ordan decomposit	ion 1 part 2		Understanding of Jordan Decomposition 1 Part 2			
	Quarte	r 13	th Co	omplex numbers	and quaternions		Understanding co	mplex numbers	and quaternions	
		14	th Qı	uaternion and ro	tation		Understanding qu	uaternions and ro	otations	
		15	th La	ast term exam			Confirm basic matters			
		16	th Re	eturn of answer a	and explanation o	of answer				
Evaluati	<u>ion M</u> e	thod	and We	eight (%)						
	Examination Presentation			Mutual Evaluations between students	Behavior	Portfolio	Other	Total		
Subtotal				0	50	0	0	100		
Basic Proficienc		50		0	0	50	0	0	100	
Specialize Proficienc	ed (כ		0	0	0	0	0	0	
Cross Are Proficienc)		0	0	0	0	0	0	

Tsuyama Co	ollege	Year	2021			Course Title			
Course Information	on								
Course Code	0015			Course Cate	gory	Specializ			
Class Format	Lecture			Credits		Academi	ic Credit:	2	
Department	Advanced Me		Control System	Student Grad	de	Adv. 1st			
Term	Second Sem			Classes per V		2			
Textbook and/or Teaching Materials	Textbooks: [examples" ((Science), Ta	Distribution pri Morikita Publis adanori Kojima	ints, heat transfe hing), Reference a et al. "Ace Fluid	r, Tetsuo Hirat books: Meng Dynamics" "(ta et al Saito " Asakui	l. "Heat trar Basics of In ra Shoten) e	nsfer eng dustrial etc	ineering understood by Thermodynamics"	
Instructor		azunori,SAEK							
Course Objectives									
mechanical design me	ethods consid	ering effective	use of energy.					pen understanding of	
1. You can deepen the 2. You can deepen yo 3. 3. Understand the 4. Understand and ex	basic forms o	f heat transfei	r and explain the	heat transfer	mecha	pondence wanism in eac	ith the a h form.	ctual device.	
Rubric	<u> </u>				1.				
	Ideal Le	-	Standard Le	vel	Accep	otable Level		Unacceptable Level	
Achievement 1	the spec knowled thermoo fluid eng	and and expla cialized ge acquired ir lynamics and gineering, and the applicatior	Understand the expertise thermodyna fluid enginee	e gained in mics and	gaine	gnizes the ex d in nodynamics engineering.	and	It has not reached the left.	
Achievement 2	knowled theoretic understa the corr	eepening the ge of the cal cycle, you and and explai espondence w al device, and ply it.	in understand	of the ycle, and explain ondence with	We are aware of the correspondence between the theoretical cycle and the actual device.				
Achievement 3	basic for transfer	ic rules for the rm of heat can be applie problems.	n of heat of heat transfer and to familiar phenomena left.			It has not reached the left.			
Achievement 4	perform method	t exchanger ance evaluatic can be applied problems.		uate the e of heat	functi	in the struct on of heat angers.	ture and	It has not reached the left.	
Assigned Departn	nent Objec	tives							
Teaching Method									
	General / Sp	ecialty: Specia	alty / Energy and	Flow					
	Learning Pur understandir	pose: Acquire ng of mechanio	basic knowledge cal design metho	about energy ds considering	conve effect	ersion and th ive use of e	nermal e nergy.	nergy, and deepen	
	Mandatory /	Choice:							
	Basic field of	choice : Engi	neering / Mechan	ical Engineerir	ng / Th	nermal Engii	neering		
Outline	Basic field of choice : Engineering / Mechanical Engineering / Thermal Engineering Major Relationship with Learning Objectives: This subject is the subject's Learning Objectives "(2) Materials and Structure, Motion and Vibration, Energy and Flow", Acquire knowledge of specialized fields of technology such as information and measurement / control, design and production / management, machines and systems, and acquire the ability to utilize them for design, policy, and operation of machines and systems. " is there.								
	Relationship with engineer education program: The main goals of learning / education in this subject are "(A) Deepening of basic knowledge about technology, A-2:" Materials and structure "," Movement and vibration "," Energy and To be able to acquire and explain the knowledge of specialized technical fields related to "flow", "information and measurement / control", "design and production / management", and "machines and systems". Concomitantly, it is also involved in "A-1".							on in this subject are "(A) lovement and vibration "," l fields related to "flow", and "machines and	
	outline vario of familiar cy	us cycles and cles and the b	heat conduction , basics of mechani	/ heat transfer cal design con	r. We v Isiderir	will explain t ng thermal e	he perfo energy tr		
Style	confirming e	xpertise in the	be conducted wi ermodynamics an ne understanding	d fluid enginee	ering. (Consider the	e applicat	p experiments while tion to actual problems	
	lis made bv a	iddina exercise	The grades of th es, assignments (to bring textbook	reports), and	learnir	na outcomes	s outside	b), and the total evaluation class hours (30%). etc. to the exam.	

		Precaut	ions for taking this o	course: This cour	rse is a "course i	that requires stud	y outside of class	hours".	
		Course	advice: Basic knowl	edge of thermod	ynamics and flu	id engineering is a	a prerequisite.		
Notice		Founda (3rd), I enginee	tion courses: Different ntroduction to Thern ering (5th), Energy (ential and Integra modynamics (3rc Conversion Engin	al I (2nd year), l l), Thermodyna eering (5th), et	Differential and In mics (4th), Fluid e c.	tegral II (3rd), M engineering (4th)	echanics III , Heat transfer	
		related	Subject: Mechanica	I / Control Syster	m Special Experi	iment (Adv. 1st ye	ear), Fluid mecha	nics (Adv. 2nd)	
		Advice underst	on attendance: Volu anding of class Wor	Intary for exercis k positively. Late	es and given tag arrivals over 20	sks to be conducte 0 minutes are con	ed during class to sidered absent.	deepen	
Charact	eristics		/ Division in Lea						
□ Active	Learnin	g	□ Aided by ICT	-	Applicable t	o Remote Class	☑ Instructor Pre Experienced	ofessionally	
Elect	ive	subjec	cts		l		— · P • · · • · • • •		
Course	Plan		1			I			
			Theme			Goals			
		1st	Outline of the level to th	e class hours: Im view of assignme	iposing ents.				
		2nd	 Basics of thermo open system and c Learning outside pump] 	losed system •	heat numn)	Understand and e	explain the items	on the left.	
		3rd	 Air standard cyc etc.) Learning outside [Thermal efficiency] 	e class hours: Ta	, , .	Understand and e	explain the items	on the left.	
	3rd Quartei	- 4th	Characteristics of conversion state for Learning outside [Steam state]	ormula. etc.)		Understand and explain the items on the left.			
		5th	Steam cycle ① Learning outside [Steam cycle]	(Basics of Rankin e class hours: As	e cycle) signment (5)	Understand and e	explain the items	on the left.	
		6th	Steam cycle ② (cycle) Learning outside [composite cycle]	, ,		Understand and e	explain the items	on the left.	
		7th	Application of st Learning outside [Application of hea	e class hours: Ta	sk (7)	Understand and e	explain the items	on the left.	
2nd		8th	Mid-term exam						
Semeste r		9th	 Guidance Three modes of heat transfer (heat conduction, convective heat transfer, radiation heat transfer) - Fundamentals of heat conduction (the Fourier's law) 			Understand and explain the items on the left.			
		10th	Heat conduction equation,overall he Learning outside conduction and over	eat transfer) e class hours: Ta	sk (1) Heat	Understand and explain the items on the left.			
		11th	Convective heat coefficient, heat tra- Learning outside convection heat tra-	ansfer equation) e class hours: Ta		Understand and explain the items on the left.			
	4th Quartei	12th	Heat exchanger logarithmic mean t Learning outside Logarithmic mean	temperature diffe e class hours: Tas temperature diffe	erence) sk (3) erence	Understand and explain the items on the left.			
			Heat exchanger number of heat tra Learning outside Temperature efficie	ansfer units) e class hours: Ta		Understand and e	explain the items	on the left.	
14th			Condensation and Learning outside condensation	nd boiling heat tr e class hours: Ta	ansfer sk (5) Film	Understand and explain the items on the left.			
 Radiation heat transfer (mechanism of radiation heat transfer, black/gray/real surfaces, view factors) Learning outside class hours: Task (6) Radiation exchange 						Understand and explain the items on the left.			
16th · Final exam									
Evaluati	ion Me	thod and '	Weight (%)		1		1		
	E	Examination	Presentation	Mutual Evaluations between students	Behavior	Report	Other	Total	
Subtotal	7	'0	0	0	0	30	0	100	

Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	70	0	0	0	30	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Advanced Design Engineering	
Course Informati	on						
Course Code	0016			Course Category	Specializ	zed / Elective	
Class Format	Lecture			Credits	Academ	ic Credit: 2	
Department	Advanced Mechanical and Control System Engineering Course			Student Grade	Adv. 1st	t	
Term	Second Sem	ester		Classes per Week	2		
Textbook and/or Teaching Materials Textbook: MAKABE "New Edition: Introduction to Reliability Engineering" (Japanese Standards Association) Reference Book: Omura "Story of Reliability Engineering" (Union of Japanese Scientists and Engineers) is easy to read.							
Instructor KONISHI Daijiro							
Course Objective	Course Objectives						

Learning purposes :

From the standpoint of ensuring product reliability at the design stage, the goal of this class is to reconsider the learned mechanical design in terms of reliability.

By understanding the basic ideas and methods of machine design, including machine elements, you will acquire basic design skills rélated to various systems.

Course Objectives

1. Understand the basic concepts and methods of mechanical system design based on the mechanical engineering and electronic

Control engineering subjects studied in your department.
 Machine and system design is directly linked to production activities around the world. Understand the significance of standardization and the importance of ISO and JIS standards.
 Learn how many angles it is necessary to study in the design of an actual mechanical system, and acquire the basic ability to design around the anglies in the design of an actual mechanical system.

design specific issues. In addition, students will learn the comprehensive application capabilities of various disciplines and technologies through lectures on applied design engineering. It is possible to tackle issues by fusing various knowledge of specialized engineering and consider the impact of knowledge on

society.

Rubric

RUDIIC				
	Excellent	Good	Acceptable	Unacceptable Level
Achievement 1	Using the reliability evaluation method, it is possible to evaluate issues such as design requirements and problems and make logical decisions.	Explain the basic knowledge and theory for applying reliability engineering to your specialty.	You can generally say the basic knowledge and basic theory for applying reliability engineering to your specialty.	Can not say the basic knowledge and theory for applying reliability engineering to your specialty.
Achievement 2	It is possible to study the design of mechanical systems in consideration of reliability and safety while operating ISO and JIS standards.	The reliability of the system can be calculated from the reliability of the parts that make up the system, and design studies can be conducted with consideration for reliability and safety.	The reliability of the system can be roughly calculated from the reliability of the parts that make up the system.	The reliability of the system cannot be calculated from the reliability of the parts that make up the system.
Achievement 3	The limit model, durability model, and failure distribution model can be explained from the viewpoint of machine life, and can be analyzed using differentiation and integration.	Explain the reliability evaluation scale.	The reliability evaluation scale can be said in general.	The reliability evaluation scale can not be said.
Achievement 4	Explain the basic items for designing a machine while considering the user, productivity, and environment.	Explain the role of reliability engineering.	The role of reliability engineering can be generally said.	The role of reliability engineering can not be said.
Assigned Departmer	nt Objectives			
Topphing Mothed				

Teaching Method

Outline

General or Specialized : Specialized

Field of learning : Design and production / management

Foundational academic disciplines : Engineering/Mechanical engineering/Production Engineering/Processing Studies

Relationship with Educational Objectives : This class is equivalent to (2) Acquire knowledge in specialized technical fields such as materials and structure, motion and vibration, energy and flow, information and measurement / control, design and production / management, and machines and systems, and can be used for designing, manufacturing, and operating machines and systems.

Relationship with JABEE programs The main : The main goals of learning / education in this class is (A), A - 2. We also learned about the importance of global standards and are incidentally related to "B-1".

Course outline : Based on the mechanical engineering and electronic control engineering subjects studied in the department, we will learn what kind of process is used to design machines and systems that are active in modern society. Explain the basic concept of reliability design.

		Course	method :							
		Classes		In addition, in ring the progres	order to deepen understanding, exercises will be as of the lesson.					
Style		The res allowed underst	Grade evaluation method : The results of the two regular exams are evaluated equally (70%). For each examination, textbooks are not allowed. Students who score less than 60 points in each examination may have their scores changed if their understanding is confirmed through make-up exams and retests. However, the score after the change will not							
		Precaut Student This sul per crea these st	exceed 60 points. Evaluation is also based on exercises and reports (30%). Precautions on the enrollment : Students must be completed (no more than 1/3 of the required numbers of class hours may be missed). This subject is a "subject that requires study outside of class hours". Classes are offered for 15 credit hours per credit, but 30 credit hours are required in addition to this. Follow the instructions of your instructor for these studies. Course advice :							
Notice		been le Therefo learned machine coverine knowleo probabi	arned in the past to the design that r rre, as preparatory learning to be per so far while considering how the cor e system. As background knowledge g mechanical engineering and electro dge (understanding of algebras, and	regards the mad formed in adva mponents of the , knowledge ab onic control eng meanings and o y and statistics	om the machine element design method that has chine as a system. ance, it is recommended to look back on the items e machine affect the functions of the entire out mechanical design, knowledge about subjects jineering in general, simple mathematical operations of symbols such as n !, exp, ln), (meaning of mean value, median, probability,					
		Founda	pundational subjects : In addition to subjects covering mechanical engineering and electronic control ngineering in general, knowledge of mechanical design, simple mathematics and statistics, etc.							
		Related (Advan	d subjects : Energy System Engineering (Advanced Course 1st), Applied Creative Engineering need Course 1st), Strength and Fracture of Materials (Advanced Course 2nd), etc.							
		Basic kr to think	nce advice : nowledge of mechanical engineering carefully about what manufacturing be late for up to 25 minutes, and if	and production						
Charact	eristics	of Class	/ Division in Learning	1						
🗆 Active	e Learning		□ Aided by ICT	☑ Applicable t	to Remote Class					
Elect	tive s	subjec	cts							
Course	Plan	1			1					
			Theme		Goals					
			Guidance, Design and reliability 1 [I technology of reliability, quality mai system] Learning contents outside class hou (Instructions): • Product liability an quality, ○ Functions and performar those who are not from mechanical	nagement Irs [Items] d reliability as nce, QCD (for	Explain the significance of recognizing the concept of "reliability" and thinking about reliability for "systems". Understand the importance of reliability issues. Explain the basic concepts of marketing, "product out" and "market in". You can understand the relationship between quality assurance and reliability from the point of view of product quality assurance. It can be explained that quality is a "ruler" that represents the value of an item.					
		2nd	Design and reliability 2. Introductio [Reliability engineering, reliability te analysis]	est data	Explain the role of reliability engineering and the evaluation scales needed to consider maintaining and improving reliability. Understand that there are patterns in failure occurrence and explain the bathtub curve.					
			Learning content outside class hour (Instructions): • Same as above, or data (histogram)		Understand the concept of population and specimens. Understand the handling of reliability data.					
2nd			Failure model and strength / life de [Strength function and model]	sign 1	Explain the reference strength, the relationship					
Semeste r	3rd Quarter	3rd	Learning contents outside class hou (Instructions): • Failure as an object relationship between strength design reliability, random variable and pro- distribution, O Load and strength, st design, time-dependent fracture and dependent fracture, safety factor, do coefficient	ct of reliability, an and bability stress-based d Non-time-	between the allowable stress and the safety factor, and the concept and necessity of the safety factor. Understand the basic concepts and properties of random variables and probability distributions. Probability can be calculated for the normal distribution.					
			Failure model and strength / life de [Progress process of metal fatigue]	5	Deepen your understanding of the fatigue properties of materials and calculate the fatigue life of structures from the miner's law (linear					
		4th	Learning contents outside class hou (Instructions): • Minor rule, Paris ru fracture, elastic deformation and pl deformation, crystal slip, fatigue str curve, fatigue limit	ule, O Fatigue astic	cumulative damage rule) and the Paris law (crack growth law). Understand the concepts of safe life design (safe life design) and fail-safe design (damage tolerance design).					
			Reliability scale [probability density distribution function, reliability func instantaneous failure rate function] Learning content outside class hour	tion, ·s [Items]	Explain the structure of the machine tool body. Explain the principles and ideas necessary to realize high-precision machining. Understand the elemental technologies of machine tools / cutting tools technologies /					
			(Instructions): • Relationship betwee and reliability / failure rate		machining technologies and consider measures for precision machining.					

	6	ith L	ailure distribution earning content c Instructions): • D nd continuous pro	outside class hour iscrete probabilit	rs [Items] y distribution	Understand the meaning of the binomial distribution, Poisson distribution, and exponential distribution (population probability distribution) in the probability distribution model. Understand that there are patterns in failure occurrence and explain the bathtub curve. The failure distribution model can be explained from the viewpoint of machine life. It can be explained that the four functions of probability density function: f, cumulative distribution function: F, reliability function: R, and instantaneous failure rate functions is known, the remaining three functions can be obtained.			
	7	'th L	eliability test 1 [Data analysis of reliability test] earning content outside class hours [Items] Instructions): • Arrangement of field data estimation and test)			Understand reliability testing and handling of reliability data. Given the information on the components of the system, each reliability rating scale can be calculated. The reliability characteristic value can be estimated from the data of the time until failure or the life, and the life phenomenon can be estimated from the failure distribution model. Understand the concept of estimation and can estimate by point estimation. Interval estimation and test of population mean can be performed.			
	8th			term exam		can be performed.			
	9th			entary of exam a rediction of reliab outside class hour ystem reliability r ential distributior	ility [system s [Items] nodel (parallel	The reliability of s (redundant) syste The reliability of t from the reliabilit system.	ems cań be calcu he system can b	lated. e calculated	
			Veibull plot [Weib		1	The failure phenomenon and life can be estimated			
	10th		earning content o Instructions): • li eld data	utside class hour		from the shape o (failure distribution It can be analyze paper.	f the failure time on model).	distribution	
			eliability test 2 [F	ailure physics, re	eliability test]	Understand the ir	nportance of reli	ability testing	
	1	1th L	earning content o Instructions): • A Inspection	outside class hour	s [Items]	and reliability tes Understand the p analysis and Arrh temperature acce	ting methods. rocedure for perf enius plot for life	forming Weibull	
4th Quarte	4th Quarter 12th 13th		laintainability and eliability design] earning content o Instructions): • Ei vailability, ergond	outside class hour rror recovery, ma	s [Items]	The reliability of the repair system can be calculated. Explain the meaning of availability and calculate the availability of repair systems. It can be explained that maintainability is indispensable for maintaining the reliability of the product and exerting the function of the product. The product to be designed can be designed whil considering the user and the environment.			
			lachine safety and nd failure probabi earning content o Instructions): • Si nodel and stress b	ility] outside class hour tress / strength c	s [Items]	Understand the o which is the inter It is possible to d consideration for	utline of safety to face with reliabili esign a mechanic	echnology, ty.	
	1	4th	eliability analysis earning content o Instructions) • Ris	outside class hour	s [Items]	FMEA and FTA methods can be used as trouble prevention methods. Risk management techniques can be used to predict and respond to failures. By using a reliability evaluation method that solves real problems in a real way, problems such as design specifications and problems can be clarified, and logical judgments can be made for the problems.			
	1	.5th (1st semester final	exam)					
			eturn and comme	1	nswers.				
Evaluation M				<u> </u>		I			
		nination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Work / report	Total	
Subtotal	70		0	0	0	0	30	100	
Basic	0		0	0	0	0	0	0	
Proficiency Specialized	70			0	0		30	100	
Proficiency Cross Area	-		0	-	-	0			
Proficiency						0	0	0	

Tsuyama Co	llege	Year	2021			Course Title	Applie Engine	d Creative eering
Course Information	on							
Course Code	0017			Course Cate	gory	Specializ	ed / Elec	ctive
Class Format	Lecture			Credits		Academi	ic Credit:	2
Department	Advanced Me Engineering		Control System	Student Grad	Student Grade Adv. 1st			
Term	First Semest			Classes per \		2		
Textbook and/or Teaching Materials	Publishing) R from the per Japan Societ comprehensi	Reference: To spective of kn y of Mechanic ive and princi	yoji ITO "Essenc now-how at prod al Engineers (Ni	e of Ultra-Preci luction sites. "P kkan Kogyo Shi For beginners t	sion M rinciple imbun o learr	achining" (N es of Produc) explains ov n about mac	likkan Ko tion Proo verall pro hine ma	k Series 16)" (Corona ogyo Shimbun) explains cessing" edited by the oduction processing from a nufactring in general, ead.
Instructor	KONISHI Dai	ijiro						
Course Objectives								
Learning purposes : To deepen the basic knowledge about ultra-precision machining by thinking about machine tools, cutting tools, machining processes and their technologies for high-precision machining. Course Objectives :								
 Consider the fields of application of precision machining and ultra-precision machining and their social implications. Understand the definition of ultra-precision machining and knowledge about precision machining, and consider measures for high-precision machining. Reconfirm basic knowledge about machining and machine tools. Understand the element design technology of machine tools and tool technology for ultra-precision machining. Understand the metal cutting mechanism. Understand the characteristics of cutting / grinding / polishing and understand the challenges for ultra-precision machining. Understand the machining process of composite machining and gain knowledge about application examples to ultra-precision machining. 								
Rubric								
	Excellen	t	Good			otable		Unacceptable Level
Achievement 1	applicati machinii precisior	e the fields of on of precisio ng and ultra- n machining a cial implicatior	nd precision m	of precision and ultra- nachining and	The fields of application of precision machining and ultra-precision machining and their added value can be generally said.		nining n eir	Can not say the fields of application of precision machining and ultra- precision machining.
Achievement 2	of ultra- machinii knowled precisior be able consider	and the defini precision ng and ge about n machining, a to evaluate ar guidelines fo n machining.	and classify difference i normal ma precision m micromach relationship	between chining / ultra- nachining / ining from the between the unit and the	e between veen unit and ing / ultra- ining / g from the precision and the microma		hin'ing of the ce - ng /	From the relationship between the machining unit and the size of the tool, the difference between normal machining / ultra- precision machining / micromachining can not be said.
Achievement 3	machinin classifyir viewpoir the mas workpie Explain t tools are on displa Explain t betweer	eristics of varie ng methods b ng them from nt of changes s of the ce. that the mach e designed bas acement. the relationsh n machine too cools, and	y Explain the characteris machining classifying viewpoint o the mass o workpiece. Explain tha ip tools are do	tics of various methods by them from the of changes in f the t the machine esigned based	chara mach classi viewp the m	in the interistics of ining metho fying them f point of char ass of the piece.	ds by from the	Can not explain the characteristics of various machining methods by classifying them from the viewpoint of changes in the mass of the workpiece.
Achievement 4Explain the element design technology of machine tools and cutting tool technology, phenomena and models of removal process, and evaluate and consider machining.Explain the element design technology of machine tools and cutting tool technology, phenomena and models of removal process.Can be said the element design technology of machine tools and cutting tool technology, phenomena and models of removal process.Can be said the element design technology of machine tools and cutting tool technology, phenomena and models of removal process.Can be said the element design technology of machine tools and cutting tool technology, phenomena and models of removal process.		y of d iology, models	Can not be said the element design technology of machine tools and cutting tool technology, phenomena and models of removal process.					
Achievement 5	/ grindir from the principle and exp	eristics of cutting / polishing e processing e, and evaluation methods or ultra-precis	e from the pi and principlo	tics of cutting / polishing	princi chara / grin	the process ple, the cteristics of ding / polish merally said.	cutting ning can	From the processing principle, the characteristics of cutting / grinding / polishing can not be said.

Achievement 6	Understand the machining process of cutting / grinding / polishing, explain application examples to ultra-precision machining, and evaluate and consider issues of ultra-precision machining technology.	Understand the machining process of cutting / grinding / polishing, explain application examples to ultra-precision machining.	Understand the machining process of cutting / grinding / polishing, and can generally say about application examples to ultra-precision machining.	Can not understand the machining process of cutting / grinding / polishing, and can not say about application examples to ultra- precision machining.				
Achievement 7	Understand the machining process of composite machining and explain the knowledge about application examples of ultra- precision machining.	Understand the machining process of composite machining and explain application examples of ultra- precision machining.	Explain the application example of composite machining to ultra- precision machining.	Can not explain the application example of composite machining to ultra-precision machining.				
Assigned Departn	nent Objectives							
Teaching Method								
	General or Specialized : Specia	alized						
	Field of learning : Design and	production / management						
	Foundational academic discipli Studies	ines : Engineering∕Mechan	ical engineering∕Produ	ction Engineering/Processing				
Outline	Relationship with Educational technical fields such as materi measurement / control, design for designing, manufacturing,	als and structure, motion a n and production / manager	nd vibration, énergy and ment, and machines and	flow, information and				
	Relationship with JABEE progr A – 2	ams The main : The main	goals of learning / educ	ation in this class is (A),				
	Course outline : Precision and ultra-precision machining technologies play an important role in modern science and technology, and are evolving and developing complementarily with other peripheral techno. In this lecture, we will give an overview of the features and mechanisms of precision and ultra-precisio machining technologies, mainly for cutting and abrasive machining, and learn about their roles in adva technologies.							
	Course method : Classes will be conducted usin about machining and machine understanding, exercises will b	tools that we have acquire	d so far. In addition, in	order to deepen				
Style	Grade evaluation method : The results of the two regular exams are evaluated equally (70%). For each examination, textbooks are allowed. Students who score less than 60 points in each examination may have their scores changed if their understanding is confirmed through make-up exams and retests. However, the score after the change will not exceed 60 points. Evaluation is also based on exercises and reports (30%).							
	Precautions on the enrollment Students must be completed (This subject is a "subject that per credit, but 30 credit hours these studies.	no more than 1/3 of the re requires study outside of cl	ass hours". Classes are	offered for 15 credit hours				
Nation	Course advice : This is a subject that requires knowledge of machining and machine tools that have been learned so far. Therefore, as a preparatory study to be conducted in advance, it is recommended to look back on the knowledge about machining and machine tools learned in your department. Students from other than Mechanical Systems are required to review mechanics and self-learn what students gratuated from Mechanical Systems have learned in Manufacturing Technology, Mechanical Design, and Strength of Materials.							
Notice	Foundational subjects : Design of Mechanical Elements I, II (Mechanical 3rd, 4th year), Manufacturing Technology (Mechanical 2nd), Instrumentation Engineering (Mechanical 4th)), Material Processing (Mechanical 5th), etc.							
	Related subjects : Experiments of Mechanical and Control Systems (Advanced Course 1st), Advanced Design Engineering (Advanced Course 1st), etc.							
	Attendance advice : Based on the knowledge learn technology in machine tools, c technology for improving mac You can be late for up to 25 m	cutting tool technology, mac hining accuracy.	chining technology, cont	rol / measurement				
Characteristics of	Class / Division in Learn							
Active Learning	□ Aided by ICT			Instructor Professionally perienced				
Elective su			IEX	שרוכוונפט				
Course Plan	. , -							
	Theme		Goals					

		1	Ι	ļ
			Guidance, Products to which the ultra-precision machining method is applied	
		1st	Learning contents outside class hours [Items] (Instructions): O Precision and accuracy, three elements of accuracy, functional compatibility, dimensional tolerance and fits, geometrical tolerance, surface texture (for those who are not from Mechanical Systems)	Describe the fields of application of ultra-precision machining and micromachining and their social implications.
			Background of ultra-precision machining 1 [What is ultra-precision machining?]	
		2nd	Learning contents outside class hours [Items] (Instructions): • Technical trends of machine tools from the viewpoint of function / machining accuracy (for all students), ○ Outline of removal process, shape of workpiece and tool motion relationships, cutting mechanisms and processes, machinability, cutting tools and machine tools	Understand how to cut machine materials and the basics of machine tools.
			Background of ultra-precision machining 2 [Types of ultra-precision machining]	Explain the characteristics of various machining methods by viewing and classifying them from
		3rd	Learning contents outside class hours [Items] (Instructions): • Ultra-precision machining technology from the viewpoint of transferability and resolution of machining, ○ Machining principle, abrasive machining, fixed abrasive machining and free abrasive machining, self- sharpening, grinding, grinding wheel / grinding fluid	the viewpoint of changes in the mass of the workpiece. Explain the characteristics of cutting / grinding / polishing from the viewpoint of transferability and resolution. Understand and classify the difference between normal machining / ultra-precision machining / micromachining.
			Background of ultra-precision machining 3 [Basic technology of ultra-precision machining system]	
	1st Quarter	4th	Learning contents outside class hours [Items] (Instructions): • Reproducibility and basic technology of ultra-precision machining machine, \bigcirc Hooke's law, rigidity, residual stress, coefficient of thermal expansion of cast iron / steel (linear expansion coefficient), self-excited vibration, vibration isolation and vibration control, numerical control (NC), feedback	Understand the elemental technologies of machine tools / cutting tools technologies / machining technologies and consider measures for precision machining.
			Ultra-precision machine tools 1 [Structure of machine tools, roles of components, structural	
1st Semeste r		5th	elements] Learning contents outside class hours [Items] (Instructions): • Basic components of machine tools and shape-creating motion, • Relationship between mechanical properties and rigidity of structural materials, \bigcirc Line of force, flexural rigidity, torsional rigidity, equation of motion of 1 degree of freedom lumped constant system model, material characteristic value and structural material	Explain the structure of the machine tool body. Explain the principles and ideas necessary to realize high-precision machining. Understand the elemental technologies of machine tools / cutting tools technologies / machining technologies and consider measures for precision machining.
			Ultra-precision machine tools 2 [Machine tool components and technical ingenuity-spindle]	Explain the structure of machine tools and the drive system of the spindle.
		6th	Learning contents outside class hours [Items] (Instructions): • Rigidity of spindle (bearing structure) and rotation accuracy, rigidity of guidway and motion accuracy, technical ingenuity for speedup, ○ Rolling bearing / hydrodynamic bearing (dynamic pressure) / hydrostatic bearing (static pressure), Newton's law of viscosity, pressure flow and shear flow,equation of continuity	Explain the principles and ideas necessary to realize precision machining. Understand the elemental technologies of machine tools / cutting tools technologies / machining technologies and consider measures for precision machining. Explain the principle of fluid lubrication of plain bearings and journal bearings. Explain the difference between hydrostatic bearings and dynamic pressure bearings and the principle of hydrostatic bearings.
			Ultra-precision machine tools 3 [Machine tool components and technical ingenuity-linear motion mechanism]	Explain the structure of machine tools and the drive system for quidway.
		7th	Learning contents outside class hours [Items] (Instructions): • Rigidity and motion accuracy of linear motion mechanism • technical ingenuity for speedup, O Servo system elements: servomotor, coupling, ball screw / nut, encoder, linear scale	Explain the principles and ideas necessary to realize precision machining. Understand the elemental technologies of machine tools / cutting tools technologies / machining technologies and consider measures for precision machining.
		8th	1st semester mid-term exam	
	2nd Quarter	9th	Return and commentary of exam answers. Tools for ultra-precision cutting [ultra-precision cutting tools and tool holders] Learning contents outside class hours [Items] (Instructions): • Items required for cutting tools, O Chuck machine vise collect chuck single point	Understand the elemental technologies of machine tools / cutting tools technologies / machining technologies and consider measures for precision machining. Acquire basic knowledge about machine tools / cutting tools / machining processes, and be able to consider ultra-precision machining techniques and issues.
			Chuck, machine vise, collet chuck, single point tool, ceramics / cemented carbide / high-speed tool steel, hardness / toughness, wear	Explain the properties that cutting tools should have and the conditions and types of cutting tool materials. Explain the phenomenon caused by the wear of the cutting tool edge and the cutting tool life.

10th Learning Contents of Learning Contents, Shorts Tutting, Contents, Shorts Tutting, Contents, Shorts Tutting, Shorts Cash, Shorts Cas										
11th Metal cutting mechanism 2 [Cutting resistance and machining with a single shear plane model] Acquire basic knowledge about machining tocesses, and be cutting tools / machining processes, and be cutting, the model (and be cutting, the form of lead ue to cutting, the form of lead ue to cutting, the index cutting tools / machining machining and technical ingenuity for higher acu			10th	chips] Learning contents (Instructions): • I Decomposition and equilibrium of forc and brittle fracture stress and shear s	outside class hou Phenomenon of c d composition of es / moments, du e, stress and stra	After understanding the phenomenon of removal				
13th Surface, method of obtaining high quality finished surface roughness by cutting and ultra-precision cutting mechanism] · Abrasive machining [Model for grinding, problems of grinding, conventional grinding and Its features] It is possible to describe the precision cutting technology and its social implications. Explain how to devise cutting tools to improve machining accuracy and productivity. 12th Learning contents outside class hours [Items] (Instructions): · Relationship between cutting conditions / tool conditions and surface roughness, O Real contact, adhesion, heat treatment (annealing, recovery and recrystallization), austenite, O Probability density function, (cumulative) distribution function, upward / downward cutting Explain the 3 elements and 5 factors of the g wheel, and explain how to select the grind we from the relationship between these and the grinding and technical ingenuity for higher accuracy 13th Learning content outside class hours [Items] (Instructions): · Characteristics of abrasive machining using fixed abrasive grain tools. Explain the estainism and features of grind It is possible to describe the high precision grinding using fixed abrasive grain tools. Explain the mechanism and features of grind It is possible to describe the high precision grinding technology and its social implications. 13th Ultra-precision polishing [conventional polishing method and ultra-precision polishing] Polishing can be classified according to how to			11th	Metal cutting mech and machining wit Learning contents (Instructions): • • 0 shear plane model defects (point defe surface defects (gi	th a single shear outside class hou Cutting resistance , ○ Friction angle ects, line defects	plane model] urs [Items] e and single e, material (dislocations),	cutting tools / ma to consider ultra- and issues. Explain the mech chips, the genera the build up edge After understand of removal proce	achining processe precision machin anism of cutting, ition of heat due a ing the phenome	es, and be able ing techniques the form of to cutting, and nological theory	
12th Learning contents obtained subsciences how and surface roughness, O Real contact, adhesion, heat treatment (annealing, recovery and recrystallization), austenite, O Probability density function, (cumulative) distribution function, upward / downward cutting Explain how to devise cutting tools to improve machining accuracy and productivity. 13th Ultra-precision grinding [ultra-precision grinding] Explain the 3 elements and 5 factors of the grind w from the relationship between these and the grinding performance. 13th Learning content outside class hours [Items] (Instructions): • Characteristics of abrasive machining and technical ingenuity for higher accuracy Explain the similarities and differences betwee grinding using fixed abrasive grain tools. Ultra-precision polishing [conventional polishing] Ultra-precision polishing [conventional polishing] Polishing can be classified according to how to the social implication				surface, method o surface roughness cutting mechanism for grinding, probl	f obtaining high of by cutting and un n] • Abrasive ma ems of grinding,	quality finished Iltra-precision achining [Model				
13thUltra-precision grinding [ultra-precision grinding] Ultra-precision grinding [ultra-precision grinding] Learning content outside class hours [Items] (Instructions): • Characteristics of abrasive machining and technical ingenuity for higher accuracywheel, and explain how to select the grind w from the relationship between these and the grinding performance. Explain the similarities and differences betwee grinding and polishing. Abrasive machining can be classified into machining using fixed abrasive grain tools an free abrasive grain tools. Explain the mechanism and features of grind It is possible to describe the high precision grinding technology and its social implicationUltra-precision polishing [conventional polishing]Polishing can be classified according to how to polishing can be classified according to how to	12th			(Instructions): conditions / tool co roughness, treatment (anneal recrystallization), function, (cumulat	instructions): • Relationship between cutting onditions / tool conditions and surface oughness, ○ Real contact, adhesion, heat eatment (annealing, recovery and ecrystallization), austenite, ○ Probability density inction, (cumulative) distribution function,			Explain how to devise cutting tools to improve		
method and ultra-precision polishing] Polishing can be classified according to how t			13th	Ultra-precision grinding [ultra-precision grinding] Learning content outside class hours [Items] (Instructions): • Characteristics of abrasive machining and technical ingenuity for higher accuracy			Explain the similarities and differences between grinding and polishing. Abrasive machining can be classified into machining using fixed abrasive grain tools and free abrasive grain tools. Explain the mechanism and features of grinding It is possible to describe the high precision			
14th Learning contents outside class hours [items] (Instructions): • Characteristics of processing with fixed and free abrasive grains, • Processing mechanism for super smooth surface creation It is possible to describe the high-precision polishing technology and its social implication		14th Learning contents outside class hours [I (Instructions): • Characteristics of proc with fixed and free abrasive grains, • P		urs [Items] processing Processing	Polishing can be classified according to how th abrasive grains are fixed.		precision			
15th (1st semester final exam)				\						
16th Return and commentary of exam answers.					entary of exam a	nswers.				
Evaluation Method and Weight (%)	Evaluatio	on Me	thod and \	Weight (%)	1		1	1	1	
ExaminationPresentationMutual Evaluations between studentsBehaviorPortfolioWork / reportTotal					Evaluations between					
Subtotal 70 0 0 0 30 100	Subtotal	7	70	0	0	0	0	30	100	
Basic Proficiency 0 0 0 0 0 0 0 0 0	Proficiency	/)	0	0	0	0	0	0	
Specialized Proficiency 70 0 0 0 30 100	Proficiency	/ /	70	0	0	0	0	30	100	
Cross Area Proficiency000000)	0	0	0	0	0		

Tsuyama Co	llege	Year	2021			Course Title	Advan Appara	iced Control atus
Course Information	on							
Course Code	0018			Course Cate	gory	Specializ	ed / Elec	tive
Class Format	Seminar			Credits		Academi	ic Credit:	2
Department	Engineering	Course	Control System	Student Grad		Adv. 1st		
Term	First Semest	ter		Classes per \	Neek	2		
Textbook and/or Teaching Materials		aterials as nee	eded					
Instructor	INOUE Hiroy	/uki						
Course Objectives	5							
Learning purposes : To understand the cha PLCs and microcontro				atic actuators,	three-p	phase induc	tion mot	ors, DC servomotors,
Course Objectives : 1. To understand the 2. To understand the 3. To explain the struct 4. To understand PLC 5. To explain the basic	control circui cture and cha s and ladder	it of a pneuma aracteristics of diagrams.	tic actuator. DC servo motors					
Rubric								
	Exceller	nt	Good		Accept	table		Not acceptable
Achievement 1	pneuma configur	ble to draw atic circuit ration and ce diagram by	circuits and	nd pneumatic sequence	To exp of pne	plain the op sumatic actu	eration uators.	Not reached the left.
Achievement 2	circuit a diagram	atic actuator b			contro	derstand th I method o natic actuat	f	Not reached the left.
Achievement 3		ve mathematic of DC servo	al To explain the characteristic servo motor	cs of DC		derstand th ure of a DC		Not reached the left.
Achievement 4	diagram	v PLC wiring ns and ladder ns for a simple tem	diagrams an	nd PLC wiring Id ladder	To uno diagra	derstand th m.	e ladder	Not reached the left.
Achievement 5	To expla microco	ain the impact mputers on al technology.	and configur	ation of a	To exp of a m	plain the fur	nctions ter.	Not reached the left.
Assigned Departn	nent Objec	ctives						
Teaching Method								
2	General or S	Specialized : Sp	pecialized					
	Field of loar	ning : Enorav	/ Measurement a	nd Control				
		5 577						
	Foundationa	il academic dis	ciplines : Enginee	ering / Mechar	nical En	gineering /	Mechani	cal Mechanics / Control
Outline	Relationship of the major	with Educatio subject area	nal Objectives : 1	This class is eq	luivaler	nt to "(3) Ao	cquire de	ep foundation knowledge
	Relationship	with JABEE p	rograms : The ma	ain goals of lea	arning /	/ education	in this cl	ass are "(A) , A-2.
	based on mo	control, to lea	irn about the stat heory. To learn c w of stability or ir	controllability a	ntrol sy and obs	vstems and servability b	the impr ased on	ovement of response the state equation.To
Style	Course meth Modern cont methods bas Grade evalue A grade of le	nod : trol theory is b sed on the sta ation method ess than 60 po	ased on matrix o te equation of dyi : Exams (70%) + ints may be requ	perations, line namic systems portfolio (30º ired to retake	s are ex %). the exa	xplained in a am, and the	detail. e average	, and then control
	score of 60	points.		-				the student will receive a nours". Classes are offered
	for 15 hours instructor fo	s per credit, bu r these studies	it 30 credit hours s.	are required i	n addit	ion to this.	Follow th	ne instructions of your
Notice	Course advid	ce : Modern co	ontrol theory uses	matrix calcula	ation, s	o it should	be reviev	wed thoroughly.
	Foundationa	I subjects : Co	ontrol Engineering	g (4th year), R	obot C	ontrol (5th	year)	
	in hobbies, s	so it is recomn	ny cases, control nended that stude gh such work.	devices are us ents have the	sed in t opporti	he producti unity to con	on of exp ne into co	perimental equipment or ontact with actual devices
Characteristics of	Class / Div	<u>vision in L</u> ea	arning					
				1				structor Professionally

Elect	tive	subjec	cts					
Course	Plan							
			Theme			Goals		
		1st	Guidance			Understand th	e concept of pr	neumatic circuits.
		2nd	Pneumatic techno	neumatic technology for automation			e concept of pr	neumatic circuits.
		3rd	Pneumatic techno	logy for automa	tion	Explain air cyli	nders and spee	ed controllers.
	1st	4th	Pneumatic techno	logy for automa	tion	Understand co	ontrol method a	in air cylinder.
	Quarter	- 5th	Pneumatic techno	logy for automa	tion	Explain directi	onal control val	ves.
		6th	Pneumatic techno	logy for automa	tion	Explain power systems.	transmission a	nd distribution
	7th		AC and three-pha	se induction mot	tors	Explain induct	ion motors.	
1st Semeste			DC servo motor			Explain DC ser	vo motor	
r	9th		Stepping motor			Explain steppi	ng motor	
		10th	Various sensors		Explain capaci photoelectric	tive proximity s ensors.	sensors and	
		11th	Switches, relays			Explain Switch	es and relays.	
	2nd	12th	Sequence control	Sequence control			e concept of se	equence control.
	Quarter	13th	PLC	C				
		14th	Microcomputer for control			Explain Arduin	o and Raspber	ry Pi.
		15th	(1st semester fina	al exam)				
		16th	Return and comm	Return and commentary of exam answers				
Evaluat	ion Me	thod and V	Weight (%)					
	E	xamination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	7	'0	0	0	0	30	0	100
Basic Proficienc	cy C)	0	0	0	0	0	0
	Specialized Proficiency 70		0	0	0	30	0	100
Cross Are Proficienc		•	0	0	0	0	0	0

Tsuyama Co	llege	Year	2021			Course Title	Enviro Theor	onmental Science y		
Course Information	on			1		i				
Course Code	0019			Course Cate	gory	Specializ	ed / Elec	tive		
Class Format	Lecture			Credits		Academi	c Credit:	: 2		
Department	Advanced Me Engineering		Control System	Student Grade Adv. 1st						
Term	Second Sem	ester		Classes per V	Week	2				
Textbook and/or Teaching Materials	Reference bo	ook: Kikuo Miy	onmental Science okawa "Basics of	, 8th edition", Environmenta	print al Scie	materials wi nce Revised	ll be dist Edition"	ributed during class. (Baifukan)		
Instructor		OBAYASHI Toshiro								
Course Objectives Learning purposes : The goal is to Unders exercises and reports, to set problems throu safety, ethics, and so Course Objectives :	tand the curr students wil gh compound	I develop the a	ability to compreh	nensively apply	v varic	ous academi	c fields a	In addition, through nd techniques, the ability ves of public health and		
1. Understand and ex 2. Understand and ex 3. Understand and ex 4. Can calculate CO2	plain global e plain environ	nvironmental mental manag	problem's (air pol ement (ecosyste	lution, acid ra m destruction	in, glo)	, renewable bal warming	energies I, etc.)	s, etc.)		
Rubric			1		1			1		
	Excellen	-	Good		Accep	otable		Not acceptable		
Achievement 1	resource and com their me (fossil fu	rstand the energy of the earth pare and explerits and deme uels, nuclear renewable etc.)	lain resources of	energy the earth nuclear ewable	expla earth (fossi enerc	derstand an in the basics 's energy re l fuels, nucle gy, renewabl gy, etc.)	s of the sources ear	• Cannot explain the energy resources of the earth (fossil fuels, nuclear energy, renewable energy, etc.)		
Achievement 2	environr and disc		explain glob environment (air pollutior	environmental problems (air pollution, acid rain,		iderstand an in basic glob onmental pr ollution, acio I warming, e	oal oblems d rain,	• Cannot explain global environmental problems (air pollution, acid rain, global warming, etc.)		
Achievement 3	Unde environr manage issues (destruct	mental ment and disc ecosystem	• Understan explain envi managemen destruction)	ronmental nt (ecosystem	expla enviro mana	iderstand an in basic onmental agement (eco uction)		• Cannot explain about environmental management (ecosystem destruction)		
Achievement 4	calculate CO2 em indicato	oossible to e and consider issions, which rs of mental probler	are indicator of	vhich is an	calcul CO2 e an ine	ow the basic lation metho emissions, w dicator of onmental pr	d of hich is	• Don't know how to calculate CO2 emissions, which is an indicator of environmental problems.		
Assigned Departn	nent Objec	tives						•		
Teaching Method										
Outline	This subje related equip	oment such as	a teacher who h fuel cells, hydrod	gen production	n equir	oment, and	solar cell	ent of clean energy- production equipment, vacuum pumps for fusion		
	Foundationa	pecialized:Sp l academic dis Engineering /	ciplines :	mprehensive	Engine	eering / Eart	h / Resou	urce System Engineering		
	This subject natural scien	is equivalent ice subjects ce ility related to	entered on mathe	I of the advan matics and ph	iced co iysics,	and to acqu	ire the a	To deepen knowledge of bility to apply as basic information system		
Style	The main go and explain Concomitant	knowledge in a ly, it is also in	iect is to "(A) dee	ields of natura	wledg Il scien	e about tech Ice as basic l	nology a knowledg	and to be able to acquire ge about A-1 engineering".		
	to be progre discuss the a understandir	n of the globa ssing along wi actual condition ng of the effort	th the activation ns of these globa	of human eco l environment lations, gover	nomic al prol	activities, a blems. learn	nd foreig . Next, w	layer depletion is thought in literature is also used to ve will deepen our s of each country, and		

Subset Course method : Case as each inductional using handback prices, projectors and backd writing. Sendigh literature law gives to confirm the level of undestanding of the students. Furthermore, by having them practice, they will market as engineers. Gene evaluation method : Bis sup to submit the legots assignment by the specified nate. Test (200). This principle, it is own, but explore assignments and corrects will be assigned 20%. In addition to self-written notabooks, hardbacks, calculators, and photous of the manuscripts Leadon in the learning. You can bring them into the earning calculators, and photous of the manuscripts Leadon in the learning. You can bring them into the earning study outside of class hours. A total of 45 hours of study is required per credit, study outside of class hours. Notice Course advice in the write study outside of class hours, A total of 45 hours of study is required per credit, study outside of class hours. Report assignments and exercises will be available in the leads in formation, class, and current affairs news about the environment, and to proved in the leaden your own exercise control will bright on a daily besit. Notice Course advice : "This is a class to the environment, and to prove the starbodow purpoint study outside of class hours. Explore the study of study is required hour own exercise control with height on a daily besit. Report assignment and the report own at the subjects : "Environmental science (1) (by year). Life Science II (sth), Science Inquiry (2nd in advanced cource) "The subject is related to environment, a dub provise them assures development." Information and subjects : "Environmental science (1) (by class and univronment problems, formatis relatedvalas and univronment problems, formation of global env											
Production Be sure to submit the report assignment by the specified date. Test (20%) "In principle, it is one, but depending on the standard and the same way as this test." depending on the standard and the same way as this test. depending on the standard and test services and the same way as this test. depending on the standard and test services and the same way as this test. depending on the standard and test services. A total of 45 hours of study is required per middly including both desis time and study outside of class hours. A total of 45 hours of study is required per middly including both desis time and study outside study outside study outside study			Classes as a tea	will be conducted ching material in cl	ass. In addition,	auestions will b	e asked at anv tin	ne to confirm the	level of		
Notice This is a class that requires study outside of class hours. A total of 35 hours of study is prequired per credit, including both class time, and a study outside of class hours. Notice Course advice :			Be sure dependi Report a	to submit the repond ng on the situation assignments and ex	, a retest may be ercises will be as	e performed. Th signed 30%. In	e retest is evaluat addition to self-w	ed in the same w ritten notebooks	ay as this test." , handouts,		
2nd Speciation 2nd Adda, and current affairs new should the environment, and to browse it as needed to broaden your own, knowledge. In addition, since some lectures will be given in English using English textbooks, it is desirable to activity come into contact with English on a daily basis. Foundational subjects : Environmental Science (IS) year) Related subjects: Environmental Science (IS) year) Related subjects: This subjects i related to environment is published on various websites, including the vebsites of the United Nations and the Ministry of the Environment is published on various websites, including the vebsites of the United Nations and the Ministry of the Environment is published on various websites, including the vebsited to broaden your knowledge. Characteristics of Class / Division in Learning □ Addee by ICT □ Applicable to Remote Class □ Instructor Professionally be late. Course Plan Theme Goals Course plan Instructor Professionally be late. 2nd Resources I [Energy and environment] Explain the relationship between fossil fuels and the environment] Explain the relationship between fossil fuels and the environment] 2nd Resources IV [Renewable energy] Report assignment (1) Report assignment (1) 2nd Resources IV [Renewable energy] Explain the relationship between nuclear energy. 2nd Resources IV [Renewable energy] <			This is including	a class that requir both class time ar	es study outside						
Privionmental Science (Sth year) Related subjects: Mathematical Science II (Sth year), Life Science II (Sth), Science Inquiry (2nd in advanced cource) Attendance advice : "This subjects is relation to morimonantal adduction and nuclear core human resource devolopment." This subjects is relation to be performent is publiced on various vestices, including the vestices of the United Nations and the Ministry of the Environment's to Utiled on various vestices, including the vestices of the United Nations If you are not seeted at the beginning of the class, you will be late. Characcteristics of Class / Division in Learning Instructor Professionally El a ct ti v e is u b j e ct is Course Plan Feeded vision, formation of global environmental problems, formation of global environment] Explain the origin of the global environment. 3rd Quarter Resources II [Energy and environment] Explain the relationship between fossil fuels and the environment. 3rd Quarter Resources IV [Renewable energy and the secons in [Incuration of global environment] Explain the relationship between nuclear energy and the environment. 3rd Quarter Resources IV [Renewable energy and the privronment] Report assignment (1) "Current status and leaves of enriconmental end for each proron) Sth Resources IV [Renewable energy] Report assignment (2) "Current status and countermeasures of ari pollution. 8th Environmental Management II [Air Pollution] Explain the mechanism and countermeasures of ari pollution.	Notice		As pre data, an knowled	paratory study to b d current affairs ne ge. In addition, sin	ews about the en ce some lectures	vironment, and will be given in	to browse it as ne	eded to broaden	your own		
Attendence advice : Information on the environment is published on various websites, including the websites of the United Nations and the Attendence the beginning of the Class, you will be late. Characteristics of Class / Division in Learning Information of the environment is publiced on various websites, including the websites of the United Nations and the Beginning of the Class, you will be late. Instructor Professionally Experienced Course Plan Ist of Guidance, outline of global environment. Explain the origin of the global environment. Explain the relationship between fossil fuels and the environment. 3rd Resources II [Energy and environment] Explain the relationship between fossil fuels and the environment. 3rd Resources III [Nuclear Energy and environment] Explain the relationship between fossil fuels and the environment. 4th Resources III [Nuclear Energy and environment] Explain the relationship between fossil fuels and the environment. 6th Basics of earth science Explain the relationship between fossil fuels and environment. 6th Basics of earth science Explain the relationship between fossil fuels and environment. 6th Basics of earth science Explain the relationship between nuclear energy. 6th Basics of earth science			Foundat Environ	ional subjects : mental science (5tl	h year)						
2nd "This subject is related to environmental education and nuclear core human resource development." Information on the environment, so it is advisable to browse them as needed to broaden your knowledge. If you are not seated at the beginning of the class, you will be late. Characteristics of Class / Division in Learning I Applicable to Remote Class Instructor Professionally Experienced I Active Learning I Aided by ICT I Applicable to Remote Class Instructor Professionally Experienced Course Plan Theme Goals Course Plan Ist • Guidance, outline of global environmental problems, formation of global environment Explain the origin of the global environment. 2nd • Resources II [Energy and environment] Explain the relationship between fossil fuels and the environment. 3rd Quarter • Resources II [Fossil fuels and environment] Explain the relationship between nocsil fuels and the environment. 2nd • Resources IV [Renewable energy] Report assignment (1) Explain the relationship between nuclear energy and the environment. 3rd Quarter • Basics of earth science Explain the mechanism and countermeasures of air pollution. Explain the mechanism and countermeasures of air pollution. 4th • Environmental Management II [Air Pollution] Explain the mechanism and countermeasures of air pollution. 5th • Environmental					th year), Life Scie	ence II (5th), So	cience Inquiry (2n	d in advanced co	urce)		
Image: Construction of the second			"This su Informa and the	bject is related to e tion on the environ Ministry of the Env	ment is published ironment, so it is	d on various we advisable to br	bsites, including t owse them as nee	he websites of th	e United Nations		
and/or teaming Auter by Ic1 Description Experienced Elective subjects Semistical and the environmental problems, formation of global environmental problems, formation of global environmental problems, formation of global environmental Explain the origin of the global environment. 2nd Resources I [Energy and environment] Explain the relationship between fossil fuels and the environment. 3rd Resources II [Fossil fuels and environment] Explain the relationship between fossil fuels and the environment. 3rd Resources II [Fossil fuels and environment] Explain the relationship between fossil fuels and the environment. 3rd Resources II [Fossil fuels and environment] Explain the relationship between nuclear energy and environment. 3rd Resources IV [Renewable energy] Explain the moritonment. Explain the moritonment. 3rd Basics of earth science Explain the basics of earth science. Explain the mechanism and countermeasures of ar pollution] Semester 7th Environmental Management II [Colbal Warming 0: / Greenhouse Gas] Explain the mechanism and countermeasures of acid rain] 4th Environmental Management IV [Global Warming 0: / Greenhouse Gas] Explain the mechanism and prediction method of global warming 0: / Greenhouse Gas] 10th Envir	Charact	eristics	of Class /	' Division in Lea	irning	1		1			
Course Plan Theme Goals 1st Theme, outline of global environmental problems, formation of global environment1 Explain the origin of the global environment1. 2nd Resources I [Energy and environment1] Explain the relationship between fossil fuels and the environment1. 3rd Resources II [Fossil fuels and environment1] Explain the relationship between fossil fuels and the environment. 4th Resources III [Nuclear Energy and Environment1] Explain the relationship between nuclear energy and the environment. 3rd Resources IV [Renewable energy] Current status and issues of environment1 and energy problems" (select different survey items for each person). 6th Basics of earth science Explain the mechanism and countermeasures of acid rain 8th Environmental Management I [acid rain] Explain the mechanism and countermeasures of acid rain 9th Environmental Management V [Global Warming 0.7 Greensting and Countermeasures] Explain the mechanism and prediction method of global warming 0.7 Greensting and Countermeasures] 10th Environmental Management V [Global Warming 0.7 Greensting and Countermeasures] Explain the destruction of ecosystems. 11th Environmental Management V [Routice Explain the destruction of ecosystems. Explain the destruction of ecosystems. <	🛛 Active	Learning		□ Aided by ICT	F	☑ Applicable t	o Remote Class		ofessionally		
Image: Second	Elect	tive	subjec	ts							
Int Guidance, outline of global environmental problems, formation of global environmental and Explain the origin of the global environment. 2nd Resources I [Energy and environment] Explain the relationship between fossil fuels and the environment. 3rd Resources II [Fossil fuels and environment] Explain the relationship between fossil fuels and the environment. 4th Resources III [Nuclear Energy and Environment] Explain the relationship between nuclear energy and the environment. 5th Resources IV [Renewable energy] Report assignment (1) Current status and itsues of environmental and represent person) 6th Basics of earth science Explain the mechanism and countermeasures of air pollution. 8th Environmental Management II [Air Pollution] Explain the mechanism and countermeasures of air pollution. 8th Environmental Management VI [Global Warming ① / Greenhouse Gas] Explain the mechanism and countermeasures of air pollution and Co2 emissions at borner 10th Environmental Management VI [Global Warming ② / Forecasting and Countermeasures] Explain the mechanism and prediction method of global warming add rain 11th Environmental Management VI [Slobal Warming ② / Forecasting and Countermeasures] Explain the mechanism and circulation of the hydrosphere. 12th Piture energy selection discussion (differe	Course	Plan									
Image: Second						e n ne e n t e l	Goals				
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	Subtotal	70)	0	0	0	30	0	100		

Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	70	0	0	0	30	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Class Format Lecture Credits Academic Credit: 2 Department Advanced Mechanical and Control System Engineering Course Student Grade Adv. 1st Term First Semester Classes per Week 2 Textbook and/or Textbook and/or	Tsuyama Co	llege	Year	2021			Course Title	Engine	eering Ethics	
Class Format Lecture Credits Academic Credit: 2 Department Answind Mechanical and Control System Student Grade Adv. 1st Term First Semester Classes per Week 2 Textbook and/or Testbook and/or Testbook Testbook-shisatake Kato Ethics of Technology and Humans' NHK Library, etc. Instructor HOSOTANI Kazunori,MIYASHITA Takuya Classes per Week 2 Course Objectives Purpose of study() Understand the necessity of engineering ethics and engineer ethics, and acquire a basic sense of responsibility for future activities as an engineer. Achievement goal: Achievement goal: accepted by society. - - Understand the historical and social background and importance of engineer ethics, and explain the role and responsibility of engineers in society. - - Understand and explain basic matters related to engineer behavior such as accountability, whistlebowers, product liability, and - - Rubric Ideal Level Standard Level Te spossible to recognize esponsibilities of engineers in society, and and explain that creativity that society and creativity that society mask and to give Standard Level It is possible to recognize engineer ethics, and and social background and importance of engineer stins.cetty. It has not reached the engineer ethics, and understand the historica	Course Informatio	n								
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Toxbook: and/or Toxbook: Hayazhi, Miyazawa et al. "Ethics of Engineers (Revised Edition)" Corona Publishing Co., Ltd., Reference Book: Hisatake Kato Tethics of Technology and Humans" NHK Library, etc. Instructor Instructor HOSOTANI Kazunon,MIYASHITA Takuya Course Objectives Purpose of study, Understand the necessity of engineering ethics and engineer ethics, and acquire a basic sense of responsibility for future activities as an engineer. Achievement goal: Recognize this responsibility and originality that engineers have on society, and be able to give consideration so that the results of engineers in society. • Understand the historical and social background and importance of engineer ethics, and explain the role and responsibility of engineers in society. Acceptable Level • Through the examination of issues by the group, it is possible to understand and explain the regionsibilities and of the responsibilities and of the responsibilities and of the responsibilities and of the responsibilities of engineers in society, and even apply, the society. Acceptable Level Acceptable Level It has not reached the engineers in society, and even apply, the society, and even apply, the responsibilities of engineer sin society, and and importance of engineer sin society, and even apply, the responsibility of engineer sin society, and cave even apply the management. Inderstand and explain the responsibility of engineers in society, engineers in society, and even apply, the responsibility of engineers in society, and reven apply the responsibility of engineer sin society, and reven apply there. Inderstand and explain engineer thics, and engineeret sin society, e	Department	Advanced Me Engineering	echanical and Course	Control System	Student Grad	de				
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	Assigned Departm	nent Objec	tives							

		operati teach a engage environ	ionship with business: In this course, faculty membron of large-scale computers and networks at other is bout engineer ethics issues in the information socie and in design / development at an electronics manufa mental research company will use their experience in the real world.	nstitutions will make use of their experience to ty. In addition, faculty members who were cturer and information programming at an
		By gen	eral / specialty: Specialty, natural science basics / c	ommon
		Basic d	iscipline of choice : Engineering ethics / engineer et	hics
Outline		Major r ethics a	elated to learning goals: This subject is the major le and taking special lectures on engineer ethics, you c	earning goals "((5) Along with studying engineering an broadly understand engineer ethics. "
		"(G) Ur Conside	nship with Engineer Education Program: The main le nderstanding of Engineer Ethics, G-1: Deepening Un eration, Engineers Being aware of the responsibility tally, it is also involved in "B-1".	derstanding of Ethical, Economic and Safety
		crisis to meanin	utline: Modern society is built on many technologies o society and nature. For this reason, engineers mus ig of the technology they handle and to make it use I with engineering ethics in general.	st have a responsibility to correctly understand the
		present	nethod: Classes are conducted in various ways such tations, mainly through case studies in the fields of ssary to think for yourself, investigate, and actively	machinery / control and electronics / information. It
Style		equally others	evaluation method: The grades of the first half (Miya . In the first half, group reports are evaluated at 40 are evaluated at 60%. In the second half, reports in oup discussions and presentations are evaluated at 4	%, and individual reports including evaluations by cluding report assignments are evaluated at 60%,
		Precaut are offe	tions for taking this course: This course is a "course ered for 15 credit hours per credit, but 15 credit hou tions of your instructor for these studies.	that requires study outside of class hours". Classes
		play an	advice: Courses that include essential content in the active role as engineers in the future must take this on and nuclear core human resource development.	s course. "This subject is related to environmental
		Basic s	ubjects: Ethics (1 year) and Engineering Ethics (5),	general engineering subjects, basic knowledge
Notice		special	subjects such as society, economy, nature, environ lecture (special 1, specialized) 2), Special Research Il 1), Contemporary Philosophy (Special 2), Bioengir	(Special 1, Special 2), Environmental Science
		by a pr / techn subiect	on Courses: General Course Faculty of Industrial Et ofessional teacher aims at more practical engineerir ology, manufacturing, society / economy, companie is an environmental education related subject. lecture, attendance less than 30 minutes from the s Il be treated as absent.	ng ethics education. A broad perspective on science is, the global environment, etc. is important. This
Charact	eristics		/ Division in Learning	
	e Learning			to Remote Class Experienced Instructor Professionally
Elect		subje	cts	
Course	Plan	1	T he same a	Cash
		1st	Theme • Guidance	Goals Understand the purpose of education, learning content, evaluation method, etc. Also, decide the discussion group in the first half
		2nd	Learning content outside class hours: Report on discussion content (weekly)	
		3rd	Determining discussion issues and division of roles within the group	Understand and explain the items on the left
	1st Quarter	4th	 Learning content outside class hours: Survey and organization based on discussion content (weekly) 	
		5th	Group discussion 1 [Clarification of discussion points]	Understand and explain the items on the left
1st Semeste		6th	Learning content outside class hours: Preparation for general discussion	
r		7th	Group discussion 2 [Summary for general discussion]	Understand and explain the items on the left
		8th	Learning content outside class hours:	
		9th	Preparation of presentation materials Overall discussion [evaluation by others]	Understand and explain the items on the left
		10th	Learning content outside class hours: Survey	
		11th	on issues to be examined ' • Regroup discussion after general discussion	Understand and explain the items on the left
	2nd		Learning content outside class hours: Meeting for preparation of general report	
	Quarter	12th	for a second s	

		14th	 Learning conte Preparation of gro reports 	nt outside class h oup reports and ir	iours: ndividual			
		15th	・ Guidance					
		16th	 Learning conte [Preparation for d 	nt outside class h liscussion]	ours:			
Evaluati	on Me	ethod and N	Weight (%)					
	Examination Presentation Mutual Evaluations between students		Self Evaluation	Task	Group discussion	Total		
Subtotal		0	20	5	0	55	20	100
Basic Proficiency	/	0	0	0	0	0	0	0
Specialized Proficiency	d /	0	0	0	0	0	0	0
Cross Area Proficiency		0	20	5	0	55	20	100

Tsuyama Co	llege	Year	2021			Course Title		iments of Mechanical ontrol Systems		
Course Information	on		ł					,		
Course Code	0021			Course Cate	gory	Specializ	ed / Cor	npulsory		
Class Format	Experiment			Credits School Credit: 4			Credit: 4			
Department	Advanced Me Engineering		Control System	Student Grade Adv. 1st						
Term	Year-round			Classes per \	Week	4				
Textbook and/or Teaching Materials	mechanical a	ind electronic	control systems	ach experime	nt site	, Reference	books :	Specialized textbooks for		
Instructor		IOMURA Kensaku,INOUE Hiroyuki								
acquire basic experim Course Objectives : 1. Being able to mak 2. Being able to prop consider engineering.	ased on the r ental method e systematic perly handle t	s and results efforts while he concept of	analysis methods forming a commo experimental des	and thinking n understandi sign, handling	skills. ing wit of equ	h others to ipment, and	solve pro d data ar	nalysis, and to be able to		
	report.	concept in h <u>é</u>	jures, sentences,	iormulas, pro	grams	, etc., and t	ne comn	numication admity to		
Rubric										
	Excellen	t	Good		Accep	table		Not acceptable		
Achievement 1	explore i up with and ratio • When is discov process problem can be d	an voluntarily issues and co more innovat onal answers, a new proble ered in the of searching f , the problem lealt with in tion with a ator.	me and explore on a commo understandir cooperators various socia or a • Be able to	n ng with in relation to al events. o make fforts while mmon ng with	set ar relate event • Be issues comm	able to volu ad explore is d to various s. able to tack while form non underst collaborators	ssues ' s social kle ling a anding	It has not reached the left.		
Achievement 2	informat literature Internet unique e data acc • For u results, about th	nexpected you can think e cause and accurate	yourself base • You can u the experime	of the and make an and efficient olan by ed on this. Inderstand ental nd methods, the process of the	the co exper conce exper · You the ex equip the pr	u can under ontents of th iment and t iment plan. u can under kperimental ment and e rocess and r e experimen	ne he stand xplain results	It has not reached the left.		
Achievement 3	structure and sum experim analysis consider appropri concisely • You c that are understa various (software manner.	ately and /. an create rep easy to read and by using computer e in an integra	t structure of yourself and the experime methods and results appro- orts and effectively, a your ideas w computer so	summarize ental d analysis opriately. ise various ftware y and ind express vith figures, ormulas,	the bareport the examption methor result • You softwa ideas sente	u can under asic structur t and summ kperimental ods and ana s. u can use co are to expre with figures nces, formu ams, etc.	re of the larize llysis omputer ess your	It has not reached the left.		
Assigned Departn	nent Objec	tives								
Teaching Method										
	General or S	pecialized : Sp	pecialized							
	Field of learn	ing : Enginee	ring							
	Foundational	academic dis	ciplines : Mechar	nical Engineeri	ing •	Electrical ar	d Electro	onic General		
Outline	This class is learning of s	equivalent to	operiments, and a	has acquired of the same tin	deeper ne acq	technical k uired the at	nowledg bility to e	e through practical ffectively perform		
	Relationship The main go	with JABEE p als of learning	rograms : g / education in th	is class are "(D),D-3	8", also "A-3	8" , "C-1"	' and "D-1" are involved.		
	control-relate	ystems are of ed fields must	ten a fusion of ma be mutually und ol systems throug	erstood. There	efore, ۱	technology we will conf	, and kn irm a wid	owledge of machinery and de range of knowledge		

Style		Please r graduat problem given or experim Grade e Present task and roles of evaluate based o	method : note that there are experiments conducted separate es of the mechanical and electronic control departm is. The weekly experiment theme will be instructed in how to set and proceed with the theme of the des lental report. valuation method : some experimental tasks and have them systemati d solving the tasks. Through exchange of opinions a themselves and others and to judge whether or no e the results by compiling them in a mutual evaluat in the total average score of the experiment (50%) structor comprehensively judges the experiment rep	nents, and design projects as efforts to solve' separately, so follow it. Individual guidance will be sign project, and how to write and consider the cally work on understanding the contents of each and discussions, students are asked to confirm the t they have fulfilled their respective roles, and ion form or report. In addition, pass / fail is judged and the design project (50%). For experiments,
Netico		equipme be subn Precauti This is a includin study ou Course a Advance	ent, and gives an evaluation score, and weights and nitted. ions on the enrollment : a class that requires study outside of class hours. A g both class time and study outside class time. Follo utside of class hours.	total of 45 hours of study is required per credit, by the instructions of the instructor regarding , so follow the instructions of the instructor. After
Notice		General Related General Attenda Start yo	tional subjects : specialized subjects in mechanical and electronic co subjects : specialized subjects in the Advanced Mechanical ar nce advice : ur design project early without procrastination.	
Charact	eristics of	of Class /	/ Division in Learning	
Active	Learning		Aided by ICT Applicable	to Remote Class Experienced
Requi		ubjec	cts	
Course	Plan		Th	Cash
		1st	Theme Guidance, guidance on the experimental location Examination of design project initiatives	Goals You can follow the guidance to understand your goals and attitudes and make an annual plan.
		2nd	Examination of design project issues and grouping work	You can make an annual plan for a design project while having a common understanding with your collaborators.
		3rd	From this point onward, described in order of for Mechanical Systems Program graduates / for Advanced Science Program graduates / design project . TeX-1 / Mechanical Engineering Experiment Examination of design project initiatives	In TeX-1 / mechanical experiments, you can prepare for experiments, operate experimental equipment, and organize and consider experimental results. Information can be collected from literature and the Internet.
		4th	TeX-2 / Mechanical Engineering Experiment Design project 1st group discussion	In TeX-2 / mechanical experiments, you can prepare for experiments, operate experimental equipment, and organize and consider experimental results. Be able to explain your role in collaboration with others.
1st	1st Quarter	5th	TeX-3 / Mechanical Engineering Experiment Examination of design project initiatives	In TeX-3 / mechanical experiments, you can prepare for experiments, operate experimental equipment, and organize and consider experimental results. Explain the method for solving the problem.
Semeste r		6th	TeX-4 / Thermal Engineering 1-1 Experiment Examination of design project initiatives	In the TeX-4 / Thermal Engineering 1-1 experiment, you can prepare for the experiment, operate the experimental equipment, and organize and consider the experimental results. Explain the method for solving the problem.
		7th	PLC-1 / Thermal Engineering 1-2 Control Experiment Formulation of annual design project plan	PLC-1 / Thermal Engineering 1-2 Experiment allows you to prepare for the experiment, operate the experimental equipment, and organize and consider the experimental results. You can make an annual plan for the entire project.
		8th	PLC-2 / fluid experiment 1 Design project 2nd group discussion	PLC-2 / Fluid Experiment 1 allows you to prepare for the experiment, operate the experimental equipment, and organize and consider the experimental results. The group can make an annual plan with a common understanding.
	2nd Quarter	9th	Design project theme presentation material creation / fluid experiment 2 Formulation of annual design project plan	The group can make an annual plan with a common understanding. In Fluid Experiment 2, you can prepare for the experiment, operate the experimental equipment, and organize and consider the experimental results.
		10th	Design project theme presentation	You can explain the contents of the project in an easy-to-understand manner.

1	1		
	11th	Positioning experiment 1 / Work experiment 1 Promotion of design project research and research	In Positioning Experiment 1 / Work Experiment 1, you can prepare, operate the experimental equipment, and organize and consider the experimental results. Be able to investigate the background of the project and show its technical significance.
	12th	Positioning experiment 2 / Work experiment 2 Promotion of design project research and research	In Positioning Experiment 2 / Work Experiment 2, you can prepare, operate the experimental equipment, and organize and consider the experimental results. Be able to investigate the background of the project and show its technical significance.
	13th	Promotion of design project research • research / work experiment 3 Promotion of design project research and research	Be able to investigate the background of the project and show its technical significance. / In work experiment 3, you can prepare, operate the experimental equipment, and organize and consider the experimental results. Be able to investigate the background of the project and show its technical significance.
	14th	Control experiment 1 / Promotion of design project survey / research Promotion of design project research and research	In Control Experiment 1, you can prepare, operate the experimental equipment, and organize and consider the experimental results. / Be able to investigate the background of the project and show its technical significance. You can find a way to solve the problem.
	15th	Control experiment 2 / Promotion of design project survey / research Promotion of design project research and research	In Control Experiment 2, you can prepare, operate the experimental equipment, and organize and consider the experimental results. / Be able to investigate the background of the project and show its technical significance. You can find a way to solve the problem.
	16th	Paper plane 1 / Control experiment 1 Promotion of design project research and research	In Paper Plane 1 / Control Experiment 1, you can prepare, operate the experimental equipment, and organize and consider the experimental results. Be able to show how to solve problems and necessary experiments.
	1st	Paper plane 2 / Control experiment 2 Promotion of design project research and research	In Paper Plane 2 / Control Experiment 2, you can prepare, operate the experimental equipment, and organize and consider the experimental results. Be able to show how to solve problems and necessary experiments.
	2nd	Paper plane 3 /Promotion of design project research and research Promotion of design project research and research	Paper plane 3 allows you to prepare, operate experimental equipment, and organize and consider experimental results. / Can perform and summarize the experiments required for the project. You can perform and summarize the experiments required for the project.
	3rd	Paper Plane 4 / Design Project Interim Report Meeting Material Creation Creating materials for the design project interim report meeting	Paperplane 4 allows you to prepare, operate experimental equipment, and organize and consider experimental results. / Can summarize the progress of the project. You can summarize the progress of the project.
	4th	Design project interim report meeting	Be able to explain the progress of the project in an easy-to-understand manner.
3rd Quarter	5th	Thermal Engineering Experiment 1 / Analysis of Design Project Results Analysis of design project results	In Thermal Engineering Experiment 1, you can prepare, operate the experimental equipment, and organize and consider the experimental results. / You can summarize and consider the results of the project. You can show how to organize a project in a group.
	6th	Thermal Engineering Experiment 2 / Analysis of Design Project Results Analysis of design project results	In Thermal Engineering Experiment 2, you can prepare, operate the experimental equipment, and organize and consider the experimental results. / You can summarize and consider the results of the project. You can show how to organize a project in a group.
	7th	Analysis of design project results / Thermal engineering experiment 1 Analysis of design project results	The results of the project can be summarized and considered. / In Thermal Engineering Experiment 1, you can prepare, operate the experimental equipment, and organize and consider the experimental results. You can summarize and consider the results of the project.
	8th	Chemistry · Biological Experiment 1 / Thermal Engineering Experiment 2 Analysis of design project results	In Chemistry • Biological Experiment 1 / Thermal Engineering Experiment 2, you can prepare, operate experimental equipment, and organize and consider experimental results. The results of the project can be summarized and considered.
4th Quarter	9th	Chemistry · Biological Experiment 2 / Material Experiment 1 Analysis of design project results	In Chemistry / Biological Experiment 2 / Material Experiment 1, you can prepare, operate experimental equipment, and organize and consider experimental results. The results of the project can be summarized and considered.
	Quarter 4th	4th 9th 4th 4th 4th 4th 4th 4th 4th 4th 4th 4	11th Promotion of design project research and research 12th Positioning experiment 2 / Work experiment 2 Promotion of design project research and research 13th Promotion of design project research - research / work experiment 3 Promotion of design project research and research 14th Control experiment 1 / Promotion of design project research and research 14th Control experiment 1 / Promotion of design project research and research 15th Control experiment 2 / Promotion of design project research and research 15th Point experiment 2 / Promotion of design project research and research 16th Paper plane 1 / Control experiment 1 Promotion of design project research and research 16th Paper plane 2 / Control experiment 2 Promotion of design project research and research 16th Paper plane 3 /Promotion of design project research and research 2nd Paper plane 3 /Promotion of design project research and research 2nd Paper plane 4 / Design Project Interim Report Meeting Material Creation 3rd Cating materials for the design project interim report meeting 4th Design Project Results 7th Analysis of design project results / Thermal engineering experiment 1 / Analysis of Design Project results 7th Analysis of des

		10th	Chemistry • Biolo Experiment 2 Creation of design			In Chemistry • I Experiment 2, yo experimental equ consider experim computer softwa possible to create and understand.	ipment, and org ental results. By re in an integrate	utilizing various ed manner, it is		
		11th	Experiment 3	Chemistry · Biological Experiment 4 / Material Experiment 3 Creation of design project result report			In Chemistry • Biological Experiment 4 / Material Experiment 3, you can prepare, operate experimental equipment, and organize and consider experimental results. By utilizing various computer software in an integrated manner, it is possible to create reports that are easy to read and understand.			
		12th	Design project res Group discussion	ult report creatio	By utilizing variou integrated manner that are easy to a	er, it is possible t	o create reports			
		13th	Creation of presen	Design project presentation material creation Creation of presentation materials for the final debriefing session of the design project			entation softwar nuscripts for debi	e to create riefing sessions.		
		14th	Design project fina	al debriefing sess	ion preparation	You can explain t others in an easy	he outcome of the out	he project to manner.		
		15th	Design project fina Creation of design diary, discussion r	project result re	ion port, work	You can compile project.	a report of the re	esults of your		
		16th	Submission of des diary, discussion r	ign project result ecord	report, work	You can create h etc.	ighly complete re	esults reports,		
Evaluatio	n Me	ethod and N	Weight (%)							
		Examination	Presentation	Mutual Evaluations	Task	Portfolio	Other	Total		
Subtotal	ibtotal 0		45	5	50	0	0	100		
Basic Proficiency			0	0	0	0	0	0		
Specialized Proficiency			45	5	50	0	0	100		
Cross Area Proficiency		0	0	0	0	0	0	0		

Course Code Course Categoory General / Elective Close Format Lockure Credits Academic Credit: 2 Department Engineering Course Student (Erable Credit: 2 Term First Semaster Closes per Week 2 Testman Material Successful Keys to the Tocic, Goal 500; Handouts, Dictionary Testman Material Successful Keys to the Tocic, Goal 500; Handouts, Dictionary Testman Material on the audinoc. Course Objectives Course Objectives Course Objectives Course Objectives Course Objectives Course Objectives Course Objectives Course Objectives Course Objectives Rubric Ideal Level Achievement 1 Con solve TOPIC Application and and one's specially. Achievement 2 Con solve TOPIC Application and and one's specially. Achievement 3 Con solve TOPIC Application and and one's specially. Achievement 3 Con solve TOPIC Applicational and one's specially. <th colspan="3">Tsuyama College</th> <th></th> <th>Year</th> <th colspan="3">2021</th> <th>ourse Fitle</th> <th>Practical English II</th>	Tsuyama College				Year	2021			ourse Fitle	Practical English II		
Class Format. Lockure Credits Acdemic Gradits Department Advance Student Grade Adv. 2nd Department Ensity Semicland Control System Student Grade Adv. 2nd Textbook and/or_ teaching Materials Successful Keys to the Toelic, Goal 500; Handouts, Dictionary Instructor RAMPO Eric Course Objectives Course Objectives Instructor RAMPO Eric Instructor Course Objectives Iteration Materials Successful Keys to the TOELC. To improve presentation and communication skills by presenting Improve overall English communication skills and acquire basic English proficiency to understand and convey basic information and table to give presentations at a level that is appropriate for international conferences. Iteration Materials Iteration Materials Achievement 1 Ideal Level Standard Lavel Iteration Materials Iteration and ideas about familiar matters and one's specially. Iteration and one's specially. Achievement 2 Has acquired sufficient in an estry-to-understand in and ideas about familiar matters and one's specially. Iterational conferences. Iterational conferences. Iterational conferences. Con operative softward and and specially. Achievement 2 Has acquired sufficient inearing comprehension and ideas about fam	Course	Informat	ion									
Department Advanced Mechanical and Control System Student Grade Adv. 2 nd Term First Samaktar Classes per Weak 2 Textbook and/or Successful Keys to the Toelc, Goal 500; Handouts, Dictionary Instructor RAMBO ETC Classes per Weak 2 Course Objectives Learning purposed memory overall English communication skills and acquire basic English proficincy to understand and convey basic information and the audience. Course Objectives Lowering the English communication skills and acquire basic English proficincy to understand and convey basic information and the audience. Course Objectives Idea to the English communication skills in a sufficient understand and convey basic information and ideas about familiar matters and one's specially. 3. To ratis the score of language tasts such as TOEIC as a means of measuring year achievement. Rubric Idea Level Heal acquired generally acquired semanty wear achievement. Achievement 3 Can sover TOEIC 450-point level Heas acquired semanty sover TOEIC 450-point level semantion a condinecos. <td>Course Co</td> <td>ode</td> <td>0026</td> <td></td> <td></td> <td></td> <td>Course Categor</td> <td>ry</td> <td>General /</td> <td>' Elective</td>	Course Co	ode	0026				Course Categor	ry	General /	' Elective		
Description Engineering Course Instruction During Course Textbook and/or tacking Materials Successful Keys to the Toole, Goal 500; Handouts, Dictionary Instructor Instructor RAMBO Enic Course Objectives Course Objectives Instructor Instructor Instructor RAMBO Enic Course Objectives Course Objectives Instructor Instructor Instructor RAMBO Enic Course Objectives Course Objectives Instructor Instructor Instructor RAMBO Enic Course Objectives Course Objectives Instructor Instructor Instructor RAMBO Enic Instructor Instructor RAMBO Enic Instructor	Class Forr	mat	Lecture				Credits		Academic	Credit: 2		
Textbook and/or Successful Keys to the Toelc, Goal 500; Handouts, Dictionary Instructor RAMI00 Eric Course Objectives	Departme	ent				Control System	Student Grade					
Teaching Materials Subcleasing Materials Subcleasing Materials Instructor RAMBO Enc Course Objectives			First Ser	nest	er		Classes per Week 2					
Course Objectives Learning purpose- insearch results and interacting with the audience. Course Objectives! Lowering the Explain communication skills and acquire basic. English proficiency to understand and convey basic information and Lowering the Explain communication skills and acquire basic. English proficiency to understand and convey basic information and Lowering the Explain communication skills and acquire basic. English proficiency to understanding the other presentations at a level that is appropriate for international conferences. 3. To raise the score of language tests such as 10EC as a means of measuring your achievement. Unacceptable Level Rubric Ideal Level Standard Level Unacceptable Level Achievement 1 Ideal Level Generation and doces an output of the general yield in the			Success	ful K	eys to the Toe	eic, Goal 500; Har	douts, Dictionar	ry				
Learning purpose] Improve overall English ability as measured by the TOEIC. To improve presentation and communication skills by presenting research results and interacting with the audience. Intermove overall English a communication skills and acquire basic English proficiency to understand and convey basic information and ideas about familiar matters and one's specialty. Interacting with the audience. 2.8 bable to give presentations at a level that is appropriate for intermational conferences. Intermational conferences. 2.8 bable to give presentations at a level that is appropriate for intermational conferences. Unacceptable Level Rubric Ideal Level Has acquired users and devise an explanation method. and gain a sufficient understanding. Rubric Ideal Level Has acquired users and devise an explanation method. Has not acquired aufficient method lides about familiar matters and one's specially. Achievement 1 Has acquired users and filt in the same and accourse to appeal information and ideas about familiar matters and one's specially. Has acquired sufficient presentation skills in English for intermational conferences. Achievement 2 Can solve TOEIC 450-point level (Can generally over TOEIC 450-point intermational conferences. Can generally appeal information and isterming comprehension, and isterming comprehension, and isterming problems. Achievement 3 Can solve TOEIC 450-point level (Can generally forcing languages information and genedevinon, and isterming comprehension, and isterming comp	Instructor	r	RAMBO	Eric								
Improve overall English ability as measured by the TOEIC. To improve presentation and communication skills by presenting reserver and microscription with the audience.	Course	Objectiv	es									
Ideal Level Standard Level Unacceptable Level Achievement 1 Has acquired very well English proficiency to understand and convey basic information and ideas about and one's specially. Has not acquired English proficiency to understand and convey basic information and ideas about and one's specially. Has not acquired sufficient presentation skills in English for intermational conferences. Has not acquired sufficient presentation skills in English for intermational conferences. Has not acquired sufficient presentation skills in English for intermational conferences. Has not acquired sufficient presentation skills in English for intermational conferences. Has not acquired sufficient presentation skills in English for intermational conferences. Has not acquired sufficient presentation skills in English for intermational conferences. Has not acquired sufficient presentation skills in English for intermational conferences. Has not acquired sufficient presentation skills in English for intermational conferences. Has not acquired sufficient presentation skills in English for intermational conferences. Has not acquired sufficient presentation skills in English for intermational conferences. Achievement 3 Ceneral / specialized / learning fields: general / foreign languages Basic disciplines: English for any sufficient insufficient presentations in the diverse down and sufficient presentations in the diverse down and sufficient insufficient insuffici	 Improve overall English ability as measured by the TOEIC. To improve presentation and communication skills by presenting research results and interacting with the audience. [Course Objectives] 1. Develop the English communication skills and acquire basic English proficiency to understand and convey basic information and ideas about familiar matters and one's specialty. 2. Be able to give presentations at a level that is appropriate for international conferences. 3. To raise the score of language tests such as TOEIC as a means of measuring your achievement. After understanding the other person, such as a technician or the general public, you can convey your own opinions and thought in an easy-to-understand manner and devise an explanation method, and gain a sufficient understanding. 											
Achievement 1 Has acquired very well English proficercy to understand and convey basic datas about familiar matters and one's specialty. Has acquired sufficient English proficercy to understand and convey basic datas about familiar matters and one's specialty. Achievement 2 Has acquired sufficient presentation skills in English for international conferences. Has acquired sufficient presentation skills in English for international conferences. Has acquired sufficient presentation skills in English for international conferences. Has acquired sufficient presentation skills in English for international conferences. Can solve TOEIC 450-point level vocabulary, grammar, reading comprehension, and listening comprehension and listening comprehension and listening comprehension and listening comprehension problems. Cannot solve TOEIC 450-point level vocabulary, grammar, reading conferences. Assigned Department Objectives General / specialized / learning fields: general / foreign languages Easier (asplish conferences) Cannot solve TOEIC 450-point level vocabulary, grammar, reading comprehension and listening comprehension problems. Outline General / specialized / learning fields: general / foreign languages Easier (asplish conferences) Cannot solve TOEIC 450-point level vocabulary, grammar, reading goals: Notice Relationship with divanced course law (b) Understanding the inportance of seeing things from a global perspective with down, which is an essential foreign language for engineers. "Cass outline, "Fo Development of communication ability and presentation ability, F-3: To be able to communication ability and presentation ability, F-3	Rubric											
Achievement 1 English proficiency to understand and convey basic information and ideas about familiar matters and one's specialty. Understand and convey basic information and ideas about familiar matters and one's specialty. Achievement 2 Has acquired sufficient presentation skills in English for international conferences. Has acquired sufficient presentation skills in English for international conferences. Achievement 3 Can solve TOEIC 450-point level vocabulary, grammar, reading comprehension, and listening comprehension problems. Can solve TOEIC 450-point level vocabulary, grammar, reading comprehension, and listening comprehension, and listening comprehension problems. Assigned Department Objectives East information and warred of listening comprehension problems. Can solve TOEIC 450-point level vocabulary, grammar, reading comprehension problems. Outline Gan solve TOEIC 450-point level vocabulary, grammar, reading comprehension problems. East information and warred of listening comprehension problems. Outline Gan solve TOEIC 450-point level vocabulary, grammar, reading comprehension problems. East information and warred of listening comprehension problems. Style Gan solve TO course is '(6) Understanding the importance of seeing things from a global perspective while coordinating with the of a course is '(6) Understanding the importance of seeing things from a global perspective while coordinating with the of a cour				Ic	deal Level					Unacceptable Level		
Achievement 2 presentation skills in English for international conferences. can solve TOEIC 450-point level wcabulary, grammar, reading comprehension, and listening comprehension, special contained to compare the contained to compare the special contained to compare the contained to compare the contained special contained to compare the contained special contained to compare the contained special contained to compare the content special contained to the special language to engineers. Outline Class contine: Class contine: Class contine: Class contine: Style Class contine: Class contine: Class contine: Class contine: Class contine: Sty	Achievem	proficiency to understand an convey basic information and ideas about familiar matters and one's specialty.					English proficie understand and information and familiar matter	ncy to d conve d ideas	y basic about	proficiency to understand and convey basic information and ideas about familiar matters		
Achievement 3 Call solver, Unit Levis Proving level vocabulary, grammar, reading comprehension and leveling comprehension, and listening comprehension problems. Assigned Department Objectives	Achievem	ient 2		b	resentation sk	ills in Enalish for	presentation sk	cills in E	nalish for	presentation skills in English for		
Teaching Method General / specialized / learning fields: general / foreign languages Basic disciplines: English, English and American literature, linguistics, phonetics Relationship with advanced course learning goals: The purpose of this course is "(6) Understanding the importance of seeing things from a global perspective while coordinating with the local community through off-campus training, special lectures on advanced technology, and participation in academic societies." Relationship with engineer education program: The main goals of learning and education in this subject are "(F) Development of communication ability and presentation ability. F-3: To be able to communicate in English, which is an essential foreign language for engineers. ". Style Class method: Societies: Students will be able to express what you want to say in English by using the expressions studied in the class outline: Students will be able to express what you want to say in English by using the expressions studied in the class of two regular examinations 50%. Style Crade evaluation method: Weekly exercises (assignments, quizzes, PowerPoint presentation.) 50%, and the results of two regular examinations 50%. Notice Precautions for taking this course: This course is a "course that requires study outside of class hours". A total of 45 hours of study is required per credit, including the class hours and study outside of class hours. Follow the instructor. Notice Precautions in Learning Special 1). Precautions in Learning (Special 1). Precaution in which TOEIC is widely accepted as a means of judging English proficiency, have a positive attice towards taking the TOEIC test. Charact=ristice Usission after the start of class	Achievem	ient 3			ocabulary, gra omprehension	mmar, reading , and listening	Can generally solve TOEIC 450- point level vocabulary, grammar, reading comprehension, and listening			level vocabulary, grammar, reading comprehension, and listening comprehension		
Teaching Method General / specialized / learning fields: general / foreign languages Basic disciplines: English, English and American literature, linguistics, phonetics Relationship with advanced course learning goals: The purpose of this course is "(6) Understanding the importance of seeing things from a global perspective while coordinating with the local community through off-campus training, special lectures on advanced technology, and participation in academic societies." Relationship with engineer education program: The main goals of learning and education in this subject are "(F) Development of communication ability and presentation ability. F-3: To be able to communicate in English, which is an essential foreign language for engineers. ". Style Class method: Societies: Students will be able to express what you want to say in English by using the expressions studied in the class outline: Students will be able to express what you want to say in English by using the expressions studied in the class of two regular examinations 50%. Style Crade evaluation method: Weekly exercises (assignments, quizzes, PowerPoint presentation.) 50%, and the results of two regular examinations 50%. Notice Precautions for taking this course: This course is a "course that requires study outside of class hours". A total of 45 hours of study is required per credit, including the class hours and study outside of class hours. Follow the instructor. Notice Precautions in Learning Special 1). Precautions in Learning (Special 1). Precaution in which TOEIC is widely accepted as a means of judging English proficiency, have a positive attice towards taking the TOEIC test. Charact=ristice Usission after the start of class	Assigne	d Depart	ment Ol	ojec	tives							
Outline General / specialized / learning fields: general / foreign languages Basic disciplines: English, English and American literature, linguistics, phonetics Relationship with advanced course learning goals: The purpose of this course is "(6) Understanding the importance of seeing things from a global perspective while coordinating with the local community through off-campus training, special lectures on advanced technology, and participation in academic societies." Relationship with engineer education program: The main goals of learning and education in this subject are "(F) Development of communication ability and presentation ability, F-3: To be able to communicate in English, which is an essential foreign language for engineers.". Class outline: Students will be able to make presentations in English while learning expressions and techniques that are frequently used in presentations, and also prepare for the TOEIC test. Style Class method: To be able to express what you want to say in English while roEIC test. Grade evaluation method: Weekly exercises (assignments, quizzes, PowerPoint presentation.) 50%, and the results of two regular examinations 50%. Notice Precautions for taking this course: This course is a "course that requires study outside of class hours". A total of 45 hours of study is required per credit, including the easignments within the deadline. Given the current situation in which TOEIC is widely accepted as a means of judging English II (5), Practical English I (Special 1). Related subjects: Technical English reading (Specialty 1) Attendance advice: Admission after the start of class is considered to be late, and one credit hour will be counted for two late arrivals. Characteristics of Class / Division in Learning Applicable to Remote Class Instructor Professionally Experienc	Teachin	ig Metho	d									
Style Class method: To be able to express what you want to say in English by using the expressions studied in the class. At the same time, we will use the TOEIC textbook to prepare for taking the TOEIC test. Grade evaluation method: Weekly exercises (assignments, quizzes, PowerPoint presentation.) 50%, and the results of two regular examinations 50%. Precautions for taking this course: This course is a "course that requires study outside of class hours". A total of 45 hours of study is required per credit, including the class hours and study outside of class hours. For study outside of class hours, for study study outside of class hours. For study outside of class hours, for study uside of class hours. For study outside of class hours, for study uside advice: Actively participate in the class and submit the assignments within the deadline. Given the current situation in which TOEIC test. Notice Basic subjects: English IV (4th), Elective English I (4), English V (5), Elective English II (5), Practical English I (5pecial 1) Related subjects: Technical English reading (Specialty 1) Attendance advice: Admission after the start of class is considered to be late, and one credit hour will be counted for two late arrivals. Characteristics of Class / Division in Learning Instructor Professionally Experienced E I e c t i v e s u b j e c t s Course introduction, e-learning, TOEIC study Understand the goals and methods of the course. 1st Ist Course introduction, e-learning, TOEIC study Understand the structure and purpose of the CV.	Outline		Basic dis Relation The pur while co technolo Relation "(F) Dev English, Class ou Student	scipli ship pose ordir ogy, ship velop velop whic itline s will	nes: English, I with advanced of this course nating with the and participati with engineer ment of comn ch is an essent :: I be able to ma	English and Ameri d course learning is "(6) Understar e local community on in academic so education progra nunication ability cial foreign langua ake presentations	can literature, li goals: Iding the import through off-car ocieties." m: The main go and presentation ge for engineers in English while	inguistic tance of mpus tra bals of le n ability s. ". e learnin	seeing t aining, sp earning a , F-3: To ng expres	hings from a global perspective becial lectures on advanced nd education in this subject are be able to communicate in		
Image: Second	Chulo									ng the expressions studied in the Ig the TOEIC test.		
Notice study outside of class hours, follow the instructions from the instructor. Course advice: Actively participate in the class and submit the assignments within the deadline. Given the current situation in which TOEIC is widely accepted as a means of judging English proficiency, have a positive attitude towards taking the TOEIC test. Basic subjects: English IV (4th), Elective English I (4), English V (5), Elective English II (5), Practical English I (Special 1) Related subjects: Technical English reading (Specialty 1) Attendance advice: Admission after the start of class is considered to be late, and one credit hour will be counted for two late arrivals. Characteristics of Class / Division in Learning	Style		Grade e results c	valua of tw	ation method: o regular exar	Weekly exercises ninations 50%.	(assignments, o	quizzes,	, PowerPo	pint presentation.) 50%, and the		
counted for two late arrivals. Counted for two late arrivals. Characteristics of Class / Division in Learning Image: Counted for two late arrivals. Class / Division in Learning Image: Counted for two late arrivals. Class / Division in Learning Image: Counted for two late arrivals. Class / Division in Learning Image: Counted for two late dy ICT Instructor Professionally Experienced E l e c t i v e s u b j e c t s Semete Class Instructor Professionally Experienced Course Plan Goals 1st Course introduction, e-learning, TOEIC study understand the goals and methods of the course. Inderstand the goals and methods of the course. 1st Course introduction, e-learning, TOEIC study understand the structure and purpose of the CV. Inderstand the structure and purpose of the CV.	In Study outside of class hours, follow the instructions from the instructor.Course advice: Actively participate in the class and submit the assignments within the deadline. GivCourse advice: Actively participate in the class and submit the assignments within the deadline. GivNoticeNoticeBasic subjects: English IV (4th), Elective English I (4), English V (5), Elective English II (5), Practica(Special 1)								within the deadline. Given the nglish proficiency, have a positive e English II (5), Practical English I			
Image: Construction of the construc	Charact	oristics o	counted	for t	two late arriva	ls.						
E I e c t i v e s u b j e c t s E l e c t i v e s u b j e c t s Course Plan Goals 1st Course introduction, e-learning, TOEIC study method. Understand the goals and methods of the course. 2 method. Viting your Curriculum Vitae (CV) in English. Understand the structure and purpose of the CV.			л Udss /				🗆 Applicable t	o Remo	te Class	Instructor Professionally		
Course Plan Course Plan Goals 1st Theme Goals 1st Course introduction, e-learning, TOEIC study method. Understand the goals and methods of the course. 2nd Writing your Curriculum Vitae (CV) in English. Understand the structure and purpose of the CV.		2	ubici							Experienced		
Ist Semeste r 1st Quarter 1st Course introduction, e-learning, TOEIC study method. Understand the goals and methods of the course. 1st Understand the goals and methods of the course. Understand the structure and purpose of the CV.			ubjec	ις								
1st Semester r1stCourse introduction, e-learning, TOEIC study method.Understand the goals and methods of the course.1st QuarterOutput Writing your Curriculum Vitae (CV) in English.Understand the structure and purpose of the CV.	Course			Th -	mo			Coole				
Semeste Quarter Quarter Writing your Curriculum Vitae (CV) in English. Understand the structure and purpose of the CV.	1st	1 ct	1st	Cou	rse introductio	on, e-learning, TO	EIC study		tand the	goals and methods of the course.		
			2nd	Writ	ting your Curri	culum Vitae (CV)	(CV) in English. Understand the structure and purpose of th Effective TOEIC practice.					

1									
	3rd	Writing about you TOEIC Unit 8	r background exp	perience.			ammar.		
	4th	Writing about you TOEIC Unit 9	r skills.		н				
	5th	Writing about you TOEIC Unit 9	r work experienc	e and interests.	п				
	6th	Submit your CV; (English.	Conduct a job inte	erview in	Write a well-exp answers in the j	lained and corrector lained	ct CV; Give good		
	7th	Prepare for the Mi	dterm Exam		Know all the voo TOEIC units; Ex	abulary and grar	nmar for the writing.		
	8th	Midterm Exam							
	9th	Return Midterm E TOEIC Unit 10	xam and correct	mistakes.	Learn from mist	akes. Effective T	DEIC practice.		
	10th	Start PPT about "I TOEIC Unit 10	My Current Resea	Good explanatio Effective TOEIC	n with correct graphics practice.	ammar.			
	11th	Explain research t TOEIC Unit 11	opic and goals.		"				
2nd	12th	Explain research r TOEIC Unit 11	nethod and equip	oment.	п				
Quarte	r 13th	Explain results and TOEIC Unit 12	d who would use	your research.	п				
	14th	Prepare for the Fi	nal Exam.		Know all the voc TOEIC units; Ex writing.	abulary and grar plain your "Curre	nmar for the ent Research" in		
	15th	Final Examination							
	16th								
on Me	thod and V	Weight (%)		-					
Examination		Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total		
ŗ	50	30	0	0	0	20	100		
y	50	30	0	0	0	20	100		
d y ()	0	0	0	0	0	0		
oss Area oficiency 0 0 0 0				0	0	0	0		
	Quarter on Me E	2nd Quarter Product	3rd TOEIC Unit 8 4th Writing about you TOEIC Unit 9 5th Writing about you TOEIC Unit 9 6th Submit your CV; 0 English. 7th Prepare for the Mi 8th Midterm Exam 9th Return Midterm Exam 9th Return Midterm Exam 10th Start PPT about "f TOEIC Unit 10 11th Explain research t TOEIC Unit 11 12th Explain research r TOEIC Unit 11 13th Explain results and TOEIC Unit 12 14th Prepare for the Fill 15th Final Examination 16th Return Final Exam Summary of Englis on Method and Weight (%) 50 30 30 30 dy 0 0	2nd TOEIC Unit 8 TOEIC Unit 8 4th Writing about your skills. TOEIC Unit 9 5th Writing about your work experienc TOEIC Unit 9 6th Submit your CV; Conduct a job internation English. 7th Prepare for the Midterm Exam 8th Midterm Exam 9th Return Midterm Exam and correct TOEIC Unit 10 10th Start PPT about "My Current Reseat TOEIC Unit 10 11th Explain research topic and goals. TOEIC Unit 11 12th Explain research method and equip TOEIC Unit 11 13th Explain research method and equip TOEIC Unit 12 14th Prepare for the Final Exam. 15th Final Examination 16th Return Final Exam and correct mis Summary of English learning strate on Method and Weight (%) y 50 30 y 50 30 y 0 0	2nd 10EC Unit 8 4th Writing about your skills. TOEIC Unit 9 5th Writing about your work experience and interests. TOEIC Unit 9 6th Submit your CV; Conduct a job interview in English. 7th Prepare for the Midterm Exam 8th Midterm Exam 9th Return Midterm Exam and correct mistakes. TOEIC Unit 10 10th Start PPT about "My Current Research". TOEIC Unit 10 10th Start PPT about "My Current Research". TOEIC Unit 11 11th Explain research topic and goals. TOEIC Unit 11 12th Explain research method and equipment. TOEIC Unit 11 13th Explain results and who would use your research. TOEIC Unit 12 14th Prepare for the Final Exam. 15th Final Examination 16th Return Final Exam and correct mistakes. Summary of English learning strategies. on Method and Weight (%) Mutual 50 30 0 0 40 0 0 0	2nd TOEIC Unit 8 Effective TOEIC 4th Writing about your skills. " 5th Writing about your work experience and interests. " 6th Submit your CV; Conduct a job interview in English. Writing about your cV; Conduct a job interview in English. 7th Prepare for the Midterm Exam Know all the voc TOEIC units; Exam 8th Midterm Exam Learn from mist TOEIC Unit 10 9th Return Midterm Exam and correct mistakes. Learn from mist TOEIC Unit 10 10th Start PPT about "My Current Research". Good explanatio Effective TOEIC 11th Explain research topic and goals. " 12th Explain research method and equipment. " 12th Explain results and who would use your research. " 14th Prepare for the Final Exam. Know all the voc TOEIC units; Explain results and who would use your research. " 15th Final Examination " " 16th Return Final Exam and correct mistakes. Learn from mist learning. 16th Return Final Exam and correct mistakes. Learn from mist learning. on Method and Weight (%) O O O O <td>2nd TOEIC Unit 8 Effective TOEIC practice. 4th TOEIC Unit 9 " 5th Writing about your work experience and interests. " 6th Submit your CV; Conduct a job interview in TOEIC Unit 9 Write a well-explained and correct answers in the job interview. 7th Prepare for the Midterm Exam Write a well-explained and correct answers in the job interview. 8th Midterm Exam Know all the vocabulary and grar TOEIC Units; Explain your CV in the TOEIC Unit 10 9th Return Midterm Exam and correct mistakes. Learn from mistakes. Effective TOEIC Unit 10 10th Start PPT about "My Current Research". Good explanation with correct gractice. 11th Explain research topic and goals. " 11th Explain research method and equipment. " 12th Explain results and who would use your research. " 13th Explain results and correct mistakes. Learn from mistakes. Plan for fut the arming. 14th Prepare for the Final Exam. Know all the vocabulary and grar TOEIC Unit 12 14th Prepare for the Final Exam. Learn from mistakes. Plan for fut learning. 15th Final Examination Learn from mistakes. Plan for fut learning.</td>	2nd TOEIC Unit 8 Effective TOEIC practice. 4th TOEIC Unit 9 " 5th Writing about your work experience and interests. " 6th Submit your CV; Conduct a job interview in TOEIC Unit 9 Write a well-explained and correct answers in the job interview. 7th Prepare for the Midterm Exam Write a well-explained and correct answers in the job interview. 8th Midterm Exam Know all the vocabulary and grar TOEIC Units; Explain your CV in the TOEIC Unit 10 9th Return Midterm Exam and correct mistakes. Learn from mistakes. Effective TOEIC Unit 10 10th Start PPT about "My Current Research". Good explanation with correct gractice. 11th Explain research topic and goals. " 11th Explain research method and equipment. " 12th Explain results and who would use your research. " 13th Explain results and correct mistakes. Learn from mistakes. Plan for fut the arming. 14th Prepare for the Final Exam. Know all the vocabulary and grar TOEIC Unit 12 14th Prepare for the Final Exam. Learn from mistakes. Plan for fut learning. 15th Final Examination Learn from mistakes. Plan for fut learning.		

Tsuyama College			e	Year	r 2021				Course Title	Social	Sciences	
Course	Informa	tion	I									
Course Co	ode	0027					Course Cate	jory	General ,	/ Elective	2	
Class For	mat	Lectu	ire				Credits		Academi	c Credit:	2	
Departme	ent		nced Me neering	echanical and	Cont	rol System	Student Grad	le	Adv. 2nd	I		
Term			nd Seme				Classes per V	es per Week 2				
Textbook				, Syakaigengo	oaki	u no manazas						
Teaching					gane		, eu genera	,, .	, 2010			
Instructor		-	DYA Hid	enori								
	Objectiv											
provide the Objective and a des the role a	nem with a : To under sire to cont nd impact	an educa rstand h tribute p of hum	ation tha uman b proactive an activ	at will provide eings, society ely to the solu	a ba , and tion (nce a	ckground for l culture from of social prob nd technolog	the cultivation the perspect plems as a me ly, and cultiva	n of the ive of s mber o	eir humanit social scienc of internatio	y. e, and to nal socie	an their own, and to o cultivate an awareness ty. Cultivate an interest in ire to contribute to society	
Rubric												
		E	Excellen	t		Good		Accept	table		Unacceptable	
Achievem	ent 1	A	Attend c	lass fully			st 2/3 of the			3 of the	More than 6 absences	
						classes.	aut and /au	classe		nd/au		
Achievem	ement 2 Submit a report and/o give an oral report tha fully complies with instructions			at	Submit a rep give an oral some degree compliance v instructions.	report with e of	provid accord	t a report a e an oral re lance with t ctions, at a um.	port in	Not submitting reports and/or oral reports as instructed		
Assigne	d Depar	tment	Objec	tives								
Teachin	g Metho	d										
			ral or S	pecialized : Ge	enera	al						
Outling		Field	of learn	ing : Social so	cienco	e,Socioloav						
Outline		(5)	Attain a	with Educatio a global persp	ectiv	e and unders	standing of so	cial dev	velopment			
		Relat	ionship	with JABEE p	rogra	ms :The mai	n goals of lea	rning /	education i			
		Cours and f	se Meth	od: Each wee leveloping the	k, the	e assigned le cussion.	cturer will give	e a lect	ure to the s	students,	asking for their opinions	
Chula												
Style				ation method: Assianment (1	.00%) or Oral Rep	ort (100%). s	Sufficie	nt participat	tion is a i	prerequisite to be	
		asses	ssed. As	signments are	e due	e the week af	ter the assign	ment is	presented	, and ass	essment of the work	
									credit plu	s 30 crec	lit hours of study per	
				be completed.							in nours of study per	
		Cours	se Advic	e: This course	e req	uires student	s to have a hi	igh leve	el of motiva	tion, inte	ellectual curiosity, and	
		positi	ive attiti	ude. Students Jdents' autono	are	encouraged t	to speak up in	class.	There will b	e no per	nalties for being late for	
						• •	-					
Notice				d Society	oria H	listory, Politic	s and Econon	nics, Ja	panese Hist	ory, Hun	nanity and Culture,	
			,	ects: none.								
		Advic	e: This de Stu	course require	es sti	udents to hav	ve a strong de up in class T	esire to here w	learn, intel	lectual cu nalties fo	riosity, and positive r being late for class, but	
		stude	ents are	expected to b	be au	tonomous.						
Charact	eristics of	of Clas	s / Div	ision in Lea	arnii	ng						
□ Active	Learning			Aided by IC	т		Applicable	e to Re	mote Class		structor Professionally	
	<u> </u>			· · · · · , ·						Experi	enced	
Course	Diava											
Course	Plan	1										
		1 -+	The			:	2	Goal	S			
		1st	Intro	oduction. Wha	it is s	social science	ſ				aust participate in a fully	
		2nd	On s	social scientific	: thin	nking			ared report		nust participate in a fully ation.	
		3rd	Sem	ninar-style exe	ercise	S						
	3rd	4th	Sem	ninar-style exe	ercise	S						
Jand	Quarter	5th	Sem	ninar-style exe	ercise	S						
2nd Semeste		6th	Sem	ninar-style exe	ercise	S						
r		7th	Sem	inar-style exe	ercise	S						
		8th	Sem	ninar-style exe	ercise	S						
9th Seminar-style exercises												
	4th	10th	Sem	ninar-style exe	ercise	S						
	Quarter	11th	Sem	ninar-style exe	ercise	S						
1	12th Seminar-style exercises											

	13th	Seminar-style exe	ercises				
	14th	Seminar-style exe	ercises				
	15th	(Final exam)					
	16th	Seminar-style exe	ercises				
Evaluation	Method and	Weight (%)					
	Examination	Presentation	Mutual Evaluations between students	Behavior	Assignment	Other	Total
Subtotal	0	0	0	0	100	0	100
Basic Proficiency	0	0	0	0	100	0	100
Specialized Proficiency	0	0	0	0	0	0	0
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		(Course Title Modern Philosophy		n Philosophy	
	Informat				1		1		
Course Co		0028			Course Cate	gory		/ Elective	
Class Forn	nat	Lecture	Mechanical and	Control System	Credits			ic Credit:	2
Departme	nt	Engineerir		Control System	Student Grade		Adv. 2nd		
Term		Second Se	emester		Classes per V	Week	2		
Textbook Teaching I		None							
Instructor		KAMIYA K	en						
Course (Objective	es							
The aim o	f this class	is to enable	e students to rec porary philosopl	ognize their respo ny.	onsibility as er	ngineers	towards s	ociety th	rough the systematic
Rubric									I
		Excel	lent	Good		Accepta	able		Not acceptable
Achieveme	ent 1	the hi and in conte	tudent understa istorical backgro mportance of mporary philoso an explain very tails.	hds und and importa contemporar	ry philosophy lain the	the hist and im contem	student understands historical background importance of emporary philosophy can explain its basic		The student has not reached these levels.
Achieveme	ent 2	the p conce conte and c	tudent understa problems and pts of mporary philoso an explain them nsively in detail.	the problem concepts of contemporal	ry philosophy lain the	the pro concept contem	he student understands ne problems and oncepts of ontemporary philosophy nd can explain its basic		The student has not reached these levels.
Achieveme	ent 3	an int welfa the u herse	tudent has gaine cerest in the pub re and can expre nique nature of If and of others nsively and in de	ed The student lic an interest in welfare and in detail the nature of he	n the public can express unique	an inter welfare the uni- herself	the student has gained i interest in the public elfare and can express e unique nature of erself and of others in a sic manner.		The student has not reached these levels.
Assianed	d Depart	ment Obj				busic ii			
	g Metho								
Outline		Field of lea Foundatio Relationsh course. Relationsh Course ou field of en	hip with Educatio hip with JABEE pl tline : Education gineering. This y	ties ciplines : philosop nal Objectives : T rograms : The ma i in ethics is a nec	This class corre ain goal of lead cessary culture re further into	rning an e for con o the cha	d education temporary aracter of o	n in this enginee	e advanced engineering subject is "G ". ers and researchers in the ological society through
Style		Course mo discussion coursewol Grade eva	ethod : Classes v with students. S rk. Iluation method:	vill be held in the Students will be e One paper (50%	second seme expected to stu	ster. Tea udy outs	aching will ide of the		ucted mainly through n to prepare their contents of the course
(50%). There will be no makeup exams. Precautions on the enrollment : This is a class that requires study outside of class hours. A total of 45 of study is required per credit, including both class time and study outside class time. Follow the instructor regarding study outside of class hours. Advice concerning enrollment: Since it will be obligatory to submit a paper, read newspapers etc. on a basis and form your own interests. Organize what you have learned and whatever questions you may after each class to prepare for the next class. Foundational subjects : Ethics (All programs, 1st year), Engineering Ethics (All programs, 5th year) Related subjects : Engineering Ethics (Advanced course, 1st year) Attendance advice : Although participation in itself will not be considered absent for that rea students who come excessively late will be considered absent.						e. Follow the instructions wspapers etc. on a daily juestions you may have rams, 5th year)			
Characte	eristics o	of Class / I	Division in Lea	arning	1				
☑ Active	5		☑ Aided by IC	Т	☑ Applicable	e to Rem	note Class		structor Professionally ienced
		ubject	5						
Course F	ridi)		homo			Coole			
			heme htroduction			Goals	s ral explan	ation of t	he goals
	1			of Contemporary	Philosophy		s 1 & 3		
				of Contemporary			51&3 51&3		
2nd 3rd 4th	3rd								
	514						Goals 1 & 3 Goals 1 & 3		
Somocto	r Quarter 5			/ Philosonhy	Goals 1 & 3 Goals 1 & 3				
Somocto	· ·								
Somocto	· ·	6th T	he Development	of Contemporary	/ Philosophy	Goals			

		Oth	Contoneneuro	ilaaan hu and T	ha a la au	Carl 2				
		9th	Contemporary Ph			Goal 2				
		10th	Contemporary Ph	ilosophy and Tec	hnology	Goal 2				
		11th	Contemporary Ph	ilosophy and Tec	hnology	Goal 2				
	4th	12th	Contemporary Ph	ilosophy and Soc	iety	Goals 2 & 3				
	Quarter <u>13th</u>		Contemporary Ph	ilosophy and Soc	iety	Goals 2 & 3				
			Contemporary Ph	ilosophy and Soc	iety	Goals 2 & 3				
		15th	Contemporary Ph	ilosophy and Soc	iety	Goals 2 & 3				
		16th	Explanation of Ev	aluation		Goal 3				
Evaluat	ion Me	thod and	Weight (%)							
	E	xamination	Presentation	Mutual evaluations between students	Self Assessment	Assignment	Mini exams	Total		
Subtotal	0		50	0	0	50	0	100		
Basic Proficienc	Basic 0 Proficiency 0		40	0	0	40 0		80		
Specialize Proficienc	Specialized 0 Proficiency		0	0	0	0 0		0		
	Cross Area Proficiency 0		10	0	0	10	0	20		

Tsuyama C	ollege	Year	Year 2021				Course Special Lecture on Title Advanced Engineering		
Course Informat	ion								
Course Code	0022				Course Cate	gory	Specializ	zed / Eleo	ctive
Class Format	Lecture				Credits		Academ	ic Credit:	: 1
Department	Advanced Me Engineering		d Contr	ol System	Student Grad	Student Grade Adv. 2nd			
Term	Intensive				Classes per V	Week			
Textbook and/or Teaching Materials	Distribute re	ference mate	erials a	s needed.					
Instructor	HOSOTANI K	(azunori,TER	AMOTO) Takayuki,ł	KONISHI Daijii	ro			
Course Objective	es								
Learning purposes : By learning about the provide hints for new					cognizing the	import	tance of tecl	nnology i	in society, this subject wi
Course Objectives : 1. Be able to know tl world, and explain th 2. Considering the re opinions regarding th	ne outline appr elationship with	opriately. I society and	the im	npact of tech			- /	-	ering required in the r own thoughts and
Rubric				57-					
	Excellen	t	(Good		Accer	otable		Not acceptable
Achievement 1	investiga the lectu exempla accordin	thoroughly ate the conte ure and write ny report og to the task g the content	ent of a a a c, t	You can inve content of th and write a report accor cask, includin content.	ne lecture exemplary ding to the	For ta a rep task.	asks, you ca ort accordin	n write g to the	You have not reached the level shown on the left.
Achievement 2	and the technolo you can exempla fully incl	ship with soci impact of ogy on society	iety r y, t at e wn i	Considering relationship and the imp technology o you can writ exemplary n ncludes you thoughts an	with society act of on society, ce a eport that ir own	Ithat i	You can write a report that includes your own thoughts and opinions.		You have not reached the level shown on the left.
Assigned Depart	ment Objec	tives				-			
Teaching Method									
	I course and t	ackles the de	esianat	ed tasks. Th	ne lecture will	be hel	d by inviting	ı lecturer	signated by the advanced rs who are involved in trends and the progress of technology on society.
	General or S Field of learr Foundationa	iing:Commo	on and	basics of na	atural science ering / social s	Scienc	e		
Outline	This class is	academic so	o "(6) cieties	Throuah ext	tracurricular a t has learned	ctivitie to woi	es and partic rk with local	cipation ir commur	n advanced technology nities and as well has
	Since the co	al of learning ntent is diver) / ēdu se, it r	cation in thi nay be relat	s class is "(A) ed to the deve in collaboration	elopm	ent of huma	nity from	s also involved in "G-1". n a global perspective and
	Course outline : This is a special lecture to learn about the contents directly related to the student's specialty, the technological trends and the progress of the research in each of the surrounding fields. Deepen your knowledge and broaden your horizons, and learn a wide range of relationships with society and the impact of technology on society.								
	designated b	independent by the advance	céd cou	urse, particip		and co	omplete the	designat	earning classes, etc. ed tasks. Information wil
Style Grade evaluation method : The instructor in charge will specify each task individually, but it is mainly based on the evaluation of the report on the task after the lecture. Participate in 7 or more lectures held as this subject, submit 4 or more small assignments, and get a passing score. If you get a passing score in 4 or more small tasks, the final credits will be approved by the Advanced Course Steering Committee at the end of the school year based on the 4 average scores from the one with the best grade.							tures held a Ig score in 4	s this sul	bject, submit 4 or more small tasks, the final

Notice		This su per cre- the inst is only : time to Course Downlo course efforts Therefo trends Shimbu Founda Related Attenda This su	Precautions on the enrollment : This subject is a "subject that requires study outside of class hours". A total of 45 hours of study is required per credit, including the class hours and study outside of class hours. For study outside of class hours, follow the instructions of the instructor. This subject is a special lecture, and you should be aware that the essence is only spoken in a short time in the lecture, take time for learning other than the lecture, and take sufficient time to tackle the tasks. Course advice : Download and print the advanced technology special lecture attendance confirmation form from the advanced course homepage in advance. Since it will be implemented on a wide range of themes, it is important to make efforts to expand knowledge without sticking to a narrow specially. Therefore, as preparatory learning to be performed in advance, it is useful to learn the current situation and trends of front-end technology in Japan and overseas by reading the Nikkan Kogyo Shimbun and Nihon Keizai Shimbun. Foundational subjects : All the subjects you have learned. Related subjects : All the subjects you will learn. Attendance advice : This subject is related to nuclear human resources development. Since the class will be mainly conducted by an outside lecturer, be careful not to be rude as a student of our school.									
Charact	eristics o	of Class	/ Division in Learning			1						
Active	Learning		□ Aided by ICT	Applicable t	o Remote Class	☑ Instructor Professionally Experienced						
	ive S	Subje	cts									
Course	Plan	1										
			Theme	tion at the	Goals							
		1st	Guidance (conducted at the oriental beginning of the school year)	tion at the	lectures on this s	n attendance plan for special subject throughout the two years.						
		2nd	Participation in lectures, workshops learning classes, etc. designated by	, remote y the instructor	write a exemplar including the cor Considering the impact of techno	ate the content of the lecture and y report according to the task, itent. relationship with society and the logy on society, you can write a t that includes your own thoughts						
		3rd	Participation in lectures, workshops learning classes, etc. designated by	, remote y the instructor	write a exemplar including the cor Considering the impact of techno	ate the content of the lecture and y report according to the task, itent. relationship with society and the logy on society, you can write a t that includes your own thoughts						
		4th	Participation in lectures, workshops learning classes, etc. designated by	, remote y the instructor	write a exemplar including the cor Considering the impact of techno	ate the content of the lecture and y report according to the task, itent. relationship with society and the logy on society, you can write a t that includes your own thoughts						
1st Semeste	1st Quarter	5th	Participation in lectures, workshops learning classes, etc. designated by	, remote y the instructor	You can investigate the content of the lecture and write a exemplary report according to the task, including the content. Considering the relationship with society and the impact of technology on society, you can write a exemplary report that includes your own thoughts and opinions.							
r		6th	Participation in lectures, workshops learning classes, etc. designated by	, remote y the instructor	You can investigate the content of the lecture and write a exemplary report according to the task, including the content.							
		7th	Participation in lectures, workshops learning classes, etc. designated by		You can investigate the content of the lecture and write a exemplary report according to the task, including the content. Considering the relationship with society and the impact of technology on society, you can write a exemplary report that includes your own thought and opinions.							
		8th	Participation in lectures, workshops learning classes, etc. designated by		write a exemplar including the cor Considering the impact of techno	ate the content of the lecture and y report according to the task, itent. relationship with society and the logy on society, you can write a t that includes your own thoughts						
		9th	It is necessary to participate in the	above lectures								
	<u> </u>	10th	at least 7 times									
	2nd Quarter	11th										
	-	12th										
		13th										

		14th						
		15th						
		16th						
		1st						
		2nd						
		3rd						
	3rd	4th						
	Quarter							
		6th						
		7th						
2nd		8th						
Semeste r		9th						
		10th						
		11th						
	4th	12th						
	Quarte	er 13th						
		14th						
		15th						
		16th						
Evaluat	ion Me	ethod and	Weight (%)					
		Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Reports	Total
Subtotal		0	0	0	0	0	100	100
Basic Proficienc	cy 🗌	0	0	0	0	0	0	0
Specialize Proficienc	ed 2y	0	0	0	0	0	100	100
Cross Are Proficienc	ea Cy	0	0	0	0	0	0	0

Tsuyama College		Year	2021		C	Course Production Contro Title Engineering		
Course Informati	ion							
Course Code	0023			Course Cate	gory	Specializ		
Class Format	Lecture			Credits		Academi	c Credit:	2
Department	Engineering	Course	Control System	Student Grad		Adv. 2nd		
Term Textbook and/or	First Semest			Classes per		2		
Teaching Materials	Textbook: 坂 KAWAI Masa		理入門」(理工学社)),「産業財産権	[標準テキ	スト : 特許	編」(発明	月協会)
Course Objective	1							
Learning purposes:	e the product pecification wi ain the role of ain the fundar	th understand the product n nental method	ling the importanc nanagement syste dologies of quality	en in the corr control.	nt. Ipany.			cable problems, and how
Rubric				•				•
	Excellen	ıt	Good		Accepta	ble		Not acceptable
Outline for the produ management system	the purp method product	dent can expla pose and some ologies for the management in detail.	e fundamental	and some es for the	some fu method	dent can e Indamenta ologies foi managen	al ' r the	The student cannot explain any fundamental methodologies for the product management system.
Quality control techniques	the purp method	dent can expla cose and some ologies for the control in deta	e fundamental	and some es for the	some fu method	The student can explain some fundamental nethodologies for the quality control.		The student cannot explain any fundamental methodologies for the quality control.
Patent specification writing	the pate with une intellect	dent can write ent specificatic derstanding ual property nd application	e The student on the patent sp with underst fundamental	can write pecification anding thinking ctual	The student can explain the patent specification and fundamental thinking about intellectual property rights.		caˈtion	The student cannot explain the patent specification and fundamental thinking about intellectual property rights.
Assigned Departi	ment Objec	tives			•			
Teaching Method								
	Connection t rights with e	experience gair		g electronic p	roducts	in a compa		t and intellectual property ducts this class about the
	General or S Field of learr	Specialized: Sp ning: Basics of	ecialized f natural science					
Outline	lof the following specialized technical fields for designing, manufacturing, and operation of machinery and							
Relationship with JABEE programs: the main goal of learning /education in this class is "(A)" and "(D)."								t has acquired knowledge on of machinery and
	systems." Relationship Course outlin Learn about	ing specialized with JABEE p ne: product mana	d technical fields for rograms: the main agement that enha	nis class is equ or designing, n goal of learr	ning /edu	to "(2) The turing, an ucation in t	d operati this class	t has acquired knowledge on of machinery and
Style	systems." Relationship Course outlin Learn about activities and Course meth * Use a blac about each o * Give some	ing specialized with JABEE p product mana <u>d patent speci</u> nod: kboard mainly control item of reports for st	d technical fields for rograms: the main agement that enha fication writing. A However, intera the product man udents' comprehe	nis class is equivalent of the signing, n goal of learring of the signing of the significant of the signific	uivalent manufac ning /edu npany's p 	to "(2) Thi turing, an ucation in t productivit	d operati this class y by con e solutio	t has acquired knowledge on of machinery and is "(A)" and "(D)."
Style	systems." Relationship Course outlin Learn about activities and Course meth * Use a blac about each o * Give some * Organize t Grade evalua Presentation	ving specialized with JABEE p product mana <u>d patent specia</u> nod: kboard mainly control item of control item of reports for st he student's p ation method: (40%) + min ubmission dat	d technical fields for rograms: the main agement that enha fication writing. /. However, intera f the product man cudents' comprehe presentations abou	nis class is equipartial class is equipartial class is equipartial class in the contract of the contract of the contract of the class is the class of the class o	uivalent manufac ning /edu npany's p 	to "(2) Thi turing, an ucation in t productivit	d operati this class y by con e solutio	t has acquired knowledge ion of machinery and is "(A)" and "(D)." trolling production n of concrete problems
Style	systems." Relationship Course outlin Learn about activities and Course meth * Use a blac about each o * Give some * Organize t Grade evalua Presentation * Evaluate s * No regular Precautions This class is forty-five ho	ving specialized with JABEE p product mana <u>d patent specia</u> nod: kboard mainly control item of reports for st he student's p ation method: (40%) + min ubmission dat <u>exams.</u> on the enrollm "Required out	d technical fields for rograms: the main agement that enha fication writing. . However, intera f the product man udents' comprehe presentations about hi-exam(30%) + main te of each report s ment: side of teaching h g and homework	nis class is equipor designing, n goal of learr ances the con ctively learn t agement syst msion. ut the patent p eports(30%) trictly.	uivalent : manufac ning /edu npany's p through t em. plan mac	to "(2) Th turing, an ucation in t productivit chinking th de by each	d operati this class y by con- e solutio of them	t has acquired knowledge ion of machinery and is "(A)" and "(D)." trolling production n of concrete problems
Style	systems." Relationship Course outlin Learn about activities and Course meth * Use a blac about each o * Give some * Organize t Grade evalua Presentation * Evaluate s * No regular Precautions This class is forty-five ho on the instru Attendance a Make sure to "AAA" thoro	vith JABEE p me: product mana d patent specia hod: kboard mainly control item of reports for st he student's p ation method: (40%) + min ubmission dat exams. on the enrollm "Required out urs of teaching advice: o study volunt. ughly.	d technical fields for rograms: the main agement that enha fication writing. A However, intera f the product man cudents' comprehe presentations about ni-exam(30%) + ri- te of each report s ment: side of teaching h g and homework p teacher. arily by using boo	his class is equor designing, n goal of learr ances the con ctively learn t agement syst ension. ut the patent p eports(30%) trictly.	uivalent : manufac ning /edu npany's p through t em. plan mac study." T The stud	to "(2) Thi turing, an ucation in t productivit chinking th de by each herefore, t herefore, t eliability o	d operati this class y by con- e solutio of them of them this cours	t has acquired knowledge ion of machinery and is "(A)" and "(D)." trolling production n of concrete problems to learn design skills.
· 	systems." Relationship Course outlin Learn about activities and Course meth * Use a blac about each o * Give some * Organize t Grade evalua Presentation * Evaluate s * No regular Precautions This class is forty-five ho on the instru Attendance a Make sure to "AAA" thoro	vith JABEE p me: product mana d patent specia hod: kboard mainly control item of reports for st he student's p ation method: (40%) + min ubmission dat exams. on the enrollm "Required out urs of teaching advice: o study volunt. ughly.	d technical fields for rograms: the main agement that enha fication writing. A However, intera f the product man cudents' comprehe presentations about ni-exam(30%) + ri- te of each report s ment: side of teaching h g and homework p teacher. arily by using boo	his class is equor designing, n goal of learr ances the con ctively learn t agement syst ension. ut the patent p eports(30%) trictly.	uivalent : manufac ning /edu npany's p through t em. plan mac study." T The stud	to "(2) Thi turing, an ucation in t productivit chinking th de by each herefore, t herefore, t eliability o	d operati this class y by con- e solutio of them of them this cours	thas acquired knowledge ion of machinery and is "(A)" and "(D)." trolling production n of concrete problems to learn design skills.
Notice	systems." Relationship Course outlin Learn about activities and Course meth * Use a blac about each o * Give some * Organize t Grade evalua Presentation * Evaluate s * No regular Precautions This class is forty-five ho on the instru Attendance a Make sure to "AAA" thorou Foundationa Related subj	vith JABEE p me: product mana d patent specia hod: kboard mainly control item of reports for st he student's p ation method: (40%) + min ubmission dat exams. on the enrolln "Required out urs of teaching advice: o study volunt. datvice: o study volunt. ghly. I subjects: Apleacourse	d technical fields for rograms: the main agement that enha- fication writing. A However, intera f the product man cudents' comprehe presentations about ni-exam(30%) + ri- te of each report s ment: side of teaching h g and homework p teacher. arily by using boo plied Mathematics nd subjects of adv	his class is equor designing, n goal of learr ances the con ctively learn t agement syst ension. ut the patent p eports(30%) trictly.	uivalent : manufac ning /edu npany's p through t em. plan mac study." T The stud	to "(2) Thi turing, an ucation in t productivit chinking th de by each herefore, t herefore, t eliability o	d operati this class y by con- e solutio of them of them this cours	thas acquired knowledge ion of machinery and is "(A)" and "(D)." trolling production n of concrete problems to learn design skills.
· 	systems." Relationship Course outlin Learn about activities and Course meth * Use a blac about each o * Give some * Organize t Grade evalua Presentation * Evaluate s * No regular Precautions This class is forty-five ho on the instru Attendance a Make sure to "AAA" thoroi Foundationa Related subj	vith JABEE p me: product mana d patent specia hod: kboard mainly control item of reports for st he student's p ation method: (40%) + min ubmission dat exams. on the enrolln "Required out urs of teaching advice: o study volunt. datvice: o study volunt. ghly. I subjects: Apleacourse	d technical fields for rograms: the main agement that enha fication writing. A However, intera the product man udents' comprehe presentations about hi-exam(30%) + ri- te of each report s ment: tiside of teaching h g and homework p teacher. arily by using boo plied Mathematics nd subjects of adv arning	his class is equor designing, n goal of learr ances the con ctively learn t agement syst ension. ut the patent p eports(30%) trictly.	uivalent : manufac ning /edu npany's p through t em. plan mac study." T The stud ity and r	to "(2) Th turing, an ucation in t productivit chinking th de by each herefore, t lent should eliability o urse	d operati this class y by con e solutio of them this cours d deal wither ther thar	thas acquired knowledge ion of machinery and is "(A)" and "(D)." trolling production n of concrete problems to learn design skills.

Course	Plan										
			Theme	2			Goals				
		1st	Guidar	nce / About intellect	ual property rights		Understand rights	terms about intelled	ctual property		
		2nd	Patent	systems			Understand some patent systems				
		3rd	Discus	sion about patent s	eeds						
	1st	4th	Scope	of claim for patent			Understand the scope of claim in the patent specification				
	Quarter 5th Patent survey and map						Understand t	the patent map			
6th			Patent	specification writin	g	Understand t	the patent specifica	tion			
		7th	Presen	tation for the pater	nts	Make presen patent	tation about the es	sentials of the			
1st	8th About product management						Understand t	terms about produc	t management		
Semeste		9th	About	company and orgai	nization		Understand to organization	terms about compa	ny and		
		10th	About	the product manag	ement system		Understand t system	terms of the produc	ct management		
		11th	About	process manageme	ent		Understand t	terms about proces	s management		
	2nd	12th	About	quality control			Understand t	terms about quality	control		
	Quarter	13th	Statist	ical approaches in c	quality control		Understand s	statistical approach	es in quality		
		14th	About	cost control			Understand statistical processing techniques in cost control				
		15th	About	out environment control			Understand management techniques in environment control				
		16th									
Evaluati	ion Met	hod and	Weigh	t (%)							
		Examinatio	on	Presentation	Mutual Evaluations between students	Assig	nment	MIni-examination	Total		
Subtotal		0		40	0	30		30	100		
Basic Prof	ficiency	0		20	0	15		15	50		
Specialize Proficienc		0		20	0	15		15	50		
Cross Area Proficiency 0				0	0	0		0	0		

Tsuyama Co	ollege	Year	2021			Course Title		ice on Regional eration
Course Informati	on							
Course Code	0024			Course Cate	egory	Specializ	ed / Ele	ctive
Class Format	Seminar			Credits		Academ	ic Credit	:: 1
Department	Engineering	Course	l Control Syste					
Term	First Semest	er		Classes per	Week	1		
Textbook and/or Teaching Materials								
Instructor		Kazunori,TER	AMOTO Takay	uki				
Course Objective	S							
community. In this course, studer contributing to the so experiments to eleme	nts will reconfi lution of prob entary and jun luate the desi	rm their own lems from re lior high scho ign solutions	skills and kno gional companion ol students. developed to	owledge, and dev nies and through solve the client's	elop ne demor require	ew approach Instrating the Rements throu	es to res fun of s igh colla	em-solving skills for the search and study through cience, technology, and borative work involving the and manner
Rubric								
	Excellen	t	Good		Acce	ptable		Unacceptable Level
Achievement 1	designs requiren able to p addition	and evaluate to solve clien nents, and to point out al problems a iggestions.	ts' designs be client's i through	and evaluate to solve the requirements collaborative s with the local hity.	desig client throu activ with	ractice what they have esigned to solve the ient's requirements rrough collaborative ctivities in cooperation ith the local ommunity.		Cannot practice what they have designed to solve the client's requirements.
Achievement 2	teaching explain knowled the gene	and prepare materials ar professional ge and skills eral public in understand	to an to the gene the give material	specialized lge and skills to eral public using n teaching ls in an easy-to- and manner.	know the g	ain technical vledge and sl general publio given materia	c using	Cannot explain technical knowledge and skills to the general public using the given materials.
Assigned Departr	nent Obiec	tives						
Teaching Method								
Outline	*General or 9 *Field of lear *Foundationa (6) Through societies, the advanced tec and as well f *Relationship The learning Incidentally, *Outline of the knowledge a	al academic of o with Educat extracurricul e student has chnology lect has acquired o with the JA and educatio it is also invo he class: Cor nd skills learr	ubjects in nat disciplines: En cional Objectiv ar activities ar learned to we ures and acad a global persp BEE Program onal attainmer olved in "A-1" htribute to the ned so far.	gineering and Sources: This course of participation in participation in ork with Through lemic societies, the ective. In objectives of the and "D-3". The constraint of the community local community local community and sources of the local community local community and sources of the local community lo	correspon advar extrac ne stud nis cour content throug	onds to the l nced technolo urricular acti ent has learr rse are mainl is diverse ar gh open lectu	ogy lectu vities ar ned to w ly "(H), l nd also r ures, etc	related to (B) and (F). , by utilizing the
In this course, students will be able to deepen their knowledge, broaden their perspectives, and learn about the relationship with society and the impact of technology on society. *Class style Case 1: Students are expected to actively participate in the school's open lectures, visiting classes, open campus, community events, etc., and work with the teachers in charge. And submit the designated report after implementation. Case 2: The class will be conducted based on the needs of local regions. Style *Grading method For those who have submitted an application for credit, evaluation will be made based on the report of the event (report). The evaluation will be approved by the Steering Committee of the Department at the end or							visiting classes, open it the designated report sed on the report of the	
the academic year. In the case that the course is offered as a class based on the needs of the local community, 70% of the evaluation will be based on examinations and 30% on assignments, and credits will be awarded.								

Notice		credit, of the i Advice: the dep In the dep View It is im special This is Base su *Note: school Studen	This course is a "course that requires study outside of class hours. A total of 45 hours of study is required per credit, including both class time and study outside class time. Students are required to follow the instructions of the instructor regarding study outside of class hours. Advice: Download and print out the "Report on the Community Collaboration Exercise" from the website of the department in advance. In the case of classroom lectures, teaching materials will be distributed in electronic format so that they can be viewed during class. It is important for students to have an interest in contributing to the local community by utilizing their own specialties, and to make efforts to expand their knowledge. This is a course that can be taken over two years. Base subjects: All subjects studied so far *Note: Since the project is mainly related to the local community, be aware that you are a student of our school when you conduct the project. Students are expected to actively cooperate in activities outside their own field of expertise. Ask your teachers for information on events related to this subject.						
Characteristics of Class / Division in Learning									
□ Active	Learnin	g	□ Aided by ICT		□ Applicable to Remote Class		Instructor Pr Experienced	rofessionally	
Elective Subjects									
Course Plan									
			Theme			Goals			
1st Semeste r		1st	Support for events 30 hours or more	S					
		2nd	Teaching and support at open lectures, open campus, community events, etc. in which the school is involved						
		3rd	Support multiple events for a total of 30 hours or more, and submit a report as specified. (Travel time is not included).						
		4th	4th Total More than 30 hours						
		5th							
	1st Quarte	- 6th	Study outside class time (Instructions): Preparation for the event, preparation, and cleanup If a preparation day is set aside, it may be included in class time. Preparation of the assigned report (Forms will be provided separately)In 2021, according to the needs of the local community, a class on the development of basic skills for working people based on higher education will be conducted by an external lecturer.						
		7th							
		8th							
		9th							
		10th							
		11th 12th							
	2nd Quarte								
		14th							
		15th							
		16th							
Evaluation Method and Weight (%)									
1		xamination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total	
Subtotal		'0	30	0	0	0	0	100	
Basic Proficiency)	0	0	0	0	0	0	
Specialized Proficiency)	0	0	0	0	0	0	
Cross Area Proficiency		'0	30	0	0	0	0	100	

Tsuyama Co	ollege	Year	2021				Course Title	Thesis	Work II
Course Information	on								
Course Code	0025				Course Cate	gory	Specializ	ed / Con	npulsory
Class Format	Experiment				Credits		School C	redit: 8	
Department	Engineering	echanical and Course	Control Sy	ystem	Student Grad		Adv. 2nd		
Term Textbook and/or	Year-round				Classes per \	Week	8		
Teaching Materials									
Instructor		jiro,INOUE Hi	iroyuki,HO	SOTANI	Kazunori,CH	O Feife	ei,NONAKA S	Shogo,Ok	KE Shinichiro
advanced technology, 2. Form a research pl 3. Exchange opinions outside the school. 4. Contribute to the I developing the ability	tools to collec and to under an independe and ideas wit ocal commun	stand the obj ntly, conduct h many engin ity and the wo	jective of r the experi neers throu orld by rec	esearch iments a ugh rese cognizin	n. and analysis ir earch presenta g the respons	n detai ations iibility 1	ils and evalu at academic	ate the v confere	nces and practical training
Rubric									•
Achievement 1	Confirm relationship between technology and research trends by collecting, arranging, and analyzing essential		Can explain the details of documents and materials that I studied.		Unacceptable Level Cannot explain the details of documents and materials studied.				
Achievement 2	special r to solve problem	ke plans for research proje engineering s and analyze lain logically.	ects object expla expla result evalu	based o ctives, a ain the r ts of tes	research on research nd logically nethods and sting and ssumptions	plan to object the mof test assum	Can make a research plan based on research objectives and explain the methods and results of testing and evaluating assumptions and surveys.		Cannot make a research plan based on research objectives and explain the methods and results of testing and evaluating assumptions and surveys.
Achievement 3	clearly w using ba	lain opinion vithin a time li sic forms of presentation	using	j basic p	resentation presentation	intation Understand Dasic Cannot gi		Cannot give a basic presentation.	
Achievement 4	Understa responsi engineer based or technolo and natu career d evaluate	and the bility that rs have to soc n the impact o gy on society ure. Make owr esign and the potential company froi	ciety of h l fit m bit h conti improve h conti conti conti conti	d on the nology c nature a nuously	that that impact of on society and keep t to become	respo	lescribe the nsibilities tha eers bear to ty.		Cannot explain the responsibilities that engineers bear to society.
Assigned Departn	nent Objec	tives							
Teaching Method	.								
Outline	*Field of stud *Foundationa *Relationship This subject indispensable communicate conferences. *Relationship The main go 3", "F-1", "G In this cours design skills" health and si arising from etc.", "Ability In addition, s *Course outl	e ability to sol e and coopera " o with JABEE p als of learning -2" and "H-2" e, students wi ', "Ability to id afety, culture, these problen to plan and i students are r ine: This cour ve course tha	nts and pra- isciplines: ional Objecto to "(4) By ve probler ate effectiv programs d / educati are involv ill be invol- ientify pro- economy ns", "Abiliti implement required to rse is designed	Engined ctives : actively ms and i rely with : on in th ved. in t blems", , enviro y to exp t continuo attend gned for	ering / Mechai carrying out find solutions, other resear is class are "(he developme "Ability to rec ment, and e press the conc uously". a lecture on e	specia , and c chers, E), E-: ent of t cognize thics", cept in engine o have	and present and present 1", also "A-3 the following e problems f "Ability to fi diagrams, s ering ethics. received cree	the stud design findings ", "C-1", abilities rom the nd a solu entences	lent has developed the and undertake research,
	The results a					s are s	supervised in	a close	supervision. Joint research

Style		or analy Student technica *Gradin In this of reviewe The eva (50%), items (/ evaluati	The a total of 12 credit hours per week ytical research independently under ts will be instructed and advised on l al papers, and how to make present ing Method course, students will be evaluated by ers, based on the condition that they aluation will be based on the present and the degree of achievement will A) and (C) to (H) of the educational ion score of 60% or higher. valuation score does not reach the p ed.	the supervision how to conduct ations and discu y several instruct have fulfilled th ation at the res be evaluated by program. The s	of a faculty adviso engineering resea issions. tors, including rep re requirements ir earch conference the presentation tudent will pass th	or for each research theme. rch, how to write scientific and port reviewers and presentation idicated in the class plan. (50%) and the research report and the report for each of the ne examination with a total
		*Note: A total class ho	This course is a "subject that require of 45 hours of study is required per burs.	credit, including	both the relevant	
			ts are required to follow the instructi		5 5	,
		Studen	e for students: An extremely large ar ts are expected to conduct research nvironment.			
Notice		As prep plan the acquire	paratory studies, students are expective expection of the state of the	atus of their res	earch in the field,	survey relevant references,
Notice			subjects: All subjects that have beer			
			ts are required to do preparatory stu			
		are exp In the s of the R for Acad submit from th	e on taking this course: This is the meted to take the initiative and do the ected to take the initiative and do the second year, students are required to take the Integrated Studies" in demic Degrees and University Evalua a research plan and a summary of the National Institution for Academic I udents are required to submit a research second a submit a research plan and	eir best in all as o submit a "Cou order to obtain ation. In addition he results of the Degrees and Uni	spects of the cours rse Plan for the Ir a bachelor's degre n to the above, it ir studies when th iversity Evaluation	se. tegrated Studies" and "Summary ee from the National Institution is necessary for students to ney receive a bachelor's degree
Charact	eristics of		/ Division in Learning			
☑ Active		,	☑ Aided by ICT	Applicable	to Remote Class	Instructor Professionally Experienced
			·			
Course	Plan	1	1		1	
			Theme		Goals	current cituation at any time and
		1st	Guidance		consider the stud currently necessa desired future st	
		2nd	Research theme and research plan			information appropriately from net, and questionnaires.
		3rd	Progress Presentation		tools and method target audience.	it (present) information using ds appropriate to the purpose and
	1st Quarter	4th	Research theme and research plan		information.	ecessary to consider the reliability collected and cited sources of
	Quarter	5th	Research theme and research plan		Know that they a and scope of infludisseminate.	are responsible for the content uence of the information they
		6th	Research theme and research plan		and copyright int disseminating inf	
1st Semeste		7th	Research theme and research plan		state (issues).	on in order to recognize the en the ideal state and the current
r		8th	Research theme and research plan		Read and unders certain foreign la	tand texts in Japanese and nguages.
		9th	Research theme and research plan		Understand what specific foreign la	t others say in Japanese and in
		10th	Trial and verification of experiment	s and analysis	Understand the p	purpose of a conversation and panese or a specific foreign
		11th	Trial and verification of experiment	s and analysis	Draw charts and communication.	graphs for smooth
	2nd	12th	Trial and verification of experiment	s and analysis	Adopt attitudes (affirmation, repetition, body or smooth communication.
	Quarter	13th	Trial and verification of experiment	s and analysis	Able to listen to	others' opinions and build
		14th	Trial and verification of experiment	•	consensus. Learn consensus	-building conversations.
		15th	Trial and verification of experiment		Practice specific	methods for consensus building, ork and workshops.
		16th	Trial and verification of experiment	· · ·	Understand and	be able to practice the purpose for experiments and practical

	-	_					
	1st	Trial and verificat	ion of experiment	s and analysis	Understand and l be done to preve	be able to praction nt disasters and	e what should ensure safety.
	2nd	Trial and verificat	ion of experiment	· · ·	factor diagrams, which are effective	tree diagrams, a	nd logic trees,
	3rd	Trial and verificat	ion of experiment	s and analysis	consideration of I	ogical procedure	requires s, not intuition
3rd Quarter	4th	Trial and verificat	ion of experiment	s and analysis	through group w	ork and worksho	ps, using all
	5th	Trial and verificat	ion of experiment	s and analysis	Identify engineer rational manner.	ing problems in a	a logical and
	6th	Trial and verificat	ion of experiment	s and analysis		the thought pro	cess that led to
	7th	Trial and verificat	ion of experiment	s and analysis	Propose solutions	s of appropriate s	scope and level.
	8th	Trial and verificat	ion of experiment	s and analysis	Express the logic conclusions using	of the process o words, sentence	f reaching es, charts, etc.
	9th	Trial and verificat	ion of experiment	s and analysis	Act in compliance	e with laws and r	ules.
	10th	Trial and verificat	ion of experiment	s and analysis	Act with consider others.	ation for the circ	umstances of
	11th	Trial and verificat	ion of experiment		society and natur	e and be able to	enhance the
4th	12th	Trial and verificat	ion of experiment	s and analysis	Organize and cor information.	npose multiple p	ieces of
Quarter	13th	Writing paper			Write correctly in language to com	Japanese or a s municate with ot	pecific foreign hers.
	14th	Writing paper			Develop logic and	d thinking based	on facts.
	15th	Presentation			Correctly transmitted transmitted to the content of	it (present) infor ls appropriate to	mation using the purpose and
	16th	Writing paper					and be able to
ion Met	hod and	Weight (%)					
		Presentation	Mutual Evaluations between students	Self evaluation	Research task	Other	Total
0		50	0	0	50	0	100
y 0		0	0	0	0	0	0
ed 0 Sy 0		40	0	0	50	0	90
a 0 y 0		10	0	0	0	0	10
	Ath Quarter on Met Ex 0 y 0 d y 0 a 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c c c c c c c } 2nd & Trial and verificat \\ 3rd & Trial and verificat \\ 3rd & Trial and verificat \\ 4th & Trial and verificat \\ 5th & Trial and verificat \\ 6th & Trial and verificat \\ 7th & Trial and verificat \\ 8th & Trial and verificat \\ 8th & Trial and verificat \\ 10th & Trial and verificat \\ 10th & Trial and verificat \\ 10th & Trial and verificat \\ 11th & Trial and verificat \\ 13th & Writing paper \\ 14th & Writing paper \\ 14th & Writing paper \\ 15th & Presentation \\ 16th & Writing paper \\ 0 & 50 \\ y & 0 & 0 \\ 0 & 40 \\ a & 0 & 10 \end{array}$	3rd Trial and verification of experiment 3rd Trial and verification of experiment 4th Trial and verification of experiment 5th Trial and verification of experiment 6th Trial and verification of experiment 7th Trial and verification of experiment 8th Trial and verification of experiment 10th Trial and verification of experiment 11th Trial and verification of experiment 12th Trial and verification of experiment 13th Writing paper 14th Writing paper 15th Presentation 16th Writing paper 0 50 0 50 0 50 0 0 0 40	3rd Trial and verification of experiments and analysis 3rd Trial and verification of experiments and analysis 3rd Trial and verification of experiments and analysis 4th Trial and verification of experiments and analysis 5th Trial and verification of experiments and analysis 6th Trial and verification of experiments and analysis 7th Trial and verification of experiments and analysis 8th Trial and verification of experiments and analysis 9th Trial and verification of experiments and analysis 10th Trial and verification of experiments and analysis 10th Trial and verification of experiments and analysis 11th Viting paper 12th Presentation 16th Writing paper 16th Presentation <td>3rd Trial and verification of experiments and analysis be done to preve 3rd Trial and verification of experiments and analysis be done to preve 3rd Trial and verification of experiments and analysis Switch are effective analyzing the cur 3rd Trial and verification of experiments and analysis Understand that consideration of or common sensitive analyzing the cur 4th Trial and verification of experiments and analysis Trinking engineer 5th Trial and verification of experiments and analysis Explain to others through group with group with group and through group with group and the second second analysis Explain to others through group with group and analysis 6th Trial and verification of experiments and analysis Explain to others the conclusion. 7th Trial and verification of experiments and analysis Express the logic conclusion using the cur and analysis 9th Trial and verification of experiments and analysis Act in compliance Act with consider others. 10th Trial and verification of experiments and analysis Interston analysis 11th Trial and verification of experiments and analysis Interston analysis acolety. 12</td> <td>3rd 2nd Trial and verification of experiments and analysis Use diagrams and tables such as factor diagrams, tree diagrams, are diagrams, a</td>	3rd Trial and verification of experiments and analysis be done to preve 3rd Trial and verification of experiments and analysis be done to preve 3rd Trial and verification of experiments and analysis Switch are effective analyzing the cur 3rd Trial and verification of experiments and analysis Understand that consideration of or common sensitive analyzing the cur 4th Trial and verification of experiments and analysis Trinking engineer 5th Trial and verification of experiments and analysis Explain to others through group with group with group and through group with group and the second second analysis Explain to others through group with group and analysis 6th Trial and verification of experiments and analysis Explain to others the conclusion. 7th Trial and verification of experiments and analysis Express the logic conclusion using the cur and analysis 9th Trial and verification of experiments and analysis Act in compliance Act with consider others. 10th Trial and verification of experiments and analysis Interston analysis 11th Trial and verification of experiments and analysis Interston analysis acolety. 12	3rd 2nd Trial and verification of experiments and analysis Use diagrams and tables such as factor diagrams, tree diagrams, are diagrams, a

Tsuyama Co	ollege	Year	2021		(Course Title Math		matical Engineering
Course Informati	on							
Course Code	0029			Course Cate	gory	Specializ	ed / Elec	tive
Class Format	Lecture			Credits		Academi		
Department	Advanced Me Engineering		Control System	Student Grad	de	Adv. 2nd		
Term	First Semest	er		Classes per V	Neek	2		
Textbook and/or Teaching Materials	Textbooks : "Let's Solve	Haruto Ohta, Topological Sp	"Let's Start Top bace" (Nihonhyo	ological Space" ronsha)	(Nihonł	nyoronsha)	, Referei	nce Books : Haruto Ohta,
Instructor	YOKOTANI N	1asaaki						
Course Objective	S							
Learning purposes : I		y and its way	of thinking.					
Course Objectives : 1. Acquire the knowle 2. Understand Euclid 3. Understand Euclid 4. Understand the de	ean geometry ean space and	and topology.		and applied skil	ls neces	ssary to sol	ve basic	engineering problems.
Rubric								
	Excellen	it	Good		Accept	able		Not acceptable
Achievement 1	Have mapplied mathem to solve	astered the skills of natics necessar	ry mastered of skills neces	of cs and have computational sary to solve	Have acquired the knowledge of mathematics necessary to solve basic engineering problems.		essary	Insufficient knowledge of mathematics and calculation skills necessary to solve basic engineering problems.
Achievement 2	isometri and join	ship between ic transformati	ons Understand of topology	d the concept	e concept Understan geometry geometry.			Lack of understanding of Euclidean geometry and topology.
Achievement 3	crafting,	ands figure , graphs, and ilar figures.	of figures f	d the concept rom a point of view.	Unders Euclide	lerstand distance and lidean space.		Lack of understanding of the concept of Euclidean space and figures.
Achievement 4	Underst of points	and the seque s in a shape an ergence.	nce	d the nature of	deform	stand that t nation of a f ented by a	figure is	There is a lack of understanding of the deformation of figures and the sequence of points.
Assigned Departr	nent Obiec	tives						
Teaching Method								
		pecialized : Sp	acializad					
Outline	Field of learr Foundationa Relationship science subj ability relate Relationship Course outlin phenomenor to see and u	hing : Common l academic dis with Educatio ects centered d to mechanic with JABEE pr ne : One way to n and cut it do ise useful thing	n and basics of r ciplines : Mathe nal Objectives : on mathematics al / control syst rograms : The n to solve problen wn from what y as in such cases	matical science This class is ec and physics, a em engineering nain goals of lea ns that occur in rou can underst . Topology is a	juivalent nd acqu and ele arning / enginee and. Th disciplin	t to "(1) To uire the abil ectronic / ir education ering is to g le significar be that exal	deepen ity to ap formation in this cl grasp the ice of thi mines th	atics in general the knowledge of natural uply it as basic academic on system engineering". lass are "(A), A-1". e essence of the is lecture is to learn how e property of maintaining v to see what is invariant,
Style	that is, what Course meth possible will	captures the nod : Classes v be provided se	essence. vill be centered	on board writin can understand	g, but a	at the same	time, a	s much exercise time as more deeply and acquire
	grades, etc.,	a re-examina	tion may be cor	iducted (report	assignr	ment is imp	osed).). Depending on the
	of the instruction of the of the of the of the of the office offi	ctor regarding ce :	study outside c	of class hours.				ours. A total of 45 hours e. Follow the instructions
Notice	• It is impo solving the e	s II, calculus I, rtant to make exercises on yo	, calculus II, and sure to prepare our own.	d basic linear al and review, ar	gebra, v Id to un	which are t derstand th	he basic ne lectur	e contents more deeply by
	(3), Basic Lir	near Algebra (2)			thematics 1	.I (1), Ca	alculus I (2), Calculus II
	Related subj	ects : Subject	s of each specia	lized departme	nt			
	yourself. I w	advice : It is ir ant you to val giving a warn	ue finding a solu	erstand the cor ution on your o	ntent of wn. If y	the lecture ou are late	well and a lot, yo	d solve the problem by ou may be treated as

Characte	eristics	s of Class	/ Division in Lea	arning				
□ Active			□ Aided by ICT		Applicable t	o Remote Class	Instructor Experienced	Professionally
Elect	ive	subjec	ts				Experienced	
Course I	Plan		Ι			Ι		
			Theme Cuidanas Fuelidas			Goals		
		1st	Guidance, Euclidea Learning content c assignment (1) "Er topology"	outside class hou		Understand cong become familiar figures under cor	with the prope	rties of invariant
		2nd	Similar geometry Learning content c assignment (1) "E	outside class hou uclidean geomet	rs: Report rv and topology	Understand simil become familiar figures under sin	arity transform with the prope nilarity transfor	nations and rties of invariant mations.
		3rd	topology Learning content c assignment (1) "E	outside class hou	rs: Report	Familiarize yours	elf with the ide	ea of topology.
	1st	4th	Isometric transform Learning content c assignment (1) "E	mation and joint	transformation	Understand the r transformation a		
	Quarter	5th	Exercise (Euclidear	n geometry and	topology) rs: Report			
		6th	assignment (1) "E Distance and Eucli Learning content c assignment (2) "E	dean space outside class hou	rs: Report	Familiarize yours space.	elf with distand	ce and Euclidean
		7th	Shape Learning content c assignment (2) "El	outside class hou	rs: Report	Familiarize yourself with some exa shapes in Euclidean space. Familiarize yourself with figure wor self-similar figures.		examples of
1st Semeste r		8th	Crafting figures, gr Learning content c assignment (2) "Er	raphs, and self-s	imilar figures rs: Report			work, graphs, and
		9th	Set and logic Learning content c assignment (2) "E	outside class hou	rs: Report	Familiarize yourself with sets and		nd logic.
		10th	Exercise (Euclidear Learning content c assignment (2) "E	outside class hou	rs: Report			
		11th	Shape transformat Learning content c assignment (3) "T figures"	outside class hou	rs: Report nd mapping of	Understand the basic properties of figure deformation and represent the deformation by mapping.		
	2nd Quarter	12th	Map Learning content c assignment (3) "T figures"			Familiarize yours	elf with the na	ture of mapping.
		13th	Sequences and po Learning content c assignment (3) "T figures"	outside class hou	rs: Report	Understand the s sequence of poin convergence by t	its of figures, a	nd show
		14th	Exercise (transforr Learning content c assignment (3) "T figures"	outside class hou	rs: Report			
		15th	(final exam)					
Evert C	M	16th	Return and comme	entary of the fina	al exam answer			
Evaluati		thod and N	Veight (%)	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	6	0	0	0	0	0	40	100
Basic Proficiency	, 0	I	0	0	0	0	0	0
Specialized Proficiency	d c	0	0	0	0	0	40	100
Cross Area Proficiency			0	0	0	0	0	0

Tsuyama Co	ollege	Year	2021				Course Title	Scient	ific Investigation
Course Information	on								
Course Code	0030				Course Cate	gory	Specializ	ed / Elec	ctive
Class Format	Lecture				Credits		Academi	c Credit:	: 2
Department	Advanced Me Engineering	echanical and Course	Control Sys	stem	Student Grad	de	Adv. 2nd	1	
Term	Second Sem	ester			Classes per V	Week	2		
Textbook and/or Teaching Materials	Handouts an	d other mater	ials will be	distrib	uted as appro	priate			
Instructor	YAMAGUCHI	Daizo							
Course Objective									
Learning purposes : be used. In this class results mean and what	we will learn	how to evaluate	ate the prop	perties	of mechanica	under I mate	stand its pro rials, and in	perties a group w	and to judge how it should vork we will learn what the
Course Objectives : 1. To understand the evaluation method. 2. To be able to judge 3. To be able to draw	e which mate	rials are most	suitable for					ble to se	lect the required
Rubric									-
	Excellen	t	Good				otable		Not acceptable
Achievement 1	investiga of mate	to explain hov ate the proper rials and selec uired evaluatio s.	ties of maintend ties of maintend to work to work	iterials rk colla n to se red eva	he properties and be able boratively in lect the	invest of ma advice and b neces	Understand how to investigate the properties of materials with the advice of a supervisor and be able to select the necessary evaluation methods.		Not reached the left column.
Achievement 2	materia	ne which Is are most for the requir	team mater ed suitab	to dete rials are	he required	super judge most	Vith the advice of a upervisor, be able to udge what materials are nost suitable for the equired performance.		Not reached the left column.
Achievement 3		to develop an on and analys	is team collab	to deve	evaluation	evalu	le to develo ation and ar with the adv visor.	alysis	Not reached the left column.
Assigned Departr	nent Objec	tives							
Teaching Method									
	General or S	pecialized : S	pecialized						
	Field of learr	ning: Commo	on and basi	ic natur	al sciences				
	Foundationa	l academic dis	ciplines : E	Enginee	ering / Materia	als / M	lechanics of	material	s / Materials evaluation
Outline		with Educatio ass is equivale			e basic science	e and	technical kno	owledge'	
outime	Relationship The m	with JABEE pr ain goals of le	rograms : arning / ed	ducatio	n in this class	are "(A), A-1.		
	liudae how it	should be use nd in group wo	ed. In this o	course.	students will	learn	how to evalu	uate the	and its properties and to properties of mechanical what to pay attention to
	Course meth equipment a	nod : Each gro nd research fi e next week. S	eld. The te	acher v	vill assist the	studer	nts in their p	resentat	evaluation, analysis ions and they will submit a understand the meaning o
Style	(1) Distribut (2) Evaluation and their base (3) Re-example by oral example	sic application	examinatio e basic cont will be the ents will be given; ho	e evalua e re-exa wever,	ation criteria. Imined only of a retest may	60 poi nce bv	nts or more ' oral examir	is a pass nation. (3	: 20%. he achievement objectives sing score. 3) Retest: Only one retest question does not meet

			In addit	ns on the enrollm ion to the 15 creation to follow the instr	dit hours per crec	lit, students are eachers regardi	required to study ng these studies.	30 credit hours.	Students are
			Course ac It is ess and that t		nts prepare for th egular interest in	e class by comr mechanical mat	nunicating and rev cerials.	viewing with their	r teammates,
Notice			Mechanic	onal subjects : Ap s of Materials I (M and Electronic Ma	3rd), Mechanics	(all 4th year), C of Materials II	hemistry II (3rd), (M 4th),	Materials Science	e (M 2nd),
			Related s	ubjects : Functior	nal Materials Scie	nce (MS 2nd), S	Strength of Materia	als (MS 2nd).	
			should be	curious and activ	ely seek to acqui d the basic purpo	re new knowlect pses and princip	ruments in the scie lge. Students are les of analytical in will be treated as	expected to study struments. Stude	vindependently
Charact	eristic	s of		Division in Lea				-	
☑ Active	Learnir	g		☑ Aided by ICT		☑ Applicable t	o Remote Class	☑ Instructor Pr Experienced	ofessionally
Elect	tive	sι	ubject	ī S					
Course Plan									
				heme		• • •	Goals		
		1	lst (Guidance (Study o 1) Materials asses lifferent methods)	ssment methods	: Assignment (overview of	Understand how	the class is run.	
		Ź	2nd b	lechanical charact bending, hardness butside class time: compression tests	and impact tests Assignment (2)	s) (Study	Understand typic evaluation metho	al mechanical pro ds.	operties
		5	Brd F	Preparation of Pres lass time: Assignr	sentation Slides I ment (3) Bending	(Study outside Examination)	Work in groups to evaluation device	o produce a slide	about the
	3rd Quarte	r 2	ith F	Preparation of pres outside class time:	sentation slides I Assignment (4)	I (Study Hardness test)	Students work in phenomena and	groups to prepai theories.	re slides on
	Quarte		5th c	Preparation of pres outside class time: est)	sentation slides I	II (Study	Each group will p application in a re	repare a slide pre eal company.	esentation on an
		e	5th F	Presentation by graine: preparation	oup 1 (Study out of assignment (6	side class) by group 1)	Be able to unders presentation.	stand the content	t of the
2nd		7	th F	Presentation group Issignment (7) pre	2 (Study outside eparation of groute grou	e class time: p 2)	Be able to unders presentation.	stand the content	t of the
Semeste r		8	Sth F	Presentation by 3 (ime: Assignment	groups (Study ou (8) Preparation o	itside class f 3 groups)	Be able to unders presentation.	stand the content	t of the
		ç	9th T	valuation of mech EM) (Study outsio (RD)	nanical materials de class time: As	(XRD, SEM, signment (9)	Be able to unders evaluation metho		hanical material
		1	LOth F	Preparation of pres lass time: Assignr	sentation slides I ment (10) SEM)	(Study outside	Work in groups to analyser.	o produce slides a	about the
		1		Preparation of pres outside class time:	Assignment (11) TEM)	In groups, prepar principles of evalu	re a slide present uation and analys	ation on the sis.
	4th Quarte	r 1	2th f	resentation by grain of the preparation of the prep	oup 1 (Study out of assignment (1	side class 2) by group 1)	Be able to unders presentation.	stand the content	t of the
		1		Presentation group preparation of assi			Be able to unders presentation.	stand the content	t of the
		1	L4th F	Presentation by grainer (oup 3 (study out (14) preparation	side class by group 3)	Be able to unders presentation.	stand the content	t of the
				Completing the rep	oort		Correct inadequa	te report content	
Evoluat	ion Ma			Summary					
		10	u and W	eight (%)	Mutual				
		Exan (Rep	nination ort)	Presentation	Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal		30		20	0	0	0	0	100
Basic Proficienc	cy .	C		0	0	0	0	0	0
Specialize Proficienc		30		20	0	0	0	0	100
Cross Are Proficienc		D		0	0	0	0	0	0

Ts	uyama C	College	Year	2021			Course Title	Syster Engine	n Control eering
Course	Informat	ion			1				
Course Co	ode	0031			Course Cate	gory	Specializ	,	
Class Forr	mat	Lecture			Credits		Academi	c Credit:	2
Departme	ent	Advanced M Engineering	echanical and Course	Control System	Student Grad		Adv. 2nd		
Term		Second Sem	nester		Classes per V	Neek	2		
Textbook Teaching		テキストとな	る資料を配布す	る。					
Instructor	r	YAGI Hideyı	ıki						
学習目的: 概念を理解 到達目標: 1.実在シス	弾する。 、 、テムから状	表現されたシス 態変数モデルカ	「構築できる。	間領域で表現されが う。 測性が判定できる。	こ状態空間モデ	りんこつい	いて説明でき	, システ	- ムの可制御性と可観測性の
3.可制御, 4.状態フィ	可観測につ	によって系の極	の可利御, 可観 を指定できる。	測性が判正できる。					
Rubric				1					1
		優		良		可			不可
評価項目1		複雑な問 モデルの とができ]題に対し状態空)理論を適用する sる。	^{2間} 3こ 論を理解でき		状態空 礎的な	間モデルに関 理論を理解て	する基 ざきる。	左記に達していない。
評価項目2		状態方利 して発展 きる。	記の座標変換に 酸に理論を適用	関 すで 好できる。	座標変換を理		は理論を理解できる。 「程式の基礎的な座標 と理解できる。		左記に達していない。
評価項目3		測性の概	ムの可制御性と可 稔に関して発展 ≥適用できる。	J観 システムの可 調性の概念に 理解できる。	制御性と可観 関する理論を	測性の	システムの可制御性と可観 則性の概念に関する基礎的 な理論を理解できる。		左記に達していない。
評価項目4		ノイート	&問題に対し, 状 ダバックによる制 注論を適用できる	1御 制御糸設計に	バックによる ついて理解で	状態フ 基礎的 て理解	フィードバックによる りな制御系設計につい 痒できる。		左記に達していない。
Assigne	d Depart	ment Obje	ctives						
Teachin	ig Metho	d							
Outline		専攻科学習E 運用に活用で 技術者教育フ , A - 1 : エ 授業の概要: ・可観測性,	標との関連:本 きる能力を身に つグラムとの関 学に関する基礎 本講義では,モ 構造解析など状	連:本科目が主体。 知識として,自然和	目標「(2)専門打 3科目である。 とする学習・教 科学の幅広い分 テムを現代制御 一的に論ずる。	育到達目 野の知調 理論に。	目標は「(A 戦を修得し, より解析する)技術に 説明でき 。これら	城やシステムの設計・製作・ 関する基礎知識の深化 ること」である。 システムの安定論,可制御 の制御モデル例を交えなが
Style		ら 講義する。 成績評価方法 ート課題の 提 理解度が不十 験結果に入れ	更に,理解が深 :定期試験の結 出期限が守られ 分であると感じ ふ。	まるように、レボ- 課を評価する(7) にていない場合は,量 られる部分は補講れ	– ト課題を課す) %)。レポー 最大 2 0 %まで ど行い,再試を	、 ト課題な の評価 行う場合	よどの提出物 とする。 合もある。再	の内容を 試の結果	評価する(30%)。レポ は上限60点として定期試 業時間外の学修を合わせて 示に従うこと。
				- 修が必要である。」		ドレノし		水束の油	
Notice				子,情報4),制御					
Notice		基礎科目:制 関連科目:約 受講上のアド 計算できるか も重要である	御工学(電気電 形代数学(専1 バイス:本講義 ,基本的な計算	会子, 情報4), 制御 年), 回路網解析 では線形代数の知言 はハンドワークに。	工学特論(電気 (専2)など 戦を駆使するこ にって確認する	記電子 5 とになる 必要がす)など 3。行列演算 5る。また, -	与えられる	ピュータを用いて効率的に る課題を遅延なくこなすこと 刻3回で1回の欠席とする
	eristics c	基礎科目:制 関連科目:約 受講上のアド 計算できるか も重要である 授業の開始時 。	御工学(電気電 形代数学(専1 バイス:本講義 ,基本的な計算	2子, 情報4), 制御 年), 回路網解析 では線形代数の知証 はハンドワークに。 その際返事がなく,	工学特論(電気 (専2)など 戦を駆使するこ にって確認する	記電子 5 とになる 必要がす)など 3。行列演算 5る。また, -	与えられる	る課題を遅延なくこなすこと
Charact		基礎科目:制 関連科目:約 受講上のアド 計算できるか も重要である 授業の開始時 。	御工学(電気電 形代数学(専1 バイス:本講義 ,基本的な計算 に出欠をとり,	 子,情報4),制御 年),回路網解析 では線形代数の知識 では線形代数の知識 ではパンドワークによく その際返事がなく, arning 	工学特論(電気 (専2)など 戦を駆使するこ にって確認する	記電子 5 とになる 必要がす してきた)など 3。行列演算 5る。また, - こ者は遅刻と	与えられ ² する。遅 	る課題を遅延なくこなすこと
Charact		基礎科目:制 関連科目:約 受講上のアド 計算できるか も重要である 授業の開始時 。	御工学(電気電 形代数学(専1 バイス:本講義 、基本的な計算 に出欠をとり、 vision in Lea	 子,情報4),制御 年),回路網解析 では線形代数の知識 では線形代数の知識 ではパンドワークによく その際返事がなく, arning 	工学特論(電参 (専 2)など 載を駆使するご にって確認する その後入室を	記電子 5 とになる 必要がす してきた)など 3。行列演算 5る。また, - こ者は遅刻と	与えられ ² する。遅 	る課題を遅延なくこなすこと 刻3回で1回の欠席とする structor Professionally
Charact □ Active 選択	Learning	基礎科目:制 関連科目:約 受講上のアド 計算できるか も重要である 授業の開始時 。	御工学(電気電 形代数学(専1 バイス:本講義 、基本的な計算 に出欠をとり、 vision in Lea	 子,情報4),制御 年),回路網解析 では線形代数の知識 では線形代数の知識 ではパンドワークによく その際返事がなく, arning 	工学特論(電参 (専 2)など 載を駆使するご にって確認する その後入室を	記電子 5 とになる 必要がす してきた)など 3。行列演算 5る。また, - こ者は遅刻と	与えられ ² する。遅 	る課題を遅延なくこなすこと 刻3回で1回の欠席とする structor Professionally
Charact □ Active 選択	Learning	基礎科目:制 関連科目:約 受講上のアド 計算できるが も重要である 授業の開始時 。 of Class / Di	御工学(電気電 形代数学(専1 バイス:本講義 、基本的な計算 に出欠をとり、 vision in Lea	 子,情報4),制御 年),回路網解析 では線形代数の知識 では線形代数の知識 ではパンドワークによく その際返事がなく, arning 	工学特論(電参 (専 2)など 載を駆使するご にって確認する その後入室を	記電子 5 とになる 必要がす してきた)など 5。行列演算 うる。また, こ者は遅刻と mote Class	与えられ ² する。遅 	る課題を遅延なくこなすこと 刻3回で1回の欠席とする structor Professionally
	Learning	基礎科目:制 関連科目:約 受講上のアド 計算できるが も重要である 授業の開始時 。 of Class / Di	御工学(電気電 形代数学(専1 バイス:本講義 、基本的な計算 に出欠をとり、 vision in Lea Aided by IC	 子,情報4),制御 年),回路網解析 では線形代数の知識 では線形代数の知識 ではパンドワークによく その際返事がなく, arning 	工学特論(電参 (専 2)など 載を駆使するご にって確認する その後入室を	記電子 5 とになる 必要がす してきた e to Rei)など S。行列演算 Sる。また、 こ者は遅刻と mote Class S	与えられ [;] する。遅 □ In: Exper	る課題を遅延なくこなすこと 刻 3 回で 1 回の欠席とする structor Professionally ienced
Charact □ Active 選択 Course 2nd	Plan	基礎科目:制 関連科目:約 受講上のアド 計算できるか も重要である 授業の開始時 of Class / Di	御工学(電気電 形代数学(専1 バイス:本講義 、基本的な計算 に出欠をとり、 vision in Lea Aided by IC me jイダンス	3子, 情報4), 制御 年), 回路網解析 では線形代数の知言 はハンドワークに。 その際返事がなく, arning T	工学特論(電参 (専 2)など 載を駆使するご にって確認する その後入室を	 転電子 5 とになる 必要がる してきた e to Rei Goal 倒立)など 3。行列演算 5る。また,- こ者は遅刻と mote Class <u>s</u> 2輪車両の5	与えられ [;] する。遅 □ In: Exper	る課題を遅延なくこなすこと 刻 3 回で 1 回の欠席とする structor Professionally ienced
Charact □ Active 選択 Course	Learning	基礎科目:制 関連科目:約 受講上のアド 計算できるか も重要できるが も重要できるが の開始時 。 of Class / Di の f 1st ・ガ 2nd ・重	御工学(電気電 形代数学(専1 バイス:本講義 、基本的な計算 に出欠をとり、 vision in Lea Aided by IC	 子,情報4),制御 年),回路網解析 では線形代数の知識 では線形代数の知識 さくの際返事がなく, arning T 	工学特論(電参 (専 2)など 載を駆使するご にって確認する その後入室を	 電子 5 とになる 必要がる してきか e to Re Goal 倒立 状態)など S。行列演算 Sる。また、 こ者は遅刻と mote Class S	与えられ する。遅 □ In: Exper 定定化実例	る課題を遅延なくこなすこと 刻 3 回で 1 回の欠席とする structor Professionally ienced

-	-				1				
	5th	・システムモデルと	_線形化(3)		倒立2輪車両のモ	デル化			
	6th	・システムモデルと	∠線形化(4)		倒立2輪車両のモ	デル化			
	7th	・状態方程式の解と	こその解法		状態方程式の微分方程式の解の計算				
	8th	・可制御性,可観測性と判定法			可制御性, 可観測	性の解法			
	9th	・システムの座標変換(1)			可制御正準形式への変換				
	10th	・システムの座標変	贬换(2)		可観測正準形式へ	の変換			
	11th				最小実現を求める				
4th	12th	・システムの安定性	まとその判別		安定性を求める				
Quarter	13th	・状態フィードバッ			コントローラを設	コントローラを設計する			
	14th	・出力フィードバッ	・出力フィードバックによる極指定		コントローラを設	計する			
	15th	期末試験							
	16th	・答案の返却と解説	ť						
on Met	hod and \	Neiaht (%)							
			相互評価	自己評価	課題	小テスト	Total		
70)	0	0	0	30	0	100		
J 0		0	0	0	0	0	0		
)	0	0	0	30	0	100		
1能力 0		0	0	0	0	0	0		
	Quarter fon Metl 武 つ り り て の り	6th 7th 8th 9th 10th 11th 12th 13th 14th 15th 16th 3tlige 70 0 70 70 70 70 70 70 70	6th ・システムモデルと 7th 7th ・状態方程式の解と 8th 8th ・可制御性,可観測 9th 9th ・システムの座標変 10th 10th ・システムの座標変 11th 12th ・システムの安定性 13th 12th ・システムの安定性 13th 15th 期末試験 16th 16th ・答案の返却と解討 70 0 0 70 0 70 0 70 0	6th ・システムモデルと線形化(4) 7th ・状態方程式の解とその解法 8th ・可制御性,可観測性と判定法 8th ・ジステムの座標変換(1) 10th ・システムの座標変換(2) 11th ・線形システムの構造解析 12th ・システムの安定性とその判別 13th ・状態フィードバックによる極指定 14th ・出力フィードバックによる極指定 15th 期末試験 16th ・答案の返却と解説 con Method and Weight (%) ブ0 0 0 70 0 0 70 0 0 70 0 0 70 0 0	6th ・システムモデルと線形化(4) 7th ・状態方程式の解とその解法 8th ・可制御性,可観測性と判定法 9th ・システムの座標変換(1) 10th ・システムの座標変換(2) 11th ・線形システムの構造解析 12th ・システムの安定性とその判別 13th ・状態フィードバックによる極指定 14th ・出力フィードバックによる極指定 15th 期末試験 16th ・答案の返却と解説 con Method and Weight (%) 0 減験 発表 相互評価 70 0 0 0 0 0 0 0 70 0 0 0 70 0 0 0	6th ・システムモデルと線形化(4) 倒立 2 輪車両のモ 7th ・状態方程式の解とその解法 状態方程式の微分 8th ・可制御性,可観測性と判定法 可制御性,可観測 9th ・システムの座標変換(1) 可制御正準形式へ 10th ・システムの座標変換(2) 可観測正準形式へ 10th ・システムの座標変換(2) 可観測正準形式へ 11th ・線形システムの構造解析 最小実現を求める 12th ・システムの安定性とその判別 安定性を求める 13th ・状態フィードバックによる極指定 コントローラを設 15th 期末試験 1 16th ・答案の返却と解説 1 70 0 0 0 70 0 0 0 0 70 0 0 0 30 70 0 0 0 0	6th ・システムモデルと線形化(4) 倒立 2 輪車両のモデル化 7th ・状態方程式の解とその解法 状態方程式の微分方程式の解の計算 8th ・可制御性,可観測性と判定法 可制御性,可観測性の解法 9th ・システムの座標変換(1) 可制御正準形式への変換 10th ・システムの座標変換(2) 可観測正準形式への変換 11th ・線形システムの構造解析 最小実現を求める 12th ・システムの安定性とその判別 安定性を求める 13th ・状態フィードバックによる極指定 コントローラを設計する 14th ・出力フィードバックによる極指定 コントローラを設計する 15th 期末試験 1 16th ・答案の返却と解説 1 70 0 0 0 13t験 発表 相互評価 課題 小テスト 70 0 0 0 0 0 70 0 0 0 0 0 0		

Tsuyama Co	llege	Year	2021				Course Title				
Course Information	on										
Course Code	0032				Course Cate	gory	Special	ized / Ele	ective		
Class Format	Lecture				Credits		Acaden	nic Credi	it: 2		
Department	Engineering		Control Sys	stem	Student Grad		Adv. 2r	nd			
Term	First Semest	er			Classes per V	Week	2				
Textbook and/or Teaching Materials		. Kambe & K.	Ishii, "Fluic	d Dynai	mics" (Shoka	bo).	00).				
Instructor	SAEKI Fumih	niro									
Course Objectives	5										
Learning purposes : Acquire the basic abili	ty to theoreti	cally analyze	various prol	blems a	and phenome	ena re	lated to flui	d dynam	nics.		
Course Objectives : 1. To understand the 2. To understand the 3. To understand the	basic eduatio	ns for the mo	tion of com	pressib	ole fluids, and	anály	ze tvpical f	ow prob	olems.		
Rubric						1					
	Ideal Le	-	Standa	ard Lev	vel	Acce	ptable Leve		Unacceptable Level		
Achievement 1	problem perfect f explain t	typical flow s related to fluids, and the equations s from a physiview.	and of perf	fect flu ze typic	asic the motion ids, and al flow	Explain the basic equations of motion of perfect fluids.			Has not reached the level described in the columns on the left.		
Achievement 2	problem compres explain t	typical flow s related to ssible fluids, a the equations s from a physi view.	nd equation and of com	npressi nalyze t	asic - the motion ble fluids, typical flow	equa	Explain the basic equations of motion of compressible fluids.		Has not reached the level described in the columns on the left.		
Achievement 3	problem viscous explain t	typical flow s related to fluids, and the equations s from a physi view.	and of visc	cous flu ze typic	pasic the motion ids, and al flow	equa	ain the basion tions of mo us fluids.		Has not reached the level described in the columns on the left.		
Assigned Departn	nent Objec	tives									
Teaching Method											
	gas from cor the form of a General or S Field of learn		ties and hot nergy transf pecialized and Flow	t spring fer and	g water powe gas state ch	er gene ange,	eration dem drawing or	ionstrati their ex	measurement of exhaust on project, etc., teaches in «perience.		
Outline	Relationship This class is structure, mo production/n	with Educatio equivalent to otion and vibr	nal Objectiv "(2) Acquir ation, energ	ves : re knov gy and nery an	vledge of spe flow, informa d systems, an	cialize ation a nd acc	ed technical and measur	fields in ement/c	cluding materials and control, design and pply this knowledge to		
		with JABEE pr al of learning		ı in this	class is "(A),	, A-2"					
	in order to u	neering, which	e physical m	neaning	of phenome	na. In	contrast, ii	n this co	n from a hydraulic approach urse, basic equations for pproach.		
	of equations.	I be taught m							ic concepts and derivation		
Style	Exams (70% calculators, e Students wh	etc. to the exa	and reports im. e below 60	points	mav be requ	ired to	o take a ret	-	heir own notebooks, ere the grade is re-evaluated		

T in	his is a cl ncluding b	s on the enrollment : ass that requires study outside of oth class time and study outside o ide of class hours.	class hours. A t class time. Follc	total of 45 hours c w the instructions	of study is required per credit, s of the instructor regarding	
Si	Course adv Since knov as prior kn	vice : vledge of mathematics (differentia owledge, students are required to	l equations, veo review these b	ctor analysis, com basics as preparato	plex functions, etc.) is required bry studies.	
Notice T R	oundatior hermody Related su	nal subjects : Linear Mathematics namics (4th), Highly Advanced Ma bjects : Computational Mechanics	(3rd year), Ap thematics (5th (Adv. 2nd year	plied Mathematics), Energy System ⁻), etc.	II (4th), Fluid Engineering (4th), Engineering (Adv. 1st), etc.	
Ir fc A	oundation Arriving (le	e advice : deepen understanding, take the i al subjects as necessary. eaving) more than 20 minutes late s late (early) result in two absence	e (early) result i	5		
Characteristics of C						
Active Learning	·	□ Aided by ICT	Applicable t	o Remote Class	 Instructor Professionally Experienced 	
	bject	S				
Course Plan	<u> </u>					
		neme		Goals		
1st	t Fi	uidance undamentals of fluid motion (descr otion, deformational motion, rotat omework related to fluid motion	ription of tional motion)		asics of describing fluid motion, rmational and rotational motions	
2nc	u st	operties of fluids (volume and are ress, Newtonian and perfect fluids	5)	Explain the forces fluids.	s acting on fluids, and classify	
3rd	י ∣Hα	asic equation 1 (conservation of m onservation of momentum) omework related to the equation of nd the equation of motion	ass, of continuity		ation of the equation of equation of motion.	
1st Quarter 4th	n co Ho	asic equations 2 (vorticity equatior onservation of energy) omework related to vorticity and e quations		Explain the deriva equations.	ation of the vorticity and energy	
5th	n Mo of	otion of a perfect fluids 1 (Fundam potential flow)	nental theorem	Explain the funda flow.	mental theorem of potential	
6th	n Mo Ho	otion of perfect fluids 2 (various potential flows	otential flows)	Obtain solutions f	for various potential flows.	
7th	n di	compressible and irrotational flow mensions 1 (stream function, com otential)	in two plex velocity	Explain the strear potential.	m function and complex velocity	
1st 8th Semeste	¹ di	compressible and irrotational flow mensions 2 (example of flow field))	Obtain solutions for a typical two-dimensional incompressible and irrotational flow.		
r 9th	n di Jo ob Ho	compressible and irrotational flow mensions 3 (conformal transforma ukowski transformation, forces ac ojects) omework related to incompressible rotational flow	ation, ting on		l transformation, Joukowski nd forces acting on objects.	
10t	th Co	ompressible fluid 1 (sound waves)			equation from the basic pressible fluid, and explain the ave equation.	
11t	th Ho	ompressible fluid 1 (shock waves) omework related to the Rankine-H lations	lugoniot	Explain shock wa Hugoniot relation	ves, and derive the Rankine- s.	
Quarter 12t	th bo	scous Fluid Flow 1 (basic equation oundary conditions, similarity law) omework related to similarity laws		conditions of visc	cal meaning of the similarity law	
13t	th nu	scous fluid flow 2 (parallel flow, lo umber flow) omework related to parallel flow	w Reynolds	Obtain solutions f Explain the equat flow.	for typical parallel flows. tion of low Reynolds number	
14t	th Vi	scous fluid flow 3 (high Reynolds i	number flow)	Explain the high I boundary layer.	Reynolds flow equation and	
15t	`	st semester final exam)				
16t		eturn and commentary of exam ar	nswers			
Evaluation Method	and We				L	
Cubtotal		Examination	d reports Total			
Subtotal Basic Profisionsy		70	30	100		
Basic Proficiency Specialized Proficiency		0 70	0 30		0 100	
Cross Area Proficiency		0	0		0	

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gineering cond Sema KETANI H ous contro	Course ester	Lontrol Syste	Student		Adv. 2nd		
KETANI H			Classes p				
ous contro	isashi			er Week	2		
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out a sum	ms. mary of a neu	ral network,		·		appropria	ate solution method in
out a sum	mary of Genel	theory. ic Algorithm					
	-		dont opp ovplai		•	valaia	Not acceptable
the featurn	ure about vari etworks and	ous specification	ally about a law of a neura	the Illear	outline about a ning law of a r	a ieural	The student dose not reach the following.
understa the Fuzz apply te	and the feature by theory and chnologically	specifica	ally about the	the	outline about	the	The student dose not reach the following.
Genetic	Algorithm'' ´	specifica	ally about the s of Genetic	the cont	outline about ents of Genet	the	The student dose not reach the following.
nt Objec	tives						
Id of learn undational lationship is class is utilized fo lationship e main go urse outlir ntrol theor roduced al	ing : Informati academic dis with Educatio equivalent to ' r a design of a with JABEE pr al of learning , ne : ry as well as d bout the neura	ion, measur ciplines : Eng (2) Knowle machine ar ograms : deducation i evelopment al network fu	gineering/electr dge of specializ nd a system, a n this class is "	ric electro red field f policy an (A) and o	technology is a d practical us (A-2)", also "(acquired e is learr A-1) "is	and the ability which can ned". involved.
urse meth rint writin ng a simu ade evalua riodic test	od : g on the black lation by a PC ation method : (70%); A rep	board in the	(30%) test can		·	-	
ecautions of is class is nester hou a teacher urse advice Review th ntrol engin The forme owledge o undational veral scier endance a e center o culation a hin 20 mi	n the enrollm "subject which ur together wi in charge about e contents of s eering which er control meth f control engine subjects : nee and engine advice : f these contro nd makes it he	ent : requires lea th learning c ut learning ir several scien become a ba nod is a cont eering and i eering , comp is software elp of unders	arning in school outside the school outside the school schooltime ou ace and enginee asic subject as t rol method of a nformation eng outational dyna , but large-scal tanding here. T	ering, the che learn a new co jineering mics an e softwa fherefore	e computation ing of prepara ncept which is is also neede d system cont re doesn't ma e always carry	al dynan tions pe comple d. rol engir ke, does calculat	nics and the system rformed beforehand. tely different, but the neering etc. easy numerical value ors. When it's entrance
	ision in Lez	rning					
				able to F	Remote Class		structor Professionally
	Excellen Excellen The stud the featu neural n apply te The stud understa the Fuzz apply te about ar The stud Genetic technolo technolo technolo neral or S Id of learn undational lationship is class is utilized fo lationship e main go urse outlir ntrol theou actrical app urse methrint writin ng a simu ade evalua is class is mester hoi a teacher urse advice Review thin the formed by lational actrical app urse methrint writin ng a simu ade evalua is class is mester hoi a teacher urse advice Review thin the formed by lational actrical app urse methrint writin ng a simu acte evalua is class is mester hoi a teacher urse advice a teacher a teacher a teacher a teacher a sinu actional a teacher a teacher a sinu actional a teacher a teacher a sinu actional a teacher a sinu actional a teacher a teacher a sinu actional a teacher a teacher	but a summary of Fuzzy but a summary of Genet Excellent The student can grasp the feature about varia neural networks and apply technologically. The student can understand the feature the Fuzzy theory and apply technologically. The student can apply Genetic Algorithm technologically. The student can apply Genetic Algorithm technologically. neral or Specialized : Sp Id of learning : Informat undational academic disc lationship with Education is class is equivalent to " utilized for a design of a lationship with JABEE pr e main goal of learning / urse outline : ntrol theory as well as d roduced about the neura ctrical appliances recent urse method : rint writing on the black ng a simulation by a PC. ade evaluation method : rindic test (70%); A repor in A make-up isn't put ecautions on the enrollm	Dut a summary of Fuzzy theory. but a summary of Genetic Algorithm but a summary of Genetic Algorithm Excellent Good The student can grasp the feature about various neural networks and apply technologically. The stu apply technologically. The student can understand the feature of the Fuzzy theory and about an easy example. The stu specific content about an easy example. The student can apply Genetic Algorithm technologically. The stu specific content Algorithm tc Objectives The stu specific content algorithm neral or Specialized : Specialized ld of learning : Information, measur undational academic disciplines : Engeneric algorithm technologically. ationship with Educational Objective is class is equivalent to "(2) Knowle utilized for a design of a machine ar ationship with JABEE programs : e main goal of learning / education i urse outline : ntrol theory as well as development roduced about the neural network fu ctrical appliances recently here. urse method : rind writing on the blackboard in the ng a simulation by a PC. ade evaluation method : riodic test (70%); A report practice (2, in. A make-up isn't put into effect cautions on the enrollment : is class is "subject which requires learning of a teacher in charge about learning in urse advice : e center of these control is software, culation ald makes it help of unders thin 20 min	Dut a summary of Fuzzy theory. Dut a summary of Genetic Algorithm. Excellent Good The student can grasp the feature about various apply technologically. The student can explai specifically about a learning law of a neura apply technologically about an easy example. The student can understand the feature of the Fuzzy theory and apply technologically about an easy example. The student can explai specifically about the contents of Fuzzy theo about an easy example. The student can apply Genetic Algorithm technologically. The student can explai specifically about the contents of Genetic Algorithm. to Objectives The student can explai specifically about the contents of Genetic Algorithm. to Objectives Information, measurement and con undational academic disciplines : Engineering/electur ationship with Educational Objectives : is class is equivalent to "(2) Knowledge of specializ utilized for a design of a machine and a system, a ationship with JABEE programs : e main goal of learning / education in this class is " urse outline : ntrol theory as well as development of a computer roduced about the neural network fuzzy theory "an ctrical appliances recently here. urse method : rint writing on the blackboard in the center and lect ng a simulation by a PC. ade evaluation method : iodic test (70%); A report practice (30%) test can in. A make-up isn't put into effect as a principle. cautions on the enrollment : is class is "subject which requires learning in school inseter hour together with learning outside the scho a teacher in charge about learning and information	Dut a summary of Fuzzy theory. Excellent Good Accell The student can grasp the feature about various apply technologically. The student can explain specifically about a network and behavior. The the feature about various specifically about the contents of Fuzzy theory. The the fuzzy theory and apply technologically The student can explain specifically about the contents of Fuzzy theory. The the fuzzy theory and apply technologically The student can apply Genetic Algorithm technologically. The student can explain specifically about the contents of Genetic Algorithm. The the the to contents of Genetic Algorithm. th Objectives The student can explain specifically about the contents of Genetic Algorithm. The the to contents of Genetic Algorithm. th Objectives The student can explain specifically about the contents of Genetic Algorithm. The the to contents of Genetic Algorithm. th Objectives The student can explain specifically about the contents of Genetic Algorithm. The the to contents of Genetic Algorithm. th Objectives Image: Senetic Algorithm. The student and control algorithm. th Objectives Image: Senetic Algorithm. th Objectives Image: S	but a summary of Genetic Algorithm. Excellent Good Acceptable The student can grasp the feature about various apply technologically. The student can explain network and behavior. The student can earning law of a rearning law reaning law of a rearning law rearning law of a rearning	but a summary of Fuzzy theory. but a summary of Genetic Algorithm. Excellent Good The student can grasp the feature about various apply technologically. The student can explain the outline about a learning law of a neural apply technologically. The student can understand the feature of the Fuzzy theory and apply technologically. The student can explain the outline about the contents of Fuzzy theory. The student can apply Genetic Algorithm The student can explain specifically about the contents of Fuzzy theory. The student can apply Genetic Algorithm. The student can explain the outline about the contents of Genetic Algorithm. At Objectives The student can explain the outline about the contents of Genetic Algorithm. net Objectives State outline about the contents of Genetic Algorithm. net objectives State outline about the contents of Genetic Algorithm. net objectives Information, measurement and control andational academic disciplines : Engineering/electric electronics and mechanical - lationship with JABEE programs : enain goal of learning / education in this class is "(A) and (A-2)", also "(A-1)" is urse outline : intro theory as well as development of a computer advance rapidly and diversify. roduced about the neural network fuzzy theory "and" the genetic algorithm which christ appliance active here. urse enveline : indic test (70%); A report practice (30%) test can bring writing implements, a ca i. A make-up isn't put into effect as a principle.

Course	Plan								
			Theme			Goals			
		1st	Guidance and out	line		The course cor	ntents are unde	erstood.	
		2nd	Information proce	ssing by a creat	ure (1)	Information processing by a creature			
		3rd	Information proce	ssing by a creat	ure (2)	Information processing by a creature			
		4th	Information proce	essing by a creat	ure (3)	Comparison of	perishables an	nd a computer	
	3rd	5th	The outline of an	artificial neural r	network	An artificial ne	ural network m	g by a creature ables and a computer work model address memory atorial problem and learning algorithm ple network heory	
	Quarte	6th	Content address r neural network	memory by a mu	itual online type	The outline of	content addres	s memory	
Durd		7th	Solution of combin online type neura	natorial problem l network	by a mutual	The outline of	combinatorial p	oroblem	
2nd Semeste		8th	Multi-layer neural	network		Behavior of a r	network and lea	arning algorithm	
r		9th	Deep learning			Mechanism of	a multiple netv	vork	
		10th	Self organizing ma	ap(SOM)		The outline of SOM			
		11th	Genetic Algorithm	(GA) (1)		Basis of GA			
	4th	12th	Genetic Algorithm(GA) (2)			Application of	GA		
	Quarte	r <u>13th</u>	Fuzzy theory (1)			Basic of Fuzzy	theory		
	-	14th	Fuzzy theory (2)			Application of I	Fuzzy theory		
		15th	(Periodic exam)						
		16th	Answer return and exam	d test explanatio	n of a back final	1			
Evaluat	ion Me	thod and	Weight (%)						
Examination			Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total	
Subtotal	7	70	0	0	0	30	0	100	
Basic Proficiency 0		0	0	0	0	0	0		
Specialized 70 0		0	0	0	30	0	100		
Cross Area Proficiency 0 0			0	0	0	0	0	0	

Tsuyama Coll	ege	Year	2021			Course Title	Comp	utational Mechanics	
Course Information	n			•					
Course Code (034			Course Cate	gory	Specializ			
	ecture			Credits		Academ	ic Credit:	2	
Department F	Advanced Me Engineering	echanical and (Course	Control System	Student Grad	de	Adv. 2nd	ł		
	First Semest	er		Classes per V	Week	2			
Textbook and/or Teaching Materials									
Instructor	KOBAYASHI	Toshiro							
Course Objectives									
Learning purposes : As an applied course of problems, and deepen	f computer u understandi	use, learn the r ng of compute	nain numerical a r applied mecha	analysis metho nics analysis.	ods app	plied to spec	ific scien	ce and engineering	
Course Objectives : 1. Approximate formulas can be created using Taylor expansion. 2. The differential equations of the first and second orders can be differentiated. 3. Single-element and multi-element shape functions and stiffness matrix can be derived. 4. Understand the matrix solution method and be able to derive the equations for displacement and stress of multiple elements. 5. Understand the finite element method. 6. Using the general-purpose finite element method code, standard problems of 3D structure, heat transfer, and fluid can be analyzed without much deviation.									
Rubric									
	Excellen	t	Good		Accep	otable		Not acceptable	
Achievement 1	equation 2nd floo different • Can pr difference	lifferential ns of the 1st ar rs can be ciated. rogram a simp ce formula to fi rical solution.	nd can be creat Taylor expa • The differ	nsion. rential f the 1st and can be	can b Taylo • Bas first-	pasic approxi be created us or expansion sic differentia and second- ential equat ble.	sing ation of order	 Understand the basics of the finite element method. Using the general- purpose finite element method code, basic problems of 3D structure, heat transfer, and fluid can be analyzed without much deviation. 	
Achievement 2	solution possible displace of specif	the matrix method, it is to analyze the ment and stres ic structural s of multiple s.	single-eleme element sha and stiffness • Understa solution me able to deriv equations fo	nd the matrix thod and be ve the or nt and stress	single eleme and s • Un matri and b displa	s possible to e-element ar ent shape fu stiffness mat iderstand th ix solution more able to de acement and tions of mult ents.	nd multi- nctions rices. e basic ethod erive the l stress	Single-element and multi-element shape functions and stiffness matrix cannot be derived. The exercise to calculate the displacement and stress using the matrix solution method cannot be completed by the deadline.	
Achievement 3	I heat transfe	thod. general- te element e, standard 3D structure, er, and fluid yzed without	of the meth • Usi purpo meth proble heat can b	ng the gene ose finite ele od code, ba	ent ral- ment sic tructure, d fluid	 Not understand the finite element method. Using the general- purpose finite element method code, it is not possible to analyze basic problems of 3D structure, heat transfer, and fluid without major deviation. Exercises cannot be completed by the deadline. 			
Assigned Departm		significantly. tives	I		1			1	
Teaching Method									

		In this s develop	onship with business: subject, faculty member who has pra ment work at heavy industry manuf c simulations such as numerical anal	acturers will use	e his experience to	teach basic and practical			
		General	or Specialized : Specialized						
		Field of	learning : Design and production / r	nanagement					
		Foundat	tional academic disciplines : Enginee	ring / Mechanic	al Engineering				
Outline		This s motion manage	onship with Educational Objectives in advanced course : s subject corresponds to "(2) Acquire knowledge of specialized fields such as materials and structure, n and vibration, energy and flow, information and measurement / control, design and production / gement, machines and systems, and design / policy of machines and systems. Acquire the ability to for operation ", which is one of the learning goals of the advanced course.						
		The m structur "Design	nship with JABEE programs : nain goals of this subject are "(A) De re "," Movement and vibration "," En and production," "machines and sys zed technical fields," and also involve	eepening of basi ergy and flow " stems," and "be ed in "A-1."	ic knowledge abou ," Information and ing able to acquire	t technology, A-2" Materials and measurement / control ". , and explain knowledge in			
		With the progres explain	outline : e development of electronic compute sed, and numerical experiments hav and practice methods for expressing computer.	e become an in	nportant field of er	ngineering methods. We will			
Course method : The lessons will be centered on board writing. Presenting a concrete mechanical model will be tried. R will be imposed to deepen student's understanding of the basic principles of computational mechanics.									
Style		Evaluat	evaluation method : te by regular examination (70%) and ame way as the main test.	d report (30%).	Retest in some ca	ases. The retest will be evaluated			
	s of study is required per credit, s of the instructor regarding								
		It is d analysis	ourse advice : It is desirable to fully understand what you have learned in information processing I, II and numerical nalysis. As a preparatory study to be performed in advance, it is necessary to be able to use 3D-CAD in rder to create a 3D model in the CAE exercise.						
Notice		Applie	tional subjects : d mechanical design (5th year), desi ed course), information science (1st	ign engineering in advanced co	(5th), applied des urse), etc.	ign engineering (2nd in			
		Related Desig	subjects : n Engineering (5th year), CAD / CAN	4 (5th), Applied	Design Engineerir	ng (1st in advanced course),			
		High-p various computa basic co analysis becomir	nce advice : performance, inexpensive, and easy- general-purpose computational mec ational mechanics is rapidly expandi pmputational mechanics problems, u s results by yourself. Students would ng a computational mechanic engine re not seated at the beginning of the	chanics software ng. It is importand nderstand the c be recommence er certification	e can be easily use ant to be able to co contents of CAE an led to acquire the test of the Japan S	d, and the user base of prrectly set analysis problems for alysis, and verify the reliability of theory and skills with the aim of			
Charact	eristics		/ Division in Learning	, ,					
□ Active	Learning		☑ Aided by ICT	☑ Applicable t	o Remote Class	Instructor Professionally Experienced			
Elect	ive s	ubjec	cts			Experienced			
Course	Plan		1		1				
			Theme		Goals				
		1st	 Guidance The basics of mathematics for contract of the basics of mathematics for contract of the basic o	moutational	· ·	nputational mechanics is. Nematics for computational			
		2nd	mechanics	•	mechanics.				
		3rd	Basics of heat conduction and solid mechanics Report assignment (1) 3D-CAD	-state	Understanding th solid-state mecha required.	e basics of heat conduction and anics, a difference equation is			
	1 -+	4th	 Basics of the finite element meth 	nod I	· · · · · · · · · · · · · · · · · · ·	ple of the finite element method.			
1st	1st 1st Quarter		• Basics of the finite element meth	nod II	Basic analysis usi	ng the finite element method is			
Semeste		6th	• CAE Exercise (1) Stress Strain A Report assignment (2) Numerical c method (1)	nalysis alculation	It can be confirm the finite element	ed that the basic analysis using t method is valid.			
		7th	• CAE Exercise (2) Heat Transfer A	Analysis	Basic heat transfe element method	er analysis using the finite is possible.			
		8th	• Element selection		Understand the elements of the finite element method and explain their effects.				
	2nd Quarter	9th	 Basics of modeling Report assignment (3) Numerical c method (2) 	alculation	Understand the n	nodeling method of the finite and explain its influence.			

		10th • Basics of how to use boundary condition				Understand and	annly the typ	es of boundary		
		10th	 Basics of how t 	to use boundary of	conditions	conditions of th	e finite elemer	nt method.		
		11th	• Basics of pre-p	ost processing		Understand and method of the f	Understand and apply the prepost processing method of the finite element method.			
		12th	• CAE exercise (Report assignment	3) Vibration analy nt (4) CAE exercis	/sis se (1)		Basic vibration analysis using the finite element method is possible.			
		13th	• CAE Exercise (CAE Exercise (4) Fluid Analysis			sic fluid analysis using the finite 1.			
		14th	• Basics of result computational me Report assignmer	Basics of result verification, ethics of mputational mechanics engineers port assignment (5) CAE exercise (2)			ethics of com neers.			
	15th (Final exam)				Attend and sub	Attend and submit your answer.				
		16th	 Returning answ commentary on a 		ms and	Correct the wro	ong answer.			
Evaluatio	on Me	thod and \	Weight (%)							
		Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total		
Subtotal		70	0	0	0	30	0	100		
Basic Proficiency	/	0	0	0	0	0	0	0		
Specialized Proficiency			0	0	30	0	100			
Cross Area Proficiency			0	0	0	0	0			

Tsuyama Co	ollege	Year	2021			Course Title	Streng Materi	oth and Fracture of als
Course Information	on							
Course Code	0035			Course Cate	gory			
Class Format	Lecture		Control Curta	Credits		Academ	ic Credit:	2
Department	Engineering		Control System	Student Grad	de	Adv. 2nd	d	
Term	First Semest	er		Classes per	Week	2		
Textbook and/or Teaching Materials		Textbooks are	distributed.					
Instructor	SHIOTA Hiro	ohisa						
Course Objective			1.1					
deformation and fract	cure that gove	ern the streng	th of materials.	nuum mechani	cs of ma	ateriais, an	ia unders	tand the mechanisms of
Course Objectives : 1. To understand the 2. To understand the 3. To understand the	types and ch	aracteristics o	f deformation a	nd fracture. Ition and fractu	re and r	nicroscopi	c organiz	ation and structure.
Rubric								
	Excellen	t	Good		Accept	able		Not acceptable
Achievement 1	and deri	ble to understa ive formulation c mechanics ely.	Understand	ns in elastic	basic fo	stand most ormulation mechanics	is in	Not reached to the left.
Achievement 2	understa types ar	accurate anding of the nd characterisi us deformation tures.	lof doforma	characteristics	basic t charac	stand most ypes and teristics of nation and	Materials lized / Elective mic Credit: 2 ind and understand the mechanism pic organization and structure. Not acceptable st of the of of fracture. st of the iss of the of fracture. St of the of fracture. St of the of fracture. St of the issopic d fracture. Not reached to the leditions st of the ips isscopic d fracture. Strength of materials Acquire basic science and techn n in this class are "(A) Deepenir nowledge in the technical fields iformation, measurement and ms", also old state physics and n this lecture, elastic mechanics ormation and fracture of intris lecture, elastic mechanics ormation and fracture of of class hours. A total of 45 hc e class time. Follow the instruct icts and materials science. umn as n	
Accurate of the re between Achievement 3 deforma and mici		e understandir elationship n macroscopic ation and fract roscopic ation and	ure and fracture	b between ic deformation e and c organization	basic re betwee deform and mi	croscopic ation and		Not reached to the left.
Assigned Departr					Sciucia			
Teaching Method								
Outline	Field of learr Foundationa Relationship knowledge". Relationship basic knowle "materials ar control", "de Course outlin metallograph discussed as	I academic dis with Educatio with JABEE p edge of techno nd structures" isign, producti ne The strengi ny, and macro a basic subje	s and structures ciplines : Engine nal Objectives : rograms :The m logy, A-2: "To b , "motion and v on and manage th of materials is scopic fields suc ct. Next, the cha	eering/Mechani This class is eq ain goals of lea be able to acqui bration", "ener ment" and "ma s related to mic th as mechanics aracteristics of	uivalent re and e gy and f chines a croscopic s of mat macrosco	to "(2) Ac education explain kno flow", "info and system c fields suc erials. In t copic defor	in this cla owledge i ormation, ns", also ' th as solic his lectur mation a	sic science and technical ass are "(A) Deepening of n the technical fields of measurement and 'A-1" is involved. I state physics and e, elastic mechanics is nd fracture of materials
Style	basic subject understandir	ts. Students w ng.	ill be instructed	to do exercises	s and giv	ven report	s as need	led to deepen their
Notice	Precautions of study is re of the instru- Course advic · As a prepa · Review the Foundationa Materials Ter Related subj Graduation 1 Attendance paying atten understand t vehicles and	on the enrollin equired per cre ctor regarding ratory study, e basic conten I subjects : chnology(2nd ects : Design Thesis(5th) advice : There tion to such p the lesson. It i bridges when	nent : This is a c edit, including b study outside c review and und t of the subjects year), Strength of Machine Elem e are many phen henomena on a s also a good id	 A bis is a class that requires study outside of class hours. A total of 45 hours is a class that requires study outside of class hours. A total of 45 hours is a class time and study outside class time. Follow the instruction outside of class hours. and understand the contents of mechanics and materials science. subjects listed in the Basic Subjects column as necessary. Strength of Materials I (3rd year), Strength of Materials II (4th year), hine Elements I (3rd year), II (4th), Applied Machine Design(5th), any phenomena that occur around us that deform or destroy things, so and on a daily basis, including newspaper articles and TV news, will help a good idea to think about how forces are applied to structures such as the them. Students who enter the class after half of the class time will be a good. 				burs. A total of 45 hours burs. A total of 45 hours aterials science. cessary. erials II (4th year), ne Design(5th), or destroy things, so and TV news, will help you o structures such as
Charactarictics -f	counted as a		orning					
Characteristics of			9					structor Drofossionally
Active Learning		Aided by IC	Т	Applicabl	e to Rer	note Class		

Elect	tive	subje	cts						
Course	Plan								
			Theme			Goals			
		1st	Guidance						
		2nd	Stress (definition,	composition)		Check the defini	ition and form	ulation of the left	
		3rd	Coordinate transfo	ormation of stres	s components	Check the definition and formulation of the left			
	1st Quarter 2nd Quarter	4th	Stress equilibrium conditions	equation and bo	oundary	Check the defini	tion and form	ulation of the left	
	Quarter	5th	Strain (definition,	components)		Check the defini	tion and formulation of the left tion and formulation of the left of left phenomena and mechanical of left phenomena and mechanical		
		6th	Coordinate transfo compatibility conc	ormation of strair lition	Check the definition and formulation of the left s components Check the definition and formulation of the left undary Check the definition and formulation of the left Check the definition and formulation of the left Check the definition and formulation of the left c Check the definition and formulation of the left Check the definition and formulation of the left Check the definition and formulation of the left Check the definition and formulation of the left Understanding of left phenomena and mechanical quantities Understanding of left phenomena and mechanical quantities s Understanding of left phenomena and mechanical quantities racture Understanding of left phenomena and mechanical quantities fracture at high Understanding of left phenomena and mechanical quantities Understanding of left phenomena and mechanical quantities Understanding of left phenomena and mechanical quantities Behavior Portfolio Other Total 0 30 0 100 0 30 0 100				
		7th	Constitutive equal	tion		Check the defini	ition and form	ulation of the left	
		8th	Guidance (Strengt	th of Materials)					
1st Semeste		9th	Stress and strain,	laws of failure			of left phenom	nena and mechanical	
r		10th	Crack Mechanics						
		11th	Tensile test, fracti	ensile test, fracture characteristics			of left phenom	nena and mechanical	
		12th	Fracture under Mu Toughness	racture under Multiaxial Stress, Fracture oughness			of left phenom	nena and mechanical	
		13th	Fatigue fracture, o temperature	Fatigue fracture, deformation and fracture at high			Understanding of left phenomena and mechanical quantities		
		14th	Environmental str	ength		Understanding of left phenomena and mechanical quantities			
		15th	(1st semester fina	al exam)					
		16th	Return and comm	entary of exam a	answers				
Evaluat	ion Me	thod and	Weight (%)						
	Examination		Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total	
Subtotal	7	'0	0	0	0	30	0	100	
Basic 0 Proficiency		0	0	0	0	0	0		
Specialized 70 0		0	0	30	0	100			
	Cross Area Proficiency 0 0			0	0	0	0	0	

Tsuyama Co	ollege	Year	2021				Course Title	Vibrat	ional Engineering
Course Information	on								
Course Code	0036				Course Cate	gory	Specializ	ed / Elec	ctive
Class Format	Lecture				Credits		Academic Credit: 2		: 2
Department	Advanced Me Engineering	echanical and Course	Control Sy	rstem	Student Grad	de	Adv. 2nd	ł	
Term	First Semest				Classes per \		2		
Textbook and/or Teaching Materials	book:Timosh	enko/Young/	hi,"Revisior Weaver,"Ir	n of Vik ndustria	prational Engin al Vibration Sc	ieering ience,	g"(Corona),R New Edition	Reference "(Corona	e a)
Instructor	YAMAMOTO	Yoshinori							
Course Objective	S								
Learning purposes : Students will learn ho further deepen their l	w to model a knowledge of	vibrating obje mechanical m	ect, formul iechanics.	ate equ	uations of mot	tion, ar	nd analyze t	hem. In	addition, students will
Course Objectives : 1. To be able to form 2. Understand and ut 3. Understand specific © 4. To be able to co	ilize the vibrati c vibration ph	tion phenome enomena thro	ena and ana ough assigr	alysis n hment i	nethods of dist reports and be	tribute e abe t	ed constant v	vibration	systems.
Rubric									
	Excellen	t	Good			Accep	otable		Not acceptable
Achievement 1To be able to formulate and solve equations of motion for various 1-DOF vibration models.To be able to formulate and solve equations of motion for a basic 1-DOF vibration model can established.To be able to formulate and solve equations of motion for a basic 1-DOF vibration model can established.					The contents of the left column have not been reached.				
Achievement 2	the vibra of variou	and and analy ation phenom us distributed t vibration	ena the vi of bas	ibratior sic dist ant vib	and analyze n phenomena ributed ration	Understand the vibration phenomena of basic distributed constant		The contents of the left column have not been reached.	
Achievement 3	specific phenom assignm apply th	to understanc vibration ena through ent reports ar em to solve problems.	and a vibrat	inalyze tion ph gh assi	o understand basic enomena ignment	vibrat	rstand basic tion phenom gh assignme ts.	iena	The contents of the left column have not been reached.
Assigned Departr	nent Objec	tives							
Teaching Method									
Outline	General or Specialized : Specialization Field of learning :Motion and Vibration Foundational academic disciplines : Engineering/mechanical engineering/mechanical mechanics and control Relationship with Educational Objectives of Advanced Course : This class is equivalent to "(2) Acquire knowledge of specialized technologies such as material and structures,motion and vibration,energy and flow,infomation and measurment/control, design and production/magagement, and machines and systems, and acquire the ability to apply this knowledge to the design, policy, and operation of machines and systems". Relationship with JABEE programs : The main goal of learning / education in this class is "(A)", also "(A-2)"is involved. Course outline : The vibration of machinery and machine parts is an important issue in machine design because it causes problems such as mechanical strength and noise pollution. In this class, we will focus on the vibration of								
Style	 machines and their components and deal with the dynamic problems of machines. Course method : The lecture will be conducted mainly on the board. Students will learn how to solve differential equations, force, velocity, acceleration and moment. We will pay attention to solve differential equations and to deepen students' understanding of Newtonian mechanics such as force, velocity, acceleration, and moment. Grade evaluation method : Results of regular examinations are equally evaluated (70%). Quizzes, exercises and reports (30%). Students with an aggregate score of less than 60 points may be required to retake the examinations, which will be the same as the regular examinations. Students are allowed to bring their own notebooks and calculators to the exam. In the case of distance learning, the grading method may be changed. 								

			This is a c including	ns on the enrollme class that requires both class time ar side of class hours	study outside of nd study outside	class hours. A class time. Follo	total of 45 hours of the instructions	of study is require s of the instructor	ed per credit, regarding		
			Course ac It is impo phenome		nd mathematics a n of linear differe	and physics, sine	ce the main topics	are the equatior	n of physical		
Notice			Foundatic (3rd), Apj Related si	nal subjects : Fur plied Mathematics ubjects : Comput	ndamental Differe II (4th year), Co ational Mechanic	ential Equations ontrolling Engine s (MS- 2nd), Sy	(3rd year),Mechar eering (4th), etc. stem Control Engi	iics I (3rd year), neering (MS- 2nd	Mechanics II d), etc.		
			The equation including solutions are encou	rotation. The equa of differential equ	ations are linear ations. The phys his as well. Stude	differential equa ical interpretation	s, since this course ations, so students on is based on indu ed to submit the re	are encouraged	to review the , so students		
Charact	eristic			Division in Lea							
Active	Learnii	ng		□ Aided by ICT	-	☑ Applicable t	o Remote Class	Instructor Pr Experienced	ofessionally		
Elect		s u	subjects								
Course	Plan						Γ				
				heme		Goals					
		1:	st s	Guidance(including yllabus),undampe	explanation of ed 1-DOF free vib	oration	Understand and to on the left	•			
		2	nd 1	degree of freedo	m free vibration	damped	Understand and b on the left	be able to explain	the items listed		
				orced vibration in	the absence of o	damping	Understand and b on the left	be able to explain	the items listed		
	1st	41	th F	orced vibration in	the presence of	damping	Understand and b on the left	be able to explain	the items listed		
	Quarte	er 51		ransmission of vil	pration,forced vib	oration by	Understand and b on the left	be able to explain	the items listed		
		61		ransient vibration			Understand and b on the left	be able to explain	the items listed		
		71	th V	'ibration of a two-	degree-of-freedo	om system	Understand and b on the left	be able to explain	the items listed		
1st Semeste		81	th C	Coupled forced vib	led forced vibration Understand and be able to explain the on the left						
r		91	th s	elf-excited ascillat	tion	Understand and he able to evelain					
		1	0th s	elf-excited oscillat	ion and stability		Understand and b on the left	be able to explain	the items listed		
		1		ibration of strings	,torsion and long	gitudinal	Understand and b on the left	be able to explain	the items listed		
	2nd Quarte	, 11		olition to the wav	e equation		Understand and b on the left	be able to explain	the items listed		
	Quarte		3th v	ree vibration solutivith infinite degree	tion for steady-sl	tate vibration	Understand and b on the left	be able to explain	the items listed		
		14		ending vibration of			Understand and b on the left	be able to explain	the items listed		
		1	5th (Last semester fina	al exam)						
		1	6th R	eturn of answers	and explanations	5					
Evaluati	on Me	etho	d and W	eight (%)	1	1		1			
		Exam	iination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total		
Subtotal 70 0		0	0	0	30	0	100				
Basic Proficiency 0 0			0	0	0	0	0	0			
Specialized 70 0			0	0	0	30	0	100			
Proficiency 70 Cross Area Proficiency 0				0	0	0	0	0	0		

Tsuyama Co	ollege	Year	2021			Course Title	Electri	ic Energy Engineering	
Course Informati	on								
Course Code	0037			Course Cate	gory	Specializ	ed / Elec	tive	
Class Format	Seminar			Credits		Title Electric Energy Engineer Specialized / Elective Academic Credit: 2 Adv. 2nd 2 atsuhenden-kogaku-soron (Denki Gakkai) 2 energy, which forms the basis of modern e in companies and graduate schools. lapan and the world. newable energy sources. btable Not acceptable tudent can explain basic information : energy supply and the overview problems of energy supply and the overview graduate schools. btable Students cannot explain the overview problems of energy supply and demand in Japan and the world. ents can explain basics of energy yes. Students cannot explain the overview problems of energy supply and demand in Japan and the world. ents can explain basics of energy es. Students cannot explain the overview problems of energy supply and se of hydro, therma nuclear, and renewat energy sources. ents can perform and simple ations on various of electrical energy. Students cannot performation on various types of elect			
Department	Advanced M Engineering		Control System	Student Grad	de	Adv. 2nd			
Term	Second Sem	ester		Classes per V	Week	2			
Textbook and/or Teaching Materials	Textbook: D	enki Energy G	airon (Ohm sha),	Reference bo	ook: Hat	tsuhenden-l	kogaku-s	soron (Denki Gakkai)	
Instructor	OKE Shinichi	iro							
Course Objective	S								
Learning purposes : society, in order to us	To understand se and apply t	the supply, d he knowledge	lemand, and conv and skills learned	version of elec d in the major	trical er course	nergy, whic e in compan	h forms ies and g	the basis of modern graduate schools.	
Course Objectives : 1. To be able to expla 2. To be able to expla 3. To be able to perfo 4. To be able to orga	ain the energy orm basic calc	v supply and u ulations on va	se of hydro, then rious types of ele	nal, nuclear, a ctrical energy	and ren	apan and th newable ene	e world. rgy sour	rces.	
Rubric									
	Excellen	ıt	Good		Accept	table		Not acceptable	
Achievement 1	overview of energy	s can explain t w and problem yy supply and i in Japan and	the and the wor	l in Japan ´ ld.	some l about deman world.	basic inform energy sup nd in Japan	nation ply and and the	explain the overview and	
Achievement 2	energy s hydro, t	s can explain t supply and use hermal, nucle ewable energy	e of and use of h ar, thermal put	ydro, clear, and	some l supply therma	basics of en and use of al, nuclear, able energy	ergy hydro, and	Students cannot explain the energy supply and use of hydro, thermal, nuclear, and renewable energy sources.	
Achievement 3	basic ca	s can perform lculations on types of electr	some basic	calculations basic cypes of calcu lergy. types		and simple ations on va	rious	various types of electrical	
Achievement 4	their res explain	s can organize search and it in an easily ood style.	their researc	t in a slightly and		nts can orga kplain the co ir research.		Students cannot explain what they have researched.	
Assigned Departr	ment Objec	tives							
Teaching Method									
		pecialized : Sp	pecialized						
		· ning:Machine							
	Foundationa Engineering	l academic dis g / Nuclear en	; ciplines :	esources engi	ineering	g, energy er	ngineerir	ng, and related fields /	
Outline	Engineering	g / Electrical a with Educatio	nd electronic eng nal Objectives :	ineering and r	related f	fields / Pow	er engin	eering-related	
	Relationship	s equivalent to with JABEE pr		this class are	"(Δ)	Δ-2· " a	llso "A-1	п	
	Course outlin	ne : In this cou c, thermal, nuc	urse, students lea	Irn about the	principle	es of electri	c enerav	generation from us and future issues of	
	Course meth In this clas	nod : s, groups of st	tudents will resea	rch based on isor gives a ke	the text	tbook and n presentation	nake pos n.	ster presentations. At the	
Style	Grade evalua	ation method: given in the f		-				0%, keynote	
	Precautions This is a cla including both	on the enrollm	es study outside and study outside	of class hours class time. Fo	. A tota ollow the	l of 45 hour e instruction	rs of stue ns of the	dy is required per credit, instructor regarding	
Notice	Course advid Students n		nd present accord	ling to the pre	esentati	ion assignm	ent.		
	Foundational subjects : Related subjects :								
	Attendance a								
Characteristics of	r Class / Div	vision in Lea	arning						

☑ Active	Learnir	ıg	☑ Aided by ICT	-	☑ Applicable t	o Remote Class	Instructor Experienced	Professionally	
Elect	tive	subjec	cts				<u></u>		
Course	Plan								
			Theme			Goals			
		1st	Guidance			Be able to understand how to conduct the class.			
		2nd	World Energy Situ	ation and Japan		Be able to explain the world energy situation and Japan.			
		3rd	Limited energy res	sources		Be able to explai	n limited energ	y resources	
	3rd	4th	Energy and Enviro	nergy and Environment			n energy and e		
	Quarte	^{er} 5th	Mechanism of a ge	enerator		Be able to explai	n mechanism o	of a generator	
		6th	Thermodynamics Power Generation	and the Mechanis	sm of Thermal	Be able to explai mechanism of th	n thermodynar ermal power g	nics and the eneration	
		7th	Writing an interim	summary report					
		8th	Utilization of nucle	51		Utilization of nuclear energy			
2nd Semeste r		9th	Mechanisms of me hydropower gener		and	Be able to explain mechanisms of mechanical energy and hydropower generation			
		10th	Conversion of che	mical energy to e	electrical energy	Be able to explai to electrical ener	n conversion o gy	f chemical energy	
		11th	Conversion of ligh	t to electrical ene	ergy	Be able to explai energy	n conversion o	f light to electrical	
	4th Quarte	r 12th	Various power ger renewable energy	neration systems	using	Be able to explai systems using re	n various powe newable energ	er generation IV	
		13th	Operation of powe	er systems		Be able to explain operation of power systems			
		14th	Transmission of el	ectrical energy		Be able to explain transmission of electrical energy			
		15th	(Writing the final s	summary report)					
		16th	Submission of fina	l summary repor	t				
Evaluat	ion Me	ethod and V	Weight (%)						
Examination		Presentation	Mutual Evaluations between students	Behavior	Reports	Other	Total		
Subtotal		0	60	0	0	40	0	100	
Basic Proficiency 0		0	0	0	0	0	0	0	
Specialize Proficienc	ed Cy	0	0	0	0	40	0	40	
Cross Are Proficienc		0	60	0	0	0	0	60	

Tsuyama C	ollege	Year	2021		(Course Title			
Course Informat	ion								
Course Code	0038			Course Cate	gory	Specialize	ed / Elec	tive	
Class Format	Lecture			Credits		Academi	c Credit:	2	
Department	Advanced M Engineering		Control System	Student Grad	de	Adv. 2nd			
Term	Second Sem			Classes per V		2			
Textbook and/or Teaching Materials	Textbooks : "Introduction (Asakura Sh collection.	The Perfect n to Metallogra oten), Kinichi	Guide to Function aphy" (Asakura Sl Kando, "Basic Kno	al Materials (H noten), Masah owledge of Fu	Kodansh Iaru Aok nctional	a), Referer ki, "Theory Materials"	nce book of Applie (Sangyo	s : Tsuguro Ohara, ed Physical Properties" o Shobo), all in the library	
Instructor	YAMAGUCHI	Daizo							
Course Objective	es								
biology, medicine, sp properties common t	ports, etc.) from to materials in rather than pl nal materials.	m specific exa general at the nenomenologic	mples. In the pro e physical level, so cally. As a result,	cess, students o that they wi students will	s will lea ll be abl be able	arn about the to understored of the to understored of the total sector of	ne crysta stand the	nics, energy, environment al structures and e phenomena occurring in functional expression and	
2. To be able to under	erstand the co	mmon crystal	structures and pr	operties of m	aterials.				
Rubric									
	Excellen	t	Good		Accept	able		Not acceptable	
Achievement 1To be able to explain specific knowledge of the types, properties and uses of functional materials.To be able to explain the basic knowledge of the types, properties and applications of typical functional materials.To be able to explain the basic knowledge of the types, properties and applications of typical materials.To be able to explain the basic knowledge of the types and applications of typical functional materials.To be able to explain the basic knowledge of the types and applications of typical functional materials.Not re column				Not reached the left column.					
Achievement 2	To be able to explain in Be able to give a basic To be able to explain the detail the common account of the crystal basics of crystal Net reacher				Not reached the left column.				
Assigned Depart	ment Objec	tives							
Teaching Method									
		pecialized : S	pecialized						
Outline	Foundationa functional m Relationship This cl Relationship The m technology, structures", production a Course outlin	l academic dis aterials with Educatio ass is equivale with JABEE p ain goals of le A-2: "To be al "motion and v nd managemente : Materials	nal Objectives : ent to "(2) Acquin rograms : parning / educatio ble to acquire and ribration", "energy ent" and "machine used in industry of	e basic scienc n in this class l explain know / and flow", "i es and system can be broadly	e and te are "(A /ledge ir nformat ns", also / classifi	echnical kno) Deepenin n the techni cion, measu "A-1" is in ed into two	g of bas ical field irement volved.		
	be explained Course meth	l in this course	e. s will be given ma			,		nments will be given to	
Style	Grade evalua attitude to th expected to	ation method ne class (40% cite papers as	: Students will be). The content of references.					ork (60%) and their strictly. Students are	
	In addition expected to	follow the inst		dit, students a eachers regar	re requi ding the	ired to stud ese studies	ly 30 cre	dit hours. Students are	
Notice	Course advic Although r reactions an knowledge c	nathematical	formulae are rare nistry, is required s related to the lea	ly used, a goo I in many case cture contents	od know es. As a S.	ledge of ch preparator	emistry, y study,	including chemical students should have	
	Foundationa	l subjects : C	hemistry I (2nd y	ears), Chemis	stry II (3	Brd), Indust	trial Mat	erials (M 2nd).	
	Related subj	ects : Scienti	fic Inquiry (MS 2n	id), Material S	trength	Science (M	IS 2nd)		
Attendance advice : The functional materials discussed in this class are only a small part of the functional materials currently in use. Students are required to study the functional materials independently so that the can understand their functions and applications. Students who enter the room more than 15 minutes after the class starts will be treated as absent.							dependently so that they		
Characteristics o	f Class / Div	vision in Lea	arning						
Active Learning	Г	Aided by IC	т	Applicabl	e to Rer	note Class		structor Professionally	
0		,	•			1010 01035	Exper	ienced	
Elective s	ubjects								

Course	Plan							
course			Theme			Goals		
		1st	Guidance, Automo (Study outside clas materials)	bile (body and ei ss time: Assignm	ngine), Aircraft ient (1) Aircraft	About aircraft ma Understand the o properties of ma	common crystal	structures and
		2nd	Shinkansen bullet (Extra-curricular st Magnesium alloys)	tudy: Assignmen	s, moulds t (2)	Introduction to magnesium alloys Learn about the types, properties and uses of functional materials.		
		3rd	Turbine blades, sp outside class time: materials and shap	: Subject (3) Hea	at-resistant	About heat resistant materials and shape memory alloys. Understand the common crystal structures and properties of materials.		
		4th	Cutting tools, nand outside class time:	o/micro compone : Task (4) Metalli	ents (Study c glasses)	About metallic gl Learn about the functional materi	types, properties	s and uses of
	3rd Quarter	5th	Liquid crystal/plasi (Study outside clasi in storage devices)	ss time: Task (5)		Materials used in	storage devices	
		6th	Light-emitting dioc inverters (Study of Materials for light s	utside class time	tor lasers, : Task (6)	About materials a Understand the o properties of materials of materials and the second seco	common crystal :	structures and
		7th	Optical switches, e magnetostrictive s detection (Study o Light-sensitive ma	ensors for sound utside class hour	l wave rs: Task (7)	Light-sensitive m To gain knowledguses of functional Understand the oppoperties of mat	ge of the types, Il materials. common crystal	properties and
2nd Semeste r		8th	Ultrasonic echo an equipment, piezoe communication eq time: Assignment	lectric actuators, uipment (Study of	, filters for outside class	About piezoelectric materials		
		9th	Crystalline silicon, compound solar ce Assignment (9) Co	ells (Study outsid	e class time:	About compound	l solar cells	
		10th	Itiles. Superconduc	moelectric and Peltier elements, Functional Superconducting magnets (Study outside time: Assignment (10) Photocatalyst)			ne types, proper ials.	ties and uses of
		11th	Lithium-ion second	n-temperature superconducting wires, ium-ion secondary batteries, Functional trodes (Study outside class time: Assignment Metal-based superconducting materials)			nducting materia ne types, proper Inctional materia	ties and
	4th Quarter	12th	Fuel cells, seawate outside class time: osmosis membran	: Assignment (12	stem (Study ?) Reverse	Reverse osmosis membranes. Learn about the types, properties and uses of functional materials.		
		13th	Functional materia medicine (Study of (13) Artificial joints	utside class time	: Assignment	Artificial joints ar To learn about th functional materi	ne types, proper	ses. ties and uses of
		14th	Functional materia class time study: c	ils in the field of s carbon fibre)	sport (Out-of-	About carbon fib To understand th applications of fu Understand the o properties of mat	ne types, propert Inctional materia common crystal	IS.
		15th	(2nd semester fina	al exam)				
		16th	Return and comme	entary of exam a	inswers			
Evaluati	on Met	nod and	Weight (%)	Mutual				1
	Attitude		Presentation	Evaluations between students	Behavior	Portfolio	Reports	Total
Subtotal	4	0	0	0	0	0	60	100
Basic Proficiency	y o		0	0	0	0	0	0
	Specialized 40 0 0 0 0 0 60 100				100			
Cross Area Proficiency 0			0	0	0	0	0	0

Tsuyama Co	llege	Year	2021	21		Course Title	Long ⁻	Term Internship	
Course Information	on								
Course Code							lized / Elective		
Class Format	Practical train		Construct Construct	Credits		Academi	ic Credit:	2	
Department	Engineering	echanical and Course	Control Syster	n Student Grad	de	Adv. 2nd	ł		
Term	Intensive			Classes per	Classes per Week				
Textbook and/or Teaching Materials									
Instructor		azunori,TERA	AMOTO Takayu	ki,KONISHI Daiji	ro				
the real world. Studer Work. However, it is t	ernship is to ts in the adva hought that t -term interns	anced course here are mar	are required to iv items that ca	o carry out about annot be learned	t 30 hou I in the s	rs of off-ca hort time (ampus tr of 30 hou	ted from the technology of aining as part of Thesis urs, so we have made it rom the above mentioned	
Course Objectives : 1. Explain the training collaboration with soc © Can recognize the r © Through collaborati © You can design you	iety responsibility ive activities,	and originalit	y that engineer	rs have on societ le and communio	tv			-	
Rubric								I	
	Excellent		Good		Accepta	able		Not acceptable	
Achievement 1	training in report presenta professio so that r audience	ations from a ponal point of v readers and the can fully and the conte	ned training c in reports presentat view profession he so that re audience	in reports and presentations from a professional point of view so that readers and the audience can understand the content of the		The content of the training can be explained in reports and presentations.		You have not reached the level shown on the left.	
Achievement 2	explain t responsi	bilities and y that compa	the respo	nd and explain onsibilities and that companies ociety.	Show the responsibilities and creativity that companies owe to society.		it	You have not reached the level shown on the left.	
Achievement 3	training, understa commur with oth	practical you can and your role nicate sufficien ers (by ation, etc.).	and training, understai communi	Through practical training, you can understand your role and communicate with others (by presentation, etc.).		Through practical training, you can communicate with others (by presentation, etc.).		You have not reached the level shown on the left.	
Achievement 4	training company about yo systema	the practical experience at y, you can thi pur career tically and t sufficiently.	t the training e ink company about you systemat	company, you can think t about your career		Utilizing the practical training experience at the company, you can explain your career .		You have not reached the level shown on the left.	
Assigned Departn	nent Objec	tives	•						
Teaching Method									
	* Relationship with practical work: This subject is practiced at a private company outside the college with t aim of deepening knowledge and improving research ability so as not to be separated from the technology the real world. It is set as a 2-credit course with the requirement of conducting practical training for about weeks (about 140 hours). General or Specialized : Specialized							ed from the technology of	
Outline	Foundational Engineering ,	Field of learning : Experiment / practice Foundational academic disciplines : Engineering / Mechanical Engineering / Electrical and Electronic Engineering / Electronic Control Engineering / Information Engineering							
Outline	Relationship with Educational Objectives : This class is equivalent to "(6) Through extracurricular activities and participation in advanced technology lectures and academic societies, the student has learned to work with local communities and as well has acquired a global perspective".								
	The main go	Relationship with JABEE programs : The main goal of learning / education in this class is "(H) H-1". Accompanyingly, it is also involved in "F-1, A- 2, D-3 and G-1".							
	Course outline : Practical training for about 4 weeks or 140 hours at an off-campus training such as a company.								
Style	Course method : Practicing while engaging in actual work at companies. A review board will be held after the training on campus.								
	Grade evaluation method : Evaluation sheets from companies (60%), reports (20%) and presentations (20%) are used for eval						s (20%) a	are used for evaluation.	

		Precautions on the enrollment : Be sure to take out insurance when you go to practice.								
	Course advice :									
		Be sure advance	Be sure to attend the off-campus training and long-term internship briefing session as it will be held in advance. As a preliminary study, investigate the company to which you are practicing and its industry /							
Notico	Notice business content. Be suré to follow the discipline of the company. intern's evaluation leads to school									
Notice										
			tional subjects : All the subjects you ha							
			subjects : Thesis Work I, II (Advance	ed Course 1s	st, 2nd)					
			nce advice : t is unavoidable, do not be late or abse	ent from the	training.					
Charact	eristics of	of Class ,	/ Division in Learning							
□ Active	□ Active Learning □ Aided by ICT □ Applicable to Remote Class □ Instructor Professionally Experienced									
Elect	ive S	Subjec	et s							
Course	Plan	1	1							
			Theme		Goals You can plan you	r long-term internship course				
		1st	Guidance (beginning of the school yea	ır)	and your career.					
		2nd	Decision of training company		and your career.	r long-term internship course				
		3rd	Confirmation of practical training cont the supervisor / company staff	ents with	You can understa destination and n	nd the contents at the internship nake a training plan.				
		4th	Dractical training in companies, etc.		through the pract	own role and practice, and tice you can understand the				
		401	Practical training in companies, etc.		responsibility and creativity that a company has on society.					
	1st	r ^{5th} f			Understand your own role and practice, and through the practice you can understand the					
	Quarter		Practical training in companies, etc.		responsibility and creativity that a company has on society.					
				actical training in companies, etc.		Understand your own role and practice, and through the practice you can understand the				
		6th	Practical training in companies, etc.			creativity that a company has				
1st Semeste					on society. Understand your	own role and practice, and				
r		7th	Practical training in companies, etc.		responsibility and	tice you can understand the I creativity that a company has				
					on society.	hal point of view, the training				
		8th	Preparation for Internship debriefing s	ession	content can be su presentation man	nal point of view, the training ummarized in a report and a nuscript.				
		9th	Internship debriefing session		You can present the training content in an easy- to-understand manner from a professional					
			Participate in practical training at com	nanies for	perspective.					
		10th	about 4 weeks or 140 hours.	punies for						
	2nd Quarter	11th								
	Quarter	12th 13th								
		13th								
		15th								
		16th								
		1st								
		2nd			1					
		3rd								
	2	4th								
	3rd Quarter	5th								
		6th								
		7th								
2nd		8th								
Semeste		9th			1					
lt.		10th								
		11th								
	4.1.	12th			1					
	4th Quarter	12th			1					
	1	1301 14th								
		14th 15th			+					
		15th								
Evoluati	ion Math		$N_{\text{oight}}(94)$		1					
L⊏valuat	ion meth		Weight (%)							

	Company Evaluation	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Report	Total
Subtotal	60	20	0	0	0	20	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	40	10	0	0	0	15	65
Cross Area Proficiency	20	10	0	0	0	5	35

Tsuyama Co	ollege	Year	202)21					ce on International nunication	
Course Informati	on									
Course Code		Course Category		Specia	ctive					
Class Format	Seminar				Credits		Academic Credit:		1	
Department	Advanced Me Engineering		d Conti	rol System	Student Grade		Adv. 2nd			
Term	Intensive Classes per Weel						k			
Textbook and/or Teaching Materials	Information	on various ev	vents,	training text	books, etc.					
Instructor	KONISHI Daijiro,HOSOTANI Kazunori,TERAMOTO Takayuki									
Course Objective	S									
Learning purposes : Improve communicat as an engineer who c	ion skills in Er an play an ac	nglish and de tive role inter	epen u rnatior	understandin nally.	g of various c	ulture	s and cust	oms on th	e earth. Foster awareness	
Course Objectives : 1. Understand the ot skills in an easy-to-ur 2. You can acquire a	nderstand mai	nner.	-			nd con	ivey your t	houghts a	nd specialized knowledge /	
Rubric										
	Excellen			Good		Accep	otable		Not acceptable	
Achievement 1	other pe English person t commur technicia public, y your ow ideas in understa devising method,	derstanding 1 rrson thought regardless of o be nicated, such an or the gen ou can conve n opinions ar an easy-to- and manner v an explanati and gain a t understand	ts in the as a heral ey nd while ion	After unders other person you can conv opinions and gain underst devising an e method.	in English, It can be said in a vey your own to-understand ma ideas and using effective anding while procedures and m		nanner '	easy-to-understand manner using effective		
Achievement 2	culture a develop perspect thinking "newly a informat	and difference and values, multifaceted tives and way , and combin acquired tion" and "pa ge" to come v ideas.	l ys of ne	Understand the differences in culture and values, and consider		acqui	You can associate "newly acquired information" with "past knowledge".		You can not associate "newly acquired information" with "past knowledge".	
Assigned Departr	nent Objec	tives								
Teaching Method										
Outline	General or Specialized : Specialized Field of learning : International communications and cultural differences Foundational academic disciplines : Foreign language / engineering Relationship with Educational Objectives : This class is equivalent to "(6) Through extracurricular activities and participation in advanced technology lectures and academic societies, the student has learned to work with local communities and as well has acquired a clabal personative"							n advanced technology nities and as well has		
	Relationship with JABEE programs : The main goal of learning / education in this class is "(F) F-3", also "(B) B-2"is involved.									
	Course outline : Participate in international exchange programs related to our school or others, expand your international perspective based on the knowledge and skills you have learned so far, and aim to improve your communication skills in English.							and your international improve your		
Style	We will activ self-improve	Course method : We will actively participate in international exchange programs related to our school or others and strive for self-improvement, and submit the designated report after participation. Presentations at international conferences, etc. made as part of special research are not included in this exercise.								
	Evaluate by	Grade evaluation method : Evaluate by the 100-point method according to the event report. Credits will be accredited through the Advanced Course Steering Committee at the end of the school year. It is necessary to submit a credit application.								

		This sub per cred	Precautions on the enrollment : This subject is a "subject that requires study outside of class hours". Classes are offered for 15 credit hours per credit, but 30 credit hours are required in addition to this. Follow the instructions of your instructor for these studies.								
Notice		It is imp make eff taken for Participa training	Course advice : It is important to broaden your interest in different cultures and English, and to actively participate in and make efforts in international exchange programs related to our school and others. This is a course that can be taken for two years. Participate in meetings such as guidance as preparatory learning to be conducted in advance, and check training / training destination information and safety information (required). In addition, read reference books								
			and have relevant knowledge about different cultures. Foundational subjects : All the subjects you have learned so far, especially English								
			Related subjects : Practical English I, I (Advanced Course 1st, 2nd), Reading on Technical English								
		(Advance	ed Course 1st), Thesis Work I, I (Advanced Course	rse 1st, 2nd)							
Attendance advice : Since the class is mainly related to society, be aware that you are a student of our school when you participate. Be careful about your safety. Check with the instructor for international exchange events to this subject.											
Charact	Characteristics of Class / Division in Learning										
□ Active	Learning		Aided by ICT Applicable	to Remote Class Experienced							
Elect	tive s	ubjec	ts	Experienced							
Course	Plan										
			Theme	Goals							
		1st	Participation in the event must be at least 30 hours.	Recognize the need for respect for the culture and history of each country and the tolerance to accept the differences.							
		2nd	Includes participation in international exchange programs related to our school (actively if there is an opportunity to make a presentation)	Explain basic matters such as lifestyles, religious beliefs, and values of various countries.							
	1st Quarter	3rd	Participate in the event for a total of 30 hours or more (multiple events are acceptable) and submit a fixed report (travel time is not included in the exercise time). If you report the participation of the project, you can use the presentation materials to replace the outline of the exercises in the report.	Interpretation of cross-cultural events in relation to our own culture.							
1st Semeste		4th		Explain the role that science and technology should play in the economic and social development of each country and region and the responsible behavior of engineers.							
r		5th									
		6th									
		7th									
		8th									
		9th 10th									
		11th									
	2nd	12th									
	Quarter	13th									
		14th									
		15th									
		16th									
		1st									
		2nd									
		3rd									
	3rd Quarter	4th									
	Quarter	5th 6th									
		7th									
2nd		8th									
Semeste		9th									
1		10th									
		11th									
	4th	12th									
	Quarter	13th									
		14th									
		15th									
<u> </u>	L	16th									
Evaluat	ion Meth	od and V	Veight (%)								

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Reports	Total
Subtotal	0	0	0	0	0	100	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	0	0	0	0	0	100	100
Cross Area Proficiency	0	0	0	0	0	0	0