

Tsuyama College				Advanced Electronics and Information System Engineering Course				Year		2021					
Department Goals															
Course Category		Course Title	Course Code	Credit Type	Credits	Class Hours per Week								Instructor	Division in Learning
						Adv. 1st Y				Adv. 2nd Y					
						1st		2nd		1st		2nd			
						1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q		
General	Elective	Biotechnology	0006	Academic Credit	2	<div>2</div>								SHIBATA Norito	Elective subjects
General	Elective	Practical English I	0009	Academic Credit	2	<div>2</div>								RAMBO Eric	Elective subjects
General	Elective	Theory of International Culture	0010	Academic Credit	2	<div>2</div>								SUGIYAMA Akira	Elective subjects
Specialized	Elective	Methods of Scientific Experiments	0001	Academic Credit	2	<div>2</div>								YAMAGUCHI Daizo, KAWAI Masahiro	Elective subjects
Specialized	Elective	Technical English Reading	0002	Academic Credit	2	<div>2</div>								KATO RI Shigetaka	
Specialized	Elective	General Aspects of Engineering I	0003	Academic Credit	2	<div>Intensive</div>								TERAMOTO Takayuki	
Specialized	Elective	General Aspects of Engineering II	0004	Academic Credit	2	<div>Intensive</div>								TERAMOTO Takayuki	
Specialized	Compulsory	Thesis Work I	0005	School Credit	8	<div>8</div>								KOBAYASHI Toshio,NISHIO Kimihiro,SHIMADA Takao,YABUKI Noboru,TAKETANI Hisashi,TERAMOTO Takayuki,MIYASHITA Takuya,KAWANAMI Hiromichi,KIKUCHI Yosuke,FANG Guanshen	
Specialized	Elective	Advanced Electromagnetism	0007	Academic Credit	2	<div></div>								UETSUKI Tadao	

Sp eci ali ze d	El ec tiv e	Electric and Electronic Apparatus	0008	Acade mic Credit	2	<div><div></div><div></div><div>2</div><div></div><div></div><div></div><div></div></div>	YAGI Hidey uki	
Sp eci ali ze d	El ec tiv e	Information Science	0011	Acade mic Credit	2	<div><div></div><div></div><div>2</div><div></div><div></div><div></div><div></div></div>	TERA MOTO Takay uki	
Sp eci ali ze d	El ec tiv e	Basic Practice in Information Processing I	0012	School Credit	1	<div><div>2</div><div></div><div></div><div></div><div></div><div></div><div></div></div>	TAKET ANI Hisash i	
Sp eci ali ze d	El ec tiv e	Practice in Information Processing I	0013	School Credit	1	<div><div>2</div><div></div><div></div><div></div><div></div><div></div><div></div></div>	TERA MOTO Takay uki	E l e c t i v e S u b j e c t s
Sp eci ali ze d	El ec tiv e	Basic Practice in Information Processing II	0014	School Credit	1	<div><div></div><div></div><div>2</div><div></div><div></div><div></div><div></div></div>	TAKET ANI Hisash i	
Sp eci ali ze d	El ec tiv e	Practice in Information Processing II	0015	School Credit	1	<div><div></div><div></div><div>2</div><div></div><div></div><div></div><div></div></div>	TERA MOTO Takay uki	E l e c t i v e S u b j e c t s
Sp eci ali ze d	El ec tiv e	Computer System Engineering	0016	Acade mic Credit	2	<div><div></div><div></div><div>2</div><div></div><div></div><div></div><div></div></div>	MIYAS HITA Takuy a	E l e c t i v e s u b j e c t s
Sp eci ali ze d	El ec tiv e	Special Lecture on Information Systems	0017	Acade mic Credit	2	<div><div>2</div><div></div><div></div><div></div><div></div><div></div><div></div></div>	ONISH I Atsush i	E l e c t i v e s u b j e c t s
Sp eci ali ze d	El ec tiv e	Linear Algebra	0018	Acade mic Credit	2	<div><div>2</div><div></div><div></div><div></div><div></div><div></div><div></div></div>	MATS UDA Osam u	E l e c t i v e s u b j e c t s
Sp eci ali ze d	El ec tiv e	Environmental Science Theory	0019	Acade mic Credit	2	<div><div></div><div></div><div>2</div><div></div><div></div><div></div><div></div></div>	KOBA YASHI Toshir o	E l e c t i v e s u b j e c t s
Sp eci ali ze d	El ec tiv e	Engineering Ethics	0020	Acade mic Credit	2	<div><div>2</div><div></div><div></div><div></div><div></div><div></div><div></div></div>	HOSO TANI Kazun ori,MI YASHI TA Takuy a	E l e c t i v e s u b j e c t s
Sp eci ali ze d	Co m pu lso ry	Experiments of Electronic and Computer Systems	0021	School Credit	4	<div><div>4</div><div></div><div>4</div><div></div><div></div><div></div><div></div></div>	NAKA MURA Shigey uki	
Ge ne ral	El ec tiv e	Practical English II	0029	Acade mic Credit	2	<div><div></div><div></div><div></div><div></div><div>2</div><div></div><div></div></div>	RAMB O Eric	E l e c t i v e s u b j e c t s
Ge ne ral	El ec tiv e	Social Sciences	0030	Acade mic Credit	2	<div><div></div><div></div><div></div><div></div><div></div><div></div><div>2</div></div>	KADO YA Hiden ori	
Ge ne ral	El ec tiv e	Modern Philosophy	0031	Acade mic Credit	2	<div><div></div><div></div><div></div><div></div><div></div><div></div><div>2</div></div>	KAMIY A Ken	E l e c t i v e s u b j e c t s

Specialized	Elective	Special Lecture on Advanced Engineering	0022	Academic Credit	1	<div> <div></div> <div></div> <div></div> <div></div> <div>Intensive</div> </div>	HOSOTANI Kazunori, TERAMOTO Takayuki, KONISHI Daijiro	Elective subjects
Specialized	Elective	Production Control Engineering	0023	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div>2</div> <div></div> <div></div> </div>	KAWAI Masahiro	Elective subjects
Specialized	Elective	Practice on Regional Cooperation	0024	Academic Credit	1	<div> <div></div> <div></div> <div></div> <div></div> <div>1</div> <div></div> <div></div> </div>	HOSOTANI Kazunori, TERAMOTO Takayuki	
Specialized	Compulsory	Thesis Work II	0025	School Credit	8	<div> <div></div> <div></div> <div></div> <div></div> <div>8</div> <div></div> <div>8</div> </div>	KATORISHIGETAKA, NAKAMURA Shigeyuki, NISHIO Kimihiro, SHIMADA Takao, TERAMOTO Takayuki, KAWANAMI Hiromichi, KUCHI Yosuke	
Specialized	Elective	Electrical Network Analysis	0026	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div>2</div> <div></div> <div></div> </div>	NISHIO Kimihiro	
Specialized	Elective	Electronic Device Engineering	0027	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div>2</div> <div></div> <div></div> </div>	NAKAMURA Shigeyuki	
Specialized	Elective	Power Electronics	0028	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div>2</div> <div></div> <div></div> </div>	KOBAYASHI Toshio	Elective subjects
Specialized	Elective	Practice in Information System I	0032	School Credit	1	<div> <div></div> <div></div> <div></div> <div></div> <div>2</div> <div></div> <div></div> </div>	SORIHITOSHI, KAWAI Masahiro	
Specialized	Elective	Practice in Information System II	0033	School Credit	1	<div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div>2</div> </div>	SORIHITOSHI, KAWAI Masahiro	
Specialized	Elective	Numerical Analysis	0034	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div>2</div> </div>	KIKUCHI Yosuke	Elective subjects
Specialized	Elective	Image Processing	0035	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div>2</div> <div></div> <div></div> </div>	YABUKI Noboru	Elective Subjects

Specialized	Elective	Digital Signal Processing	0036	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div>2</div> </div>	KAWA NAMI Hiromichi	Elective subjects
Specialized	Elective	Mathematical Engineering	0037	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div>2</div> <div></div> <div></div> </div>	YOKO TANI Masaki	Elective subjects
Specialized	Elective	Scientific Investigation	0038	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div>2</div> </div>	YAMA GUCHI Daizo	Elective subjects
Specialized	Elective	System Control Engineering	0039	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div>2</div> </div>	YAGI Hideyuki	
Specialized	Elective	Long Term Internship	0040	Academic Credit	2	<div> <div></div> <div></div> <div></div> <div></div> <div>Intensive</div> </div>	HOSO TANI Kazunori, TE RAMO TO Takayuki, KO NISHI Daijiro	Elective subjects
Specialized	Elective	Practice on International Communication	0041	Academic Credit	1	<div> <div></div> <div></div> <div></div> <div></div> <div>Intensive</div> </div>	KONISHI Daijiro, HOSO TANI Kazunori, TE RAMO TO Takayuki	Elective subjects

Tsuyama College		Year	2021		Course Title	Biotechnology	
Course Information							
Course Code		0006		Course Category		General / Elective	
Class Format		Lecture		Credits		Academic Credit: 2	
Department		Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 1st	
Term		First Semester		Classes per Week		2	
Textbook and/or Teaching Materials		Textbook: Do not specify, and distribute reference materials in a timely manner during class. Reference book: Kodansha "Biotechnology Text Series Genetic Engineering" Jikkyo Shuppan "Basic Series for Life Sciences Advanced Technology and Ethics"					
Instructor		SHIBATA Norito					
Course Objectives							
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 principles and applications of genetic engineering technology. 2. Understand tissue engineering using ES cells and iPS cells. 3. Understand biomimetics using the characteristics of living organisms from a mechanical point of view.							
Rubric							
	Excellent		Good		Acceptable		Not acceptable
Achievement 1	Understanding and explain genetic engineering technology using nucleic acids, and how it can be useful in daily life.		Explain genetic engineering technology using nucleic acids.		Understand genetic engineering technology using nucleic acids.		Not reached
Achievement 2	Understand and explain application examples of tissue engineering using iPS cells and ES cells.		Explain application examples of tissue engineering using iPS cells and ES cells Wear.		Understand tissue engineering using iPS cells and ES cells.		Not reached
Achievement 3	Understanding and explain application examples of biomimetics that take advantage of the characteristics of living organisms and their principles.		Explain the application example of biomimetics that makes the best use of the characteristics of living things.		Understand the principles of biomimetics that take advantage of the characteristics of living organisms.		Not reached
Assigned Department Objectives							
Teaching Method							
Outline	General or Specialized : Specialized						
	Field of learning : Biotechnology/Biomimetics/Tissue engineering						
	Foundational academic disciplines : Biology/Biological Science						
	Relationship with Educational Objectives : This class is equivalent to "(1) Cultivate human creative talent, rich in practical abilities".						
	Relationship with JABEE programs : The main goals of learning / education in this class is "(A) ..., A-1.						
Style	Course outline : Bioengineering has expanded not only to the fields of life science such as biology, medicine and agriculture, but also to bioengineering based on mechanical engineering. The core technologies are genetic engineering, tissue engineering and biomimetics. In this lecture, we will systematically explain from the basic explanation of these to the applied technology.						
	Course method : I will explain the main points while explaining on the board etc. based on the handouts. Timely, report assignments will be given according to the content of the lesson, and review and self-study will be encouraged. This course is a second-half course.						
	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.						

Notice	<p>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.</p> <p>Course advice : I will explain from the basics so that you can understand even if you do not have basic knowledge of biology, so if you are interested in it, please take it.</p> <p>Foundational subjects : Biology (1st year), Chemistry I (2nd year), Chemistry II (3rd year), Applied Biology (4th year)</p> <p>Related subjects : Applied Chemistry (4th year)</p> <p>Attendance advice : Strictly adhere to the deadline for report assignments. Treat as absent when half of the class time has passed. If you have any questions about the lecture or anything related to it, please actively ask questions and deepen your understanding.</p>
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#### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input checked="" type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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#### E l e c t i v e s u b j e c t s

#### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance	Understand the benefits of applying organisms to technological development
		2nd	Genetic engineering I	Understand the mechanism of DNA amplification by the PCR method, and further understand the role of each part of the actual PCR machine.
		3rd	Genetic engineering 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.
		4th	Genetic engineering III	Understand principle and mechanism of DNA typing method using PCR method
		5th	Genetic engineering IV	Understand the principles of genetic recombination in animals and plants
		6th	Genetic engineering V	Understand the potential application of genetic recombination in animals and plants to industry from actual examples
		7th	Tissue engineering I	Understand ES cells and iPS cells, which are the basis of tissue engineering, and understand their production methods in terms of cell engineering.
		8th	Tissue engineering II	Understand the bioactive substances required for tissue engineering using iPS cells and ES cells
	2nd Quarter	9th	Tissue engineering III	Understanding the scaffolding materials used in tissue engineering from a materials engineering perspective
		10th	Tissue 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	Biomimetics I	Understand the overall picture of biomimetics that applies and utilizes the characteristics of living organisms
		12th	Biomimetics II	Mechanically understand the adhesive tape developed from the hands of cockleburrs and geckos
		13th	Biomimetics III	Optically and mechanically understand the optical fibers developed from the scales of Morpho butterflies and the swimsuit developed by imitating shark skin
		14th	Biomimetics IV	Understand the mechanical advantages of the Shinkansen, which uses the honeycomb structure found in honeycomb structures, cushions and walls, and the shape of the kingfisher's beak
		15th	(Late term exam)	
		16th	Return of the late term exam and explanation of the answer	

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	70	0	0	0	0	30	100
Basic Proficiency	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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Tsuyama College		Year	2021		Course Title	Practical English I	
Course Information							
Course Code		0009		Course Category		General / Elective	
Class Format		Lecture		Credits		Academic Credit: 2	
Department		Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 1st	
Term		First Semester		Classes per Week		2	
Textbook and/or Teaching Materials		Successful Keys to the TOEIC, Goal 500 (Kiriara); Handouts, Dictionary					
Instructor		RAMBO Eric					
Course Objectives							
[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							
		Ideal Level		Standard Level		Unacceptable Level	
Achievement 1		Has acquired English proficiency very well to understand and convey basic information and ideas about familiar matters and one's specialty.		Has acquired English proficiency reasonably well to understand and convey basic information and ideas about familiar matters and one's specialty.		Has not acquired English proficiency to understand and convey basic information and ideas about familiar matters and one's specialty.	
Achievement 2		Can make a smooth presentation at a high level that can be used at international conferences.		Can make a smooth presentation at an acceptable level that can be used at international conferences.		Cannot make a smooth presentation at an acceptable level that can be used at international conferences.	
Achievement 3		Can fully solve TOEIC 400-point level vocabulary, grammar, reading comprehension, and listening comprehension problems.		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 Department Objectives							
Teaching Method							
Outline		General / Specialty: General Areas of study: Foreign languages Basic disciplines: English, English and American literature, linguistics, phonetics  Relationship with Advanced Course learning goals: This course aims to learn from the advanced course "(6) Through off-campus training, special lectures on advanced technology, and participation in academic societies, we will cooperate with the local community and understand the importance of seeing things from a global perspective. It is a subject equivalent to. 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 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: 50% weekly exercises (Assignments, quizzes, PowerPoint presentations.), 50% the results of two regular exams.					
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. For study outside of class hours, follow the instructions from the instructor. Course advice: Actively participate in classes and submit 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) 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.					
Characteristics of Class / Division in Learning							
<input checked="" type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced	
Elective subjects							
Course Plan							
			Theme		Goals		
1st Semester	1st Quarter	1st	Course introduction, e-learning and TOEIC explanation. TOEIC Unit 1		Understand the goals and method of the course. Effective TOEIC practice.		



		2nd	Describing company profiles (products, sales, etc.) TOEIC Unit 1	Understand company profiles. Effective TOEIC practice.
		3rd	Quiz; Researching a company and products. TOEIC Unit 2	Understand how to research a company. Effective TOEIC practice.
		4th	Making visual aids for PPT-1 Understand the role of profit. TOEIC Unit 2	Can make good visual aids. Understand profit. Effective TOEIC practice.
		5th	PPT-1 corrections, practice. TOEIC Unit 3	Can deliver the presentation smoothly. Effective TOEIC practice.
		6th	Deliver PPT-1	Deliver the presentation smoothly, use visual aids effectively.
		7th	Summary and preparation for the midterm exam. TOEIC Unit 4	Know all the vocabulary and grammar from the TOEIC lessons; Explain PPT-1 in writing.
		8th	Midterm exam	
	2nd Quarter	9th	Check answers and correct mistakes from the Midterm exam. TOEIC Unit 4	Learn from mistakes on the Midterm exam. Effective TOEIC practice.
		10th	Select and research a new company. TOEIC Unit 5	Conduct effective research. Effective TOEIC practice.
		11th	Research the company's foreign operations, TOEIC Unit 6	"
		12th	PPT-2 corrections, practice. TOEIC Unit 7	Can deliver the presentation smoothly. Effective TOEIC practice.
		13th	Deliver PPT-2	Deliver the presentation smoothly, answer questions effectively.
		14th	Summary and prepare for the Final exam. TOEIC Unit 7	Know all the vocabulary and grammar from the TOEIC lessons; Explain PPT-2 in writing.
		15th	(Final exam)	
		16th	Check answers and correct mistakes from the Midterm exam. Summary of English learning strategies.	Learn from mistakes on the Midterm exam. Plan for future English learning.

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	50	30	0	0	0	20	100
Basic Proficiency	50	30	0	0	0	20	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	Theory of International Culture
Course Information						
Course Code	0010		Course Category	General / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	First Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Textbooks : "No Text.(Use Printed) Reference Book:"ChuugokugoGakusu and Ibunkarikai Handbook"(Alc)					
Instructor	SUGIYAMA Akira					
Course Objectives						
Learning purposes : I abandon cultural prejudice and will wear the ability that can contribute to interchange in the daytime that will develop more in future..						
Course Objectives : 1. I understand the side unlike Japan of the China society. ◎ 2. I understand existence of other culture and wear a viewpoint to permit it again. 3. I can explain a claim, a thought of the self logically.						
Rubric						
	Excellent		Good		Acceptable	Not acceptable
Achievement 1	I understand culture unlike oneself and I permit it and can have the cooperation with it, a commensal heart..		I understand culture unlike oneself and I permit it and can do it.		I understand culture unlike oneself and I permit it and can do it.	I understand culture unlike oneself and cannot permit it
Achievement 2	understand culture of neighboring country China, social circumstances and can think about the Japanese and Japanese thought, action that you should adopt.		Through a comparison with Japan, I can understand culture of neighboring country China, social circumstances.		Through a comparison with Japan, I can understand culture of neighboring country China, social circumstances.	I cannot understand culture of neighboring country China, social circumstances.
Achievement 3	I can describe a claim, a thought of the self with passion and persuasive power.		I can describe a claim, a thought of the self with passion.		I can describe a claim, a thought of the self with passion.	I cannot describe a claim, a thought of the self well.
Assigned Department Objectives						
Teaching Method						
Outline	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.					
Style	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.  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.					

Notice	<p>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.</p> <p>Course advice : Paying attention to news about China and Taiwan as preparations learning to perform beforehand. In addition, you understand the point well, and attend it to receive the authorization of the bachelor as it is a necessary lecture..</p> <p>Foundational subjects : World History (1st year), Politics and Economy (2nd), a Theory of Cross-cultural Society I (4th) Related subjects : Practice on International Communication (Advanced 1st year), Social Sciences (Advanced 2nd)</p> <p>Attendance advice : It is important to pay interest to the news and news such as a newspaper or TV to be always related to China. If tardy time is over 20 minutes, I assume it lack section handling.</p>
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#### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input checked="" type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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#### E l e c t i v e s u b j e c t s

#### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Why do yo learn China?	I understand the need of the Pekingology.
		2nd	Geography and language, race	I understand Chinese geography and language, race.
		3rd	The postwar history and Cultural Revolution of China	I understand Chinese history of after the war and the actual situation of the Cultural Revolution.
		4th	The national consciousness and principle of whole families	I understand the Chinese national consciousness and whole families principles.
		5th	Sinocentrism, Confucianism and Doke	I understand Sinocentrism, Confucianism and Doke.
		6th	Ethical view that human nature is basically evil, the view of human nature as fundamentally good, historical perspective	I understand ethical view that human nature is basically evil and the view of human nature as fundamentally good and a Chinese historical perspective.
		7th	mid-term test	I confirm the understanding degree of conventional learning contents.
		8th	Return and commentary of the midterm examination	I supplement an insufficient part of the past learning understanding.
	2nd Quarter	9th	One-child policy and the issue of aging	I understand the one-child policy and issue of aging in China. I subscribe to references and make a problem report.
		10th	Social polarization	I understand the difference problem that the China society has.
		11th	Taiwan and Hong Kong	I understand history and situation of Hong Kong and Taiwan.
		12th	environmental destruction	I understand an environmental problem of China.
		13th	Counterfeit brand	I understand counterfeit brand in China, the issue of violation of trademark.
		14th	The present of the Chinese company Subscription of references, making of the problem report	I understand in particular the current situation of the Chinese national enterprise. I subscribe to references and make a problem report.
		15th	Term-end examination	I confirm the understanding degree of conventional learning contents.
		16th	Return and commentary of the term-end examination	I supplement an insufficient part of the past learning understanding.

#### Evaluation Method and Weight (%)

	Examination	Problem report	Assginment	Quiz	Total
Subtotal	70	30	0	0	100
Basic Proficiency	70	30	0	0	100
Specialized Proficiency	0	0	0	0	0
Cross Area Proficiency	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Methods of Scientific Experiments
Course Information						
Course Code		0001		Course Category	Specialized / Elective	
Class Format		Lecture		Credits	Academic Credit: 2	
Department		Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st	
Term		First Semester		Classes per Week	2	
Textbook and/or Teaching Materials		Textbooks : Introduction to the Daguchi Method" by Kazuo Tatebayashi (JUSE)				
Instructor		YAMAGUCHI Daizo,KAWAI Masahiro				
Course Objectives						
Learning purposes : Students will learn about the Taguchi Method, a technique developed from the Design of Experiments, in order to be able to carry out appropriate and reliable experiments and develop techniques.						
Course Objectives : 1. Understand the role and concept of parameter design and be able to explain the procedure. 2. Understand the concept and explain the procedure of parameter design of dynamic characteristics. 3. To understand the parameter design in the technology development stage.						
Rubric						
	Excellent		Good		Acceptable	Not acceptable
Achievement 1	Understand the role and concept of parameter design and be able to explain the procedure.		Understand the role and concept of parameter design and its procedures.		Understand the role and concept of parameter design and its procedures from the material.	Not reached the left column.
Achievement 2	Understand the concept of parameter design of dynamic characteristics and be able to explain the procedure.		Understand the concept and procedure of parameter design of dynamic characteristics.		Understand the concept and procedure of parameter design of dynamic characteristics by looking at the material.	Not reached the left column.
Achievement 3	Understand the parameter design in the technology development phase.		Understand the design of parameters at the technology development stage by looking at the material.		Understand, with the advice of a supervisor, the design of parameters in the technological development phase, looking at the material.	Not reached the left column.
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized Field of learning : Basic and Common Natural Sciences Foundational academic disciplines : Relationship with Educational Objectives : This class is equivalent to "(1) Cultivate human creative talent, rich in practical abilities". Relationship with JABEE programs : The main goals of learning / education in this class are "(A), A-1, also "A-2" and "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.					
Style	Course method : Lectures will be based on the textbook. Exercises will be given on the computer as students progress to deepen their understanding. Grade evaluation method : (1) Distribution of marks: Examination (report method) 100%. (2) Evaluation criteria: Students will be evaluated on the basis of their basic content and understanding of the items listed in the achievement objectives and their basic application. 60 points or more is a passing score. (3) Re-examination: Students who score less than 60 points will be re-examined if the teacher deems it necessary.					

Notice	Precautions on the enrollment : In addition to the 15 credit hours per credit, students are required to study 30 credit hours. Students are expected to follow the instructions of their teachers regarding these studies.
	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 reviewing, and that they maintain an interest in technological development and quality control.
	Foundational subjects : Experiments and graduation theses in the department (2nd-5th years).
	Related subjects : Special Study on Mechanical and Control Systems Engineering I, II (1st and 2nd year), Special Study on Electronic and Information Systems Engineering I, II (1st and 2nd), Special Experiment on Mechanical and Control Systems Engineering (1st), Special Experiment on Electronic and Information Systems Engineering (1st).
	Attendance advice : In the lectures, various examples of case studies will be given so that students can learn how to think about them. Late arrival after 15 minutes from the start of a credit hour will result in an absence from class.

### Characteristics of Class / Division in Learning

<input checked="" type="checkbox"/> Active Learning	<input checked="" type="checkbox"/> Aided by ICT	<input checked="" type="checkbox"/> Applicable to Remote Class	<input checked="" type="checkbox"/> Instructor Professionally Experienced
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### E l e c t i v e s u b j e c t s

### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance, Chap1 system and stability (Study outside class time: Assignment (1) Chap1)	To be able to understand engineered systems.
		2nd	Chap2 Introduction to Parameter Design 1 (Study outside class time: Assignment (2) Chap2)	Be able to understand the role, concepts and procedures of parameter design.
		3rd	Chap2 Introduction to Parameter Design 2 (Study outside class time: Assignment (2) Chap2)	Be able to understand examples of desirable parameter design.
		4th	Chap3 Parameter design of dynamic characteristics 1 (Study outside class time: Assignment (3) Chap3)	Understand the concept and procedure of parameter design of dynamic characteristics.
		5th	Chap3 Design of kinetic parameters 2 (Study outside class time: Assignment (3) Chap3)	Be able to understand the types of dynamic characteristics and how to calculate the signal-to-noise ratio.
		6th	Chap 4: Parameter design in the technology development phase 1 (Study outside class time: Assignment (4) Chap 4)	Be able to understand the design of parameters by objective function and technical means.
		7th	Chap 4: Parameter design in the technology development phase 2 (Study outside class time: Assignment (4) Chap 4)	Be able to understand examples of parameter design with basic functions.
		8th	1st semester mid-term exam	
	2nd Quarter	9th	Chap5 Parameter design for nonlinear systems, Chap6 Parameter design when input/output cannot be measured (Study outside class time: Assignment (5 and 6) Chap5 and 6)	Be able to understand an example where the goal is to have a non-linear relationship between inputs and outputs. Understand the parameter design using the dynamic functional window method.
		10th	Chap7 Designing parameters when input and output cannot be measured (Study outside class time: Assignment (7) Chap7)	Be able to understand software debugging using orthogonal tables.
		11th	Chap8 Loss function and its use 1 (Study outside class time: Assignment (8) Chap8)	Be able to understand the tolerance design of systems using loss functions.
		12th	Chap8 Loss function and its use 2 (Study outside class time: Assignment (8) Chap8)	Be able to understand the loss functions of the desirability and desirability characteristics.
		13th	Chap9 MT System 1 (Study outside class time: Assignment (9) Chap9)	Be able to understand the concept and technical challenges of anomaly determination.
		14th	Chap9 MT System 2 (Study outside class time: Assignment (9) Chap9)	Be able to understand the use of Mahara's bis distance in MT systems.
		15th	Chap10 Taguchi Method and Development Process Reform (Study outside class time: Assignment (10) Chap10)	Explain the problems with current development methods and the status and results of organisational use of the Taguchi Method.
		16th	Summary	

### Evaluation Method and Weight (%)

	Examination (Report)	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	100	0	0	0	0	0	100
Basic Proficiency	50	0	0	0	0	0	50
Specialized Proficiency	50	0	0	0	0	0	50
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Technical English Reading	
Course Information							
Course Code		0002		Course Category		Specialized / Elective	
Class Format		Lecture		Credits		Academic Credit: 2	
Department		Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 1st	
Term		First Semester		Classes per Week		2	
Textbook and/or Teaching Materials		プリント配布					
Instructor		KATORI Shigetaka					
Course Objectives							
1.工業英語論文を読みその技術内容を纏めて報告できる力を養成する。 2.現在進めている研究内容を工業英語論文としてまとめる力を養う。 3.英語で発表を行うことにより、コミュニケーション力向上を図る。							
Rubric							
	優		良		可		不可
評価項目1	工業英語論文を読みその技術内容のポイントを把握し、簡潔に纏めて報告できる。		工業英語論文を読みその技術内容のポイントを把握し、的確に纏めて報告できる。		工業英語論文を読みその技術内容のポイントを把握し、纏めて報告できる。		工業英語論文の読解力が不十分で内容を説明できない。
評価項目2	自分の研究内容を工業英語論文として簡潔にまとめる力を有している。		自分の研究内容を工業英語論文としてまとめる力を有している。		自分の研究内容を的確な英文でまとめることができる。		自分の研究内容を英文でまとめることができない。
評価項目3	自分の研究内容を技術的な単語を用いて正確かつ簡潔に英語で発表することができる。		自分の研究内容を技術的な単語を用いて正確に英語で発表することができる。		自分の研究内容を的確な英語で発表することができる。		自分の研究内容を英語で発表することができない。
Assigned Department Objectives							
Teaching Method							
Outline	一般・専門の別：専門 学習の分野：電気・電子						
	基礎となる学問分野：						
	専攻科学学習目標との関連：本科目は専攻科学学習目標「(4) 特別研究を自主的、積極的に推進することにより、技術者として必須の問題発見能力と課題解決能力、すなわち創造的な成果を生み出すデザイン能力、研究能力を身につけるとともに、研究結果を学会などで発表し、他の研究者や技術者との交流を通じて、プレゼンテーション能力やコミュニケーション能力を身につける。」に相当する科目である。						
	技術者教育プログラムとの関連：本科目が主体とする学習・教育到達目標は「(F) コミュニケーション能力、プレゼンテーション能力の育成、F-3：技術者に必須の外国語である英語でコミュニケーションができること」であるが、付随的には「B-1」にも関与する。						
Style	授業の概要：グローバル化が急速に進展する現代の社会においては、工学系の学生にとって英語の読解力、作文力、会話力は必須の位置づけにある。本講座は技術英語を中心に英語力を身につけるためのもので、工学分野の英語論文、英語解説文を教材として英語力の養成を目指す。						
	授業の方法：前半は基礎工業英語の読解力を養成するとともに基礎構文や文法の修得、基本単語の修得を図る。後半では各人の研究内容を英語論文としてまとめて発表させる。メンバー相互のコミュニケーション力の向上を図る。						
Notice	成績評価方法：報告書（50%）、発表（50%）						
	履修上の注意：本科目は「授業時間外の学修を必要とする科目」である。当該授業時間と授業時間外の学修を合わせて、1単位あたり45時間の学修が必要である。授業時間外の学修については、担当教員の指示に従うこと。						
	履修のアドバイス：英字新聞や国際論文に常に目を通し、英語に慣れ親しんでおくこと。						
	基礎科目：本科 3,4 年で履修した英語Ⅲ、Ⅳ等の英語科目、電気磁気学（電気電子、情報 3,4）、電子工学（電気電子、情報 3）など						
受講上のアドバイス：授業の各単位時間の開始時に出欠をとり、その際返事がなくその後入室してきた者は遅刻とする。遅刻 3 回で 1 回の欠席とする。授業時間外の学習（予習と復習および論文提出）は行わなければならない。研究内容発表のときは短時間で論理的に発表できるように準備しておくこと。発表者以外は発表に対する質問を積極的に行うこと。							
Characteristics of Class / Division in Learning							
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced	
選択							
Course Plan							
			Theme			Goals	
1st Semester	1st Quarter	1st	ガイダンス				
		2nd	技術英語の基本修得および科学英文の輪読①			工業英語論文を読みその技術内容のポイントを把握し、報告できる。	
		3rd	技術英語の基本修得および科学英文の輪読②			工業英語論文を読みその技術内容のポイントを把握し、報告できる。	
		4th	技術英語の基本修得および科学英文の輪読③			工業英語論文を読みその技術内容のポイントを把握し、報告できる。	
		5th	技術英語の基本修得および科学英文の輪読④			工業英語論文を読みその技術内容のポイントを把握し、報告できる。	

		6th	技術英語の基本修得および科学英文の輪読⑤	工業英語論文を読みその技術内容のポイントを把握し、報告できる。
		7th	技術英語の基本修得および科学英文の輪読⑥	工業英語論文を読みその技術内容のポイントを把握し、報告できる。
		8th	英語論文の輪読および研究内容の論文化	工業英語論文を読みその技術内容のポイントを把握し、報告できる。自分の研究内容を英文でまとめることができる。
	2nd Quarter	9th	英語論文の輪読および研究内容の論文化	工業英語論文を読みその技術内容のポイントを把握し、報告できる。自分の研究内容を英文でまとめることができる。
		10th	英語論文の輪読および研究内容の論文化	工業英語論文を読みその技術内容のポイントを把握し、報告できる。自分の研究内容を英文でまとめることができる。
		11th	英語論文の輪読および研究内容の論文化	工業英語論文を読みその技術内容のポイントを把握し、報告できる。自分の研究内容を英文でまとめることができる。
		12th	英語論文の輪読および研究内容の論文化	工業英語論文を読みその技術内容のポイントを把握し、報告できる。自分の研究内容を英文でまとめることができる。
		13th	英語による研究内容の発表①	自分の研究内容を英語で発表資料にすることができる。
		14th	英語による研究内容の発表②	自分の研究内容を英語で発表資料にすることができる。
		15th	英語による研究内容の発表③	自分の研究内容を英語で発表資料にすることができる。
		16th		

#### Evaluation Method and Weight (%)

	試験	発表・演習	相互評価	自己評価	課題	小テスト	Total
Subtotal	0	50	0	0	50	0	100
基礎的能力	0	0	0	0	0	0	0
専門的能力	0	50	0	0	50	0	100
分野横断的能力	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	General Aspects of Engineering I
Course Information						
Course Code	0003		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	Intensive		Classes per Week			
Textbook and/or Teaching Materials	Textbook: As requested by the student					
Instructor	TERAMOTO Takayuki					
Course Objectives						
Learning purposes : (1) When students from other educational institutions wish to enroll in a JABEE-compliant technical education program, they can make up the credits they have earned prior to enrollment that cannot be approved as courses at the school. (2) To supplement the specialized knowledge and abilities of students who have entered a major that differs from their original major from other educational institutions, and to promote effective learning in the major course.						
Course Objectives : 1. To deepen the basic knowledge and skills related to the major. 2. To be able to use the knowledge obtained for study and research in the major.						
Rubric						
	Excellent		Good		Acceptable	Not acceptable
Achievement 1	To be able to systematically understand the basic knowledge in a specific academic field of study and to apply engineering skills to problems and issues.		To be able to systematically understand the basic knowledge of a specific discipline and to apply engineering skills to problems and issues.		The student will be able to apply basic knowledge and engineering skills in a specific discipline to problems and issues.	Cannot apply basic knowledge and engineering skills in a specific discipline to a problem.
Achievement 2	To be able to tackle issues and problems by integrating the various knowledge of specialized engineering that has been learned so far, and to consider the impact of knowledge on society		To be able to integrate and develop the knowledge of the specialized subjects studied so far and to apply it to problems and issues.		To be able to apply the knowledge of the specialized subjects studied so far to problems and issues.	Cannot apply the knowledge of the specialized subject studied so far to problems.
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized  Field of learning : Common and basic natural sciences  Foundational academic disciplines : Engineering/Electrical and Electronic Engineering/Electronic Devices and Equipment  Relationship with Educational Objectives :This class is equivalent to "(1) Cultivate human creative talent, rich in practical abilities".  Relationship with JABEE programs :The main goals of learning / education in this class are "(A)Deepening of basic knowledge of technology, A-2", also "A-1" is involved.  Course outline :This class is designed for students who entered the major from other educational institutions for the following purposes. This course does not count as a credit toward completion of the major. (1) In order for students from other educational institutions to become enrolled in JABEE-compliant technical education programs, all credits earned prior to enrollment will be reviewed for content equivalence with courses offered by the school. At this time, credits that cannot be approved as JABEE courses will be matched to JABEE courses. (2) Courses are designed to supplement the specialized knowledge and abilities of students who have enrolled in a major that differs from their original major from other educational institutions in order to effectively advance their studies in the major course. The content of the courses will be determined in consideration of the departments and courses taken before admission.					
Style	Course method : The content of study will be determined according to the student's educational institution and past study. Since the classes are one-on-one, students' basic academic skills and level of understanding will be checked as we proceed. In order to deepen their understanding, students will be required to practice problems and write reports to acquire comprehensive skills.  Grade evaluation method : Adopt an appropriate evaluation method according to the student and content.					



Notice	<p>Precautions on the enrollment : Students who have entered the major from other educational institutions and who fall under the categories (1) and (2) described in the course outline must take this course. This course does not count as a credit toward completion of the major. In addition, this course is a "subject requiring study outside 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.</p> <p>Course advice : This subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters.</p> <p>Foundational subjects : All subjects</p> <p>Related subjects : General subjects to be studied in the major</p> <p>Attendance advice : This subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters.</p>

#### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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#### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		2nd	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		3rd	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		4th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		5th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		6th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		7th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		8th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
	2nd Quarter	9th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		10th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		11th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		12th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		13th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		14th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		15th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		16th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
2nd Semester	3rd Quarter	1st		
		2nd		
		3rd		

		4th		
		5th		
		6th		
		7th		
		8th		
	4th Quarter	9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th		
		16th		

Evaluation Method and Weight (%)							
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	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	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

Tsuyama College		Year	2021		Course Title	General Aspects of Engineering II
Course Information						
Course Code	0004		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	Intensive		Classes per Week			
Textbook and/or Teaching Materials	Textbook: As requested by the student					
Instructor	TERAMOTO Takayuki					
Course Objectives						
Learning purposes : (1) When students from other educational institutions wish to enroll in a JABEE-compliant technical education program, they can make up the credits they have earned prior to enrollment that cannot be approved as courses at the school. (2) To supplement the specialized knowledge and abilities of students who have entered a major that differs from their original major from other educational institutions, and to promote effective learning in the major course.						
Course Objectives : 1. To deepen the basic knowledge and skills related to the major. 2. To be able to use the knowledge obtained for study and research in the major.						
Rubric						
	Excellent		Good		Acceptable	Not acceptable
Achievement 1	To be able to systematically understand the basic knowledge in a specific academic field of study and to apply engineering skills to problems and issues.		To be able to systematically understand the basic knowledge of a specific discipline and to apply engineering skills to problems and issues.		The student will be able to apply basic knowledge and engineering skills in a specific discipline to problems and issues.	Cannot apply basic knowledge and engineering skills in a specific discipline to a problem.
Achievement 2	To be able to tackle issues and problems by integrating the various knowledge of specialized engineering that has been learned so far, and to consider the impact of knowledge on society		To be able to integrate and develop the knowledge of the specialized subjects studied so far and to apply it to problems and issues.		To be able to apply the knowledge of the specialized subjects studied so far to problems and issues.	Cannot apply the knowledge of the specialized subject studied so far to problems.
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized  Field of learning : Common and basic natural sciences  Foundational academic disciplines : Engineering/Electrical and Electronic Engineering/Electronic Devices and Equipment  Relationship with Educational Objectives :This class is equivalent to "(1) Cultivate human creative talent, rich in practical abilities".  Relationship with JABEE programs :The main goals of learning / education in this class are "(A)Deepening of basic knowledge of technology, A-2", also "A-1" is involved.  Course outline :This class is designed for students who entered the major from other educational institutions for the following purposes. This course does not count as a credit toward completion of the major. (1) In order for students from other educational institutions to become enrolled in JABEE-compliant technical education programs, all credits earned prior to enrollment will be reviewed for content equivalence with courses offered by the school. At this time, credits that cannot be approved as JABEE courses will be matched to JABEE courses. (2) Courses are designed to supplement the specialized knowledge and abilities of students who have enrolled in a major that differs from their original major from other educational institutions in order to effectively advance their studies in the major course. The content of the courses will be determined in consideration of the departments and courses taken before admission.					
Style	Course method : The content of study will be determined according to the student's educational institution and past study. Since the classes are one-on-one, students' basic academic skills and level of understanding will be checked as we proceed. In order to deepen their understanding, students will be required to practice problems and write reports to acquire comprehensive skills.  Grade evaluation method : Adopt an appropriate evaluation method according to the student and content.					

Notice	Precautions on the enrollment : Students who have entered the major from other educational institutions and who fall under the categories (1) and (2) described in the course outline must take this course. This course does not count as a credit toward completion of the major. In addition, this course is a "subject requiring study outside 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 subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters.
	Foundational subjects : All subjects
	Related subjects : General subjects to be studied in the major
	Attendance advice : This subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters.

#### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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#### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st		
		2nd		
		3rd		
		4th		
		5th		
		6th		
		7th		
		8th		
	2nd Quarter	9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th		
		16th		
2nd Semester	3rd Quarter	1st	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		2nd	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		3rd	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		4th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		5th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		6th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		7th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		8th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
	4th Quarter	9th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		10th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.

		11th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		12th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		13th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		14th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		15th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.
		16th	The course will be offered in specialized areas that need to be supplemented, if necessary, after interviewing the student.	Set content-appropriate goals.

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	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

Tsuyama College		Year	2021		Course Title	Thesis Work I
Course Information						
Course Code	0005		Course Category	Specialized / Compulsory		
Class Format	Experiment		Credits	School Credit: 8		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	Year-round		Classes per Week	8		
Textbook and/or Teaching Materials						
Instructor	KOBAYASHI Toshiro,NISHIO Kimihiro,SHIMADA Takao,YABUKI Noboru,TAKETANI Hisashi,TERAMOTO Takayuki,MIYASHITA Takuya,KAWANAMI Hiromichi,KIKUCHI Yosuke,FANG Guanshen					
Course Objectives						
Learning purposes : To acquire the ability to identify engineering and technical problems and to solve them concretely, and to acquire the basic skills of an engineer.						
Course Objectives : 1. To be able to use international papers and other sources to research information on research themes and to grasp trends in advanced technologies. 2. To be able to independently develop a research plan, use hardware and software, perform specific experiments and analyses, and solve technical problems. ◎3. Students can present their research results at academic conferences outside the university. To be able to freely exchange opinions and ideas with many engineers. ◎4. Have an awareness as an engineer and be able to contribute to the local community and the world.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	To be able to conduct research in foreign language papers and to understand related technology and research trends by collecting, organizing and analyzing necessary information.	To be able to conduct research in foreign language papers, and to understand simple related technology and research trends by collecting, organizing, and analyzing necessary information.	To be able to read a given article in a foreign language. Able to research literature in Japanese.	Cannot read a given paper in a foreign language. Cannot research literature in Japanese.		
Achievement 2	To be able to formulate a research plan on one's own in accordance with the research objectives, and to be able to logically explain the hypothesis, the method of testing and evaluating the research, and the results.	To be able to formulate a research plan by oneself according to the research objectives, and to be able to test simple hypotheses and investigations.	To be able to understand the methods and results of experiments and analyses, and to understand their meanings with reference to the textbook.	Cannot understand the methods and results of experiments and analyses.		
Achievement 3	To be able to make presentations and exchange opinions at conferences in foreign languages.	To be able to make a poster presentation in a foreign language.	To be able to make presentations and exchange opinions in Japanese.	Cannot make presentations or exchange opinions in Japanese.		
Achievement 4	Understand the effects and impact of technology on society and nature, and understand the responsibility that engineers have to society. To be able to continuously improve oneself in order to grow as an engineer, and to take action to solve local problems.	Understand the influence and effect of technology on society and nature, and understand the responsibility that engineers have to society. To be able to continuously improve oneself in order to grow as an engineer.	To be able to continuously improve oneself in order to grow as an engineer.	Cannot engage in continuous self-improvement to grow as an engineer.		
Assigned Department Objectives						
Teaching Method						

Outline	General or Specialized : Specialized			
	Field of learning : Experiment and practice			
	Foundational academic disciplines : Engineering/Electrical and Electronic Engineering, Information Engineering			
	Relationship with Educational Objectives :This class is equivalent to "(4) Develop multi-disciplinary ability".			
	Relationship with JABEE programs :The main goals of learning / education in this class are "(E)Development of research skills, E-1", also "A-3, C-1, C-2, D-1, D-2, D-3, E-2, E-3, F-1, F-2, G-1, G-2, " and "H-1" is involved. In this class, students are expected to acquire the following design skills: conceptual ability, problem-setting ability, ability to recognize problems from the viewpoint of public health and safety, culture, economy, environment, ethics, etc., ability to find solutions under the constraints arising from these problems, ability to express the conceptualized ideas in diagrams, sentences, formulas, programs, etc., and ability to plan and implement continuously. In this course, students will be involved in developing the ability to find solutions under constraints arising from these problems, the ability to express their concepts in diagrams, sentences, formulas, programs, etc., and the ability to plan and implement continuously. In addition, students are required to attend a lecture on engineering ethics.			
	Course outline :This class is designed to cultivate the ability to discover problems and solve problems independently by working on distinctive research topics, and to deepen knowledge and acquire research and development skills. The results of the research will be submitted as a summary of the interim presentation, and if necessary, external presentations will be made at academic conferences.			
Style	Course method : Students are expected to carry out research activities independently under the guidance of their supervisor. In the course of their efforts, the instructors provide guidance and advice on how to conduct engineering research, write scientific and technical papers, and make presentations and discussions as appropriate.			
	Grade evaluation method : The supervisor will evaluate according to the conditions indicated in the lesson plan. In particular, the theme presentation will be evaluated as professional ability (10%), and the off-campus practical training report will be evaluated as cross-disciplinary ability (10%). In addition, the preparation for the midterm presentation (outline, preliminary draft) and the report on the lecture on engineering ethics will be evaluated as professional competence (70%), and the report on the fieldwork will be evaluated as cross-disciplinary competence (10%). In the evaluation, the level of achievement will be evaluated for each item of (A) and (C) to (H) of the educational program, and the student will pass if the total evaluation score is 60% or more. If the evaluation score does not reach the passing score, guidance will be given and re-evaluation may be conducted.			
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. And as part of the special research, majors are required to conduct practical training at private companies outside the university (off-campus training). 30 hours of off-campus training is aimed at deepening knowledge and improving research skills so as not to be separated from real-world technology.			
	Course advice : This subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters.			
	Foundational subjects : All subjects			
	Related subjects : General subjects to be studied in the major			
	Attendance advice : This subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters.			
Characteristics of Class / Division in Learning				
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class
<input type="checkbox"/> Instructor Professionally Experienced				
Course Plan				
			Theme	Goals
1st Semester	1st Quarter	1st	Course Advice This course is the most important main course in the major. Therefore, students are expected to take the initiative and do their best in all aspects of the course. In the second year, students are required to submit a "Study Plan for the Integrated Course" and "Summary of the Results of the Integrated Course" in order to obtain a "Bachelor's Degree" from the National Institution for Academic Degrees and University Evaluation. In addition to the above, it is necessary for students to submit a research plan and a summary of the results of their studies when they receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation. In addition, students are required to submit a research record at the end of the first and second semesters.	

		2nd	Students will proceed systematically with each special research theme, but the major debriefings and other events that are minimally required during this period are as follows Students will continue their research in two years after receiving this credit.	
		3rd	Time for research topic and research plan (April-May)	
		4th	Students identify an area of research to develop and find a research topic. Students deepen their understanding of the purpose and background of their research and decide on a specific topic. Students will discuss research methods and develop a research plan. The student will present this research theme and plan.	
		5th	Theme presentation (around June)	
		6th		
		7th		
		8th		
	2nd Quarter	9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th	Off-Campus Internship (Summer Break)	
		16th	The results of the study will be presented to the director of the external study program (around September).	
2nd Semester	3rd Quarter	1st	A questionnaire will be administered after the field training.	
		2nd	Debriefing session for off-campus training (around October)	
		3rd		
		4th		
		5th		
		6th		
		7th		
		8th		
	4th Quarter	9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th	Period of trial and verification of experiments and analysis (June to February)	
		16th	Preparation for interim presentation (preparation of outline and preliminary report for interim presentation, etc.)	

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	50	50	0	0	0	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	50	40	0	0	0	0	90
Cross Area Proficiency	0	10	0	0	0	0	10



Tsuyama College		Year	2021		Course Title	Advanced Electromagnetism	
Course Information							
Course Code		0007		Course Category		Specialized / Elective	
Class Format		Lecture		Credits		Academic Credit: 2	
Department		Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 1st	
Term		Second Semester		Classes per Week		2	
Textbook and/or Teaching Materials		John A.Buck, William H.Hayt.Jr “Engineering Electromagnetics” seventh Edition, McGRAW-HILL INTERNATIONAL EDITION					
Instructor		UETSUKI Tadao					
Course Objectives							
【学習目的】 電磁気学に関する物理的な現象を数式で表現でき、その解が意味する物理的な内容を理解できる能力を習得する。 【到達目標】 1. 電場・磁場におけるベクトル量の微分・積分が計算できる。 2. ガウスの法則の物理的意味を説明できる。 3. アンペール・マクスウェルの法則の物理的意味を理解し計算できる。 4. マックスウェル方程式の物理的な意味を説明でき、電磁波の波動方程式を導出することができる。 5. 授業を通して技術英語の読解力を身につける。							
Rubric							
	優		良		可		不可
評価項目1	ベクトル量の微分・積分が全ての座標系（直交・球・円柱）で行うことができる		ベクトル量の微分・積分がある特定の座標系で行うことができる		ベクトル量の基礎計算がある特定の座標系で行うことができる		ベクトル量の計算ができない
評価項目2	ガウスの定理を理解し、全ての座標系（直交・球・円柱）において発散の定理を利用し、電束・電界・電荷などを求めることができる		ガウスの定理を理解し、ある特定の座標系において発散の定理を利用し、電束・電界・電荷などを求めることができる		ガウスの定理を理解し、ある特定の座標系において、電束・電界・電荷などを求めることができる		ある特定の座標系において、電束・電界・電荷などを求めることができない
評価項目3	ガウスの定理、アンペアの周回積分の法則、ファラデーの法則に変位電流の概念を導入することでマックスウェルの方程式を導くことができ、その物理的意味を説明できる		ガウスの定理、アンペアの周回積分の法則、ファラデーの法則に変位電流の概念を導入することでマックスウェルの方程式が導けることを理解し、その物理的意味を説明できる		変位電流の概念が理解でき、マックスウェルの方程式の物理的意味を説明できる		変位電流の概念が理解できない
Assigned Department Objectives							
Teaching Method							
Outline	一般・専門の別：「専門」 学習の分野：電気・電子  基礎となる学問分野：工学／電気電子工学  専攻科学習目標との関連： 本科目は専攻科学習目標「(2)電気・電子、情報・制御に関する専門技術分野の知識を修得し、機械やシステムの設計・製作・運用に活用できる能力を身につける。」に相当する科目である。  技術者教育プログラムとの関連： 本科目が主体とする学習・教育到達目標は「(A)技術に関する基礎知識の深化、A-2：「電気・電子」，「情報・制御」に関する専門分野の知識を修得し、説明できること」だが、付随的には「(A-1)」にも関与する。  授業の概要： 本科の3年・4年で学んだ電気磁気学Ⅰ・Ⅱを空間的非対称領域に応用することを学ぶ。そのためにベクトル場の微分・積分という概念を理解し、本科で学んだ内容を数学的に理解できるように解説とディスカッションを行う。						
Style	授業の方法：1年の前期に16週、1週2単位時間で開講する。板書による説明とディスカッションとを併用した授業を進める。教科書に従って授業を進めるが、別の教材を用意して授業を進める場合もある。また、理解が深まるように、レポート課題を課す。  成績評価方法： 全体を通じて試験を1回行う。評価は試験結果(60%)とレポート結果（40%）を総合して行う。試験結果をA点（100点満点）、レポート結果をB点（40点満点）とし、最終成績T＝（1－B／100）×A＋Bとする。試験は筆記用具・電卓以外は持ち込み禁止とする。						
Notice	履修上の注意： 本科目は「授業時間外の学修を必要とする科目」である。当該授業時間と授業時間外の学修を合わせて、1単位あたり45時間の学修が必要である。授業時間外の学修については、担当教員の指示に従うこと。  履修のアドバイス： 本科で学んだ数学の微積分・ベクトル解析などを復習しておくこと。 事前に行う準備学習：教科書に沿って授業を行うので、授業予定の内容にあらかじめ目を通しておくこと。  基礎科目：基礎線形代数(2年)、微分積分Ⅱ(3)、微分方程式(3)、電気磁気学Ⅰ・Ⅱ(電気電子3、電気電子4)、電気回路Ⅰ・Ⅱ(電気電子3、電気電子4)  関連科目：特別研究（専1、2年）  受講上のアドバイス： 板書される内容を理解しながらノートに取ること。遅刻に関しては、出席を採り終わってから時間の半分までを遅刻とする。それ以上遅れると欠課とみなす。						
Characteristics of Class / Division in Learning							
<input type="checkbox"/> Active Learning		<input checked="" type="checkbox"/> Aided by ICT		<input checked="" type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced	

選択				
Course Plan				
			Theme	Goals
2nd Semester r	3rd Quarter	1st	Guidance, Vector Analysis	ベクトル解析の復習
		2nd	Coulomb's Law, Electric Field Intensity	クーロンの法則と電場, 近接作用の概念を理解する
		3rd	Electric Flux Density, Gauss's Law	電場に対するガウスの法則を理解する
		4th	Application of Gauss's Law	ガウスの法則を用いた電荷密度・電場を計算することができる
		5th	Energy and Potential, Potential Gradient	静電ポテンシャルについて理解する
		6th	Dipole, Energy Density in the Electric Field	電気双極子、静電場のエネルギーを計算することができる
		7th	Conductors and Current Density	定常電流について理解する
		8th	Nature of Dielectric Materials	誘電体の性質を理解する
	4th Quarter	9th	Capacitance and Poisson's Equations	静電容量、ポアソン方程式を説明できる
		10th	Steady Magnetic Field	静磁場の基本法則を理解する
		11th	Force on a Moving Charge	ローレンツ力を理解する
		12th	Magnetic Forces and Materials	磁性体の性質を理解する
		13th	Time-Varying Fields	時間的に変動する電磁場と変位電流の概念を説明できる
		14th	Maxwell's Equation	マクスウェル方程式から電磁波の波動方程式を導出できる
		15th	試験	
		16th	答案返却と解答解説	

Evaluation Method and Weight (%)							
	試験	発表	相互評価	課題	小テスト	その他	Total
Subtotal	60	10	0	20	10	0	100
基礎的能力	0	0	0	0	0	0	0
専門的能力	60	10	0	20	10	0	100
分野横断的能力	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Electric and Electronic Apparatus
Course Information						
Course Code		0008		Course Category	Specialized / Elective	
Class Format		Lecture		Credits	Academic Credit: 2	
Department		Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st	
Term		Second Semester		Classes per Week	2	
Textbook and/or Teaching Materials		教材：田辺茂作成「電気電子機器」（PDFで配布） 参考書：今井孝二著「パワーエレクトロニクス」（電気書院）, 牧野鉄治他著「信頼性工学」（日科技連）				
Instructor		YAGI Hideyuki				
Course Objectives						
学習目的：電気電子機器設計全般に共通する基本思想・技術動向を事例を通して理解するとともに、設計に必要な規格および信頼性の基礎を修得する。これにより、機器設計の構想力や種々の技術の統合応用能力の向上に資する。						
【到達目標】						
1. 電気電子機器設計全般に共通する基本思想と技術動向を理解する。						
2. 電気電子機器の設計に必要な信頼性の基礎概念を理解する。						
3. センサに関する技術動向を理解する。						
Rubric						
	優		良		可	
評価項目1	電気電子機器設計全般に共通する基本思想・技術動向を理解し、応用できる。		電気電子機器設計全般に共通する基本思想・技術動向を理解し、説明できる。		電気電子機器設計全般に共通する基本思想・技術動向を理解している。	
評価項目2	電気電子機器の設計に必要な信頼性の基礎概念を理解し、活用できる。		電気電子機器の設計に必要な信頼性の基礎概念を理解し、説明ができる。		電気電子機器の設計に必要な信頼性の基礎概念を理解している。	
評価項目3	センサに関する基礎概念を理解し、活用できる。		センサに関する基礎概念を理解し、説明ができる。		センサに関する基礎概念を理解している。	
Assigned Department Objectives						
Teaching Method						
Outline	一般・専門の別：専門・電気・電子					
	基礎となる学問分野：工学/電気電子工学/電力工学・電力変換・電気機器					
	専攻科学習目標との関連：本科目は専攻科学習目標「(2) 電気・電子、情報・制御に関する専門技術分野の知識を修得し、機械やシステムの設計・製作・運用に活用できる能力を身につける」に相当する科目である。					
	技術者教育プログラムとの関連：本科目が主体とする学習・教育到達目標は「(A)技術に関する基礎知識の深化、A-2：「電気・電子」、「情報・制御」に関する専門技術分野の知識を修得し、説明できること」であるが、付随的には「D-1」にも関与する。					
Style	授業の概要：電気・電子機器は、所定の仕様・性能を満足するように各機器の設計理論に基づいて諸量を求める基本設計の後、規格、信頼性、価格などを総合的に勘案して最終設計される。本講義は電力機器を事例にして、最終設計にいたるまでに検討すべき技術的要点を学習する。また、設計者が常に考慮すべき技術動向に関して、最新の事例を学習する。					
	授業の方法：教材、図書館やインターネットからの得た情報をもとに、担当学生が該当テーマを他学生に解りやすく発表する形態で授業を進める。適宜、レポート、演習問題を課す。					
Notice	成績評価方法：担当範囲の発表（40％）、他発表者への質疑と議論への参加態度（30％）、レポート・演習問題（30％）で評価する。発表は、調査の充実度、理解度、説明のわかりやすさ、発表態度、質疑応答の状況について評価する。					
	履修上の注意：本科目は「授業時間外の学修を必要とする科目」である。当該授業時間と授業時間外の学修を合わせて、1単位あたり45時間の学修が必要である。授業時間外の学修については、担当教員の指示に従うこと。					
	履修のアドバイス：事前に行う準備学習として、基礎科目となる電気機器の内容を復習しておくこと。情報工学科出身学生には電気機器の概念が理解しにくいことがあるので、電気基礎を復習しておくこと良い。					
	基礎科目：電気磁気学Ⅰ、Ⅱ(電気電子3、4年)、応用数学Ⅰ(電気電子4)、電気機器Ⅰ、Ⅱ、Ⅲ(電気電子2、3、4)、電気電子機器設計(電気電子5)					
関連科目：電力制御工学(専2年)						
受講上のアドバイス：講義を聴くという受け身の姿勢で授業に臨むのではなく、自分の準備の成果を他学生に解りやすく伝える、教師や他の学生と意見を交換する、他発表者に対して批判的観点から質問やコメントを出す場として授業に臨んで欲しい。授業開始25分以内であれば遅刻とし、遅刻3回で1欠課とする。						
Characteristics of Class / Division in Learning						
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced
選択						
Course Plan						
			Theme	Goals		
2nd Semester	3rd Quarter	1st	ガイダンス、電気機器の概要	それぞれ以下の内容について理解する		
		2nd	電気機器設計の基礎原理	電気機器の性能・大きさを決める要因・合理的設計のための配慮事項		
		3rd	変圧器の設計	変圧器の設計思想と設計事例		
		4th	高電圧サイリスタ変換器の最適設計	電気機器におけるトレードオフと最適化事例		

		5th	電気・電子機器の信頼性 [故障分布と信頼性に関する理論]	信頼性に関する各種用語と故障率・信頼度の計算方法
		6th	電気・電子機器の信頼性 [信頼性解析手法]	FTAと故障確率計算方法
		7th	エネルギーとセンサ	燃料電池，海上風力発電の事例
		8th	健康・長寿とセンサ	ロボット介護，健康づくり，医療とセンサに関する事例
	4th Quarter	9th	安心・安全とセンサ	交通事故防止事例，自然災害への対応事例
		10th	ロボットとセンサ	A I アシスタント，宅配ドローンなどの事例
		11th	U I とセンサ	身振り手振りを理解する機械，見えないものを見せる機械などの事例
		12th	自動運転とセンサ	無人隊列走行，自動誘導・駐車に関する事例
		13th	スマート工場とセンサ	生産ラインでの異常検知，保守業務支援に関する事例
		14th	スマート農業とセンサ	営農，自動走行トラクター，農業用アシストスーツなどに関する事例
		15th	海洋開発とセンサ	海底資源開発，水産養殖に関する事例
		16th		

#### Evaluation Method and Weight (%)

	試験	発表	相互評価	態度	課題	Total
Subtotal	0	40	0	30	30	100
基礎的能力	0	0	0	0	0	0
専門的能力	0	40	0	30	30	100
分野横断的能力	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Information Science
Course Information						
Course Code	0011		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	Second Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Physics Simulation with HTML5					
Instructor	TERAMOTO Takayuki					
Course Objectives						
Learning purposes : Students will systematically learn the basics of physical simulation, and learn about the basic concepts behind it, visualization technology, HTML5, and its operation and design methods. Based on the lecture, each student will actually study and design the system. In addition, students will learn specific application techniques through actual computer exercises.						
Course Objectives : 1. To be able to systematically understand and calculate the basics of physical simulation. 2. To be able to use HTML5 as a tool for scientific communication. 3. To be able to solve problems by using appropriate techniques and tools.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	Understand the fundamentals of physical simulation systematically and be able to explain and apply them to others.	Have some understanding of the basics of physical simulation and be prepared to apply it.	Understand at least the basics of physical simulation and can solve basic problems.	Does not meet the requirements of the left.		
Achievement 2	HTML5 can be applied as a tool for science communication.	Understand and to some extent use HTML5 as a tool for science communication.	Understand and minimally use HTML5 as a science communication tool.	Does not meet the requirements of the left.		
Achievement 3	Be able to solve problems in an exemplary manner using appropriate techniques, tools, etc. for a given problem.	Be able to use appropriate technology, tools, etc. to solve the problem to some extent for a given issue.	Be able to use appropriate technology, tools, etc. to solve the problem at a minimum required for a given problem.	Does not meet the requirements of the left.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized  Field of learning : Lecture  Foundational academic disciplines : Information science, information engineering and related fields/computational science related  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 : With the development of computer and communication technologies, computers have been incorporated in various fields, and IT (information technology) of systems has become indispensable. In this lecture, we aim to acquire basic information technology, focusing on physical simulation technology for describing real-world information in a computer, which is an important technology for constructing information systems.					
Style	Course method :The class will be based on students' preliminary exercises and their presentations. In this course, students are expected to acquire all the knowledge necessary for information processing. Students are required to write reports to deepen their understanding. In addition, presentations and presentations will be given so that students can 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 : Please try to make use of it in your own research activities. As a preparatory study, please refer to "Introduction" in the textbook to understand the outline and download and install the related software.
	Foundational subjects : Courses and exercises related to information processing in each department
	Related subjects : Engineering Ethics (1st year), Seminar for Basic Information Processing I (1st year), Seminar for Basic Information Processing II (1st year), Seminar for Applied Information Processing I (1st year), Seminar for Applied Information Processing II (1st year), Advanced Numerical Analysis (2nd 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.

### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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### Course Plan

			Theme	Goals
2nd Semester	3rd Quarter	1st	General explanation and exchange of information with Basic Information Processing Exercise I [Guidance].	Understanding the Overview
		2nd	Registration in the exercise system and setting of personal information and exercise environment [Setting].	Checking the exercise environment
		3rd	Introduction to 3D Computer Graphics (3D Objects)	Understand 3D objects and be able to explain them through exercises
		4th	Introduction to 3D Computer Graphics (Primitive Objects)	Understand primitive objects and be able to explain them through exercises.
		5th	Introduction to 3D Computer Graphics (Shadows and Light Sources)	Understand shadows and light sources and be able to explain them through exercises.
		6th	Introduction to 2D graphic depiction (basic form of jqPlot)	Understand the basic form of jqPlot and be able to explain it through exercises.
		7th	Introduction to 2D graphic depiction (jqPlot options)	Understand the options of jqPlot and be able to explain them through exercises.
		8th	Introduction to 2D graphic depiction (jqPlot options)	Understand the options of jqPlot and be able to explain them through exercises.
	4th Quarter	9th	Physical simulation (basic concept)	Understand the basic concepts and be able to explain them through exercises. Physical simulation (basic concept)
		10th	Physical simulation (objects in 3-D space)	Understand objects in three-dimensional space and be able to explain them through exercises.
		11th	Physical simulation (algorithm for constant velocity motion)	Understand the algorithm of constant velocity motion and be able to explain it through exercises.
		12th	Physical simulation (algorithms for accelerated motion)	Understand the algorithm of accelerated motion and be able to explain it through exercises. Physical simulation (algorithms for accelerated motion)
		13th	Physical simulation (high-precision computational algorithms)	Understand high-precision computational algorithms and be able to explain them through exercises.
		14th	Physical simulation (Newton's equations of motion) Understand high-precision computational algorithms and be able to explain them through exercises.	Understand Newton's equations of motion and be able to explain them through exercises.
		15th		
		16th		

### Evaluation Method and Weight (%)

	Examination	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
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Tsuyama College		Year	2021	Course Title	Basic Practice in Information Processing I
Course Information					
Course Code	0012		Course Category	Specialized / Elective	
Class Format	Lecture		Credits	School Credit: 1	
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st	
Term	First Semester		Classes per Week	2	
Textbook and/or Teaching Materials					
Instructor	TAKETANI Hisashi				
Course Objectives					
<p>Learning purposes : Improvement of the programming skill which can be utilized for a study and improvement of the computer literacy ability by which a Web page is making.</p> <p>Course Objectives :  1. The student can understand information ethics and utilize information machinery effectively.  2. The student can understand mechanism of a Web page and make each Web page.  3. It's possible to understand and utilize basic knowledge about the information field which can fit each field.</p>					
Rubric					
	Excellent	Good	Acceptable	Not acceptable	
Achievement 1	The student can utilize information machinery effectively based on right information ethics.	The student can understand information ethics and utilize information machinery.	A student can utilize information machinery.	The student dose not reach the following.	
Achievement 2	The student can explain mechanism of a Web page, and it can be utilized effectively.	The student makes and exhibits a Web page.	The student makes a Web page.	The student dose not reach the following.	
Achievement 3	The student can utilize knowledge about the information field which can fit each field.	The student can explain basic knowledge about the information field which can fit each field specifically.	The student can explain the outline of basic knowledge about the information field which can fit each field.	The student dose not reach the following.	
Assigned Department Objectives					
Teaching Method					
Outline	<p>General or Specialized : Specialized Field of learning : Information, measurement and control Foundational academic disciplines : Overall territory/ informatics/ computer system network</p> <p>Relationship with Educational Objectives : This class is equivalent to "(2) Knowledge of specialized field technology is acquired and the ability which can be utilized for a design of a machine and a system, a policy and practical use is learned".</p> <p>Relationship with JABEE programs : The main goal of learning / education in this class is "(C) and (C-1)", also "(A-1) and (C-2)" is involved.</p> <p>Course outline : Today called information-technology age and improvement of the computer literacy ability as the everyday tool are e-mailed to the purpose, and the rule when using it for various operation method and information ethics, is learned in order to utilize a computer and a network such as utilization of information, information sending and a programming on the internet.</p>				
Style	<p>Course method : The student maneuvers by a PC in the application seminar room in an overall information center mainly.</p> <p>Grade evaluation method : The understanding and the accomplishment which face each problem (report and work), 80% and announcement 20%</p>				
Notice	<p>Precautions on the enrollment : This class is "subject which requires learning in schooltime outside". Learning for 45 hours is needed per a semester hour together with learning outside the schooltime concerned and the schooltime. Follow directions of a teacher in charge about learning in schooltime outside.</p> <p>Course advice :  1. Review the contents of a subject and a practice related to information processing technology of each department as the learning of preparations performed beforehand.  2. It's possible to take one of Basic practice II in Information processing or Applied practice II in information processing in the latter period.</p> <p>Foundational subjects : Subject and practice related to information processing technology of each department</p> <p>Attendance advice : When it's within class starting for 20 minutes, it's made lateness and 1 deficit is done with the department by 3 times of lateness.</p>				
Characteristics of Class / Division in Learning					
<input type="checkbox"/> Active Learning		<input checked="" type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class	
				<input type="checkbox"/> Instructor Professionally Experienced	
Course Plan					



			Theme	Goals
1st Semester	1st Quarter	1st	Guidance and system configuration in an overall information center.	Understanding of a system configuration in an overall information center.
		2nd	Notice of network use and use of an e-mail	Notice of network use and use of an e-mail
		3rd	Investigation about the problem for using the internet	Investigation about the problem for using the internet
		4th	Investigation report and discussion	Investigation report and discussion
		5th	About the kanji used on the computer.	About the kanji used on the computer.
		6th	Basis of a programming (1)	Basis of a programming
		7th	Basis of a programming (2)	Basis of a programming
		8th	Basis of a programming (3)	Basis of a programming
	2nd Quarter	9th	Basis of a programming (4)	Basis of a programming
		10th	Programming problem (1)	Programming problem
		11th	Programming problem (2)	Programming problem
		12th	About markup language for Web page.	About markup language for Web page.
		13th	Making of an easy Web page	Making of an easy Web page
		14th	Making of a Web page about each study (1)	Making of a Web page about each study
		15th	Making of a Web page about each study (2)	Making of a Web page about each study
		16th	Revival of a home page with a movement, a CGI, sound and an animation	Revival of a home page with a movement, a CGI, sound and an animation

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	0	20	0	0	80	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	0	20	0	0	80	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Practice in Information Processing I
Course Information						
Course Code	0013		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	School Credit: 1		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	First Semester		Classes per Week	2		
Textbook and/or Teaching Materials						
Instructor	TERAMOTO Takayuki					
Course Objectives						
Learning purposes : To acquire information processing skills through exercises and to deepen the knowledge and skills necessary to judge and evaluate information.						
Course Objectives : 1. To be able to create the necessary documents for each research topic. 2. To be able to use spreadsheet software to organize data and create effective graphs for their own research topics. 3. To be able to solve problems for given tasks.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	To be able to prepare documents at the level to be submitted to academic conferences on their own research topics.	To be able to prepare documents in accordance with the format of academic conferences on their own research topics.	To be able to prepare a reformatted document on your research topic.	Cannot create a document on his/her own research topic that meets the purpose.		
Achievement 2	Be able to use spreadsheet software to organize data and create effective graphs on their own research topics at a level that can be used in papers.	To be able to use spreadsheet software to organize general data and create effective graphs for their own research topics.	To be able to use spreadsheet software to organize data and create effective graphs for their own research topics to some extent.	Cannot organize data and create effective graphs using spreadsheet software in relation to their own research theme		
Achievement 3	To be able to solve problems by fully utilizing software for a given task.	To be able to use software to solve a given problem.	To be able to propose a solution to a given problem by using software.	Cannot solve a problem or propose a solution to a given problem.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized  Field of learning : Experiment and practice  Foundational academic disciplines : Information science, information engineering and related fields/ Statistical science related, computer systems related, software related  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 : Information retrieval, organization, management and integration, presentation, and information dissemination using information technology are the literacy skills of modern engineers. In this course, students who have already mastered the basic literacy skills are given exercises to acquire more advanced application skills, customization skills, and expression skills. Mastery of information technology					
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, research information on the papers of the conference to which you belong. In addition, review how to use the seminar room.
	Foundational subjects : Courses and exercises related to information processing in each department
	Related subjects : Engineering Ethics (1st year), Information Processing Application Exercise II (1st year), Information Processing Basic Exercise II (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.

### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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### E l e c t i v e   S u b j e c t s

### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	General explanation and exchange of information with Basic Information Processing Exercise I [Guidance].	Understanding the Overview
		2nd	Registration in the exercise system and setting of personal information and exercise environment [Setting].	Able to set up the exercise environment and start the exercise.
		3rd	Exercises to master basic document creation techniques (formatting, document style unification).	Understand basic document creation techniques (formatting, document style unification) and confirm the contents through exercises.
		4th	Exercises to master the basic techniques of document creation (cross-referencing).	Understand the basic techniques of document creation (cross-referencing) and confirm their content through exercises
		5th	Exercises to master basic document creation techniques (image processing, etc.).	Understand basic document creation techniques (e.g., image processing) and confirm their contents through exercises.
		6th	Workflow creation exercise.	Understand the creation of a workflow and confirm its contents through exercises.
		7th	Exercises with free software, including creating PDF files.	Understand free software, such as PDF file creation, and review its contents through exercises. Exercises with free software, including creating PDF files.
		8th	Exercises in basic spreadsheet software techniques and macro language (1)	To understand the basic skills of spreadsheet software and exercise 1 macro language, and to confirm the contents through exercises.
	2nd Quarter	9th	Exercises in basic spreadsheet software techniques and macro language (2)	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 spreadsheet software applications (1)	Understand spreadsheet application example exercises and confirm their content through practice.(1)
		11th	Exercises in spreadsheet software applications (2)	Understand spreadsheet application example exercises and confirm their content through practice.(2)
		12th	Exercises in spreadsheet software applications (3)	Understand spreadsheet application example exercises and confirm their content through practice.(3)
		13th	Preparation and presentation of a comprehensive assignment (1)	Comprehensive presentation to confirm understanding and mutual evaluation.(1)
		14th	Preparation and presentation of a comprehensive assignment (2)	Comprehensive presentation to confirm understanding and mutual evaluation.(2)
		15th		
		16th		

### Evaluation Method and Weight (%)

	Examination	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
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Tsuyama College		Year	2021	Course Title	Basic Practice in Information Processing II
Course Information					
Course Code	0014		Course Category	Specialized / Elective	
Class Format	Lecture		Credits	School Credit: 1	
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st	
Term	Second Semester		Classes per Week	2	
Textbook and/or Teaching Materials					
Instructor	TAKETANI Hisashi				
Course Objectives					
<p>Learning purposes :</p> <p>A basis of a system of UNIX and the command and a shell script are acquired.</p> <p>Beginner's course acquisition of Visio (figure making software with the high function)</p> <p>Course Objectives :</p> <p>1. The student can acquire a basis of UNIX and utilize programming environment for a problem solution.</p> <p>2. It's possible to utilize numerical formula processing software and physical simulation software.</p> <p>3. An electric circuit and a network figure can be made in Visio.</p>					
Rubric					
	Excellent	Good	Acceptable	Not acceptable	
Achievement 1	The UNIX environment can be put to good use in a problem solution.	The student can acquire a basis of UNIX and utilize programming environment.	The student can use programming environment on UNIX.	The student dose not reach the following.	
Achievement 2	The 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 dose not reach the following.	
Achievement 3	The 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 basic electric circuit and network figure using VISIO.	The student dose not reach the following.	
Assigned Department Objectives					
Teaching Method					
Outline	<p>General or Specialized : Specialized</p> <p>Field of learning : Information, measurement and control</p> <p>Foundational academic disciplines : Overall territory/ informatics/ computer system network</p> <p>Relationship with Educational Objectives :</p> <p>This class is equivalent to "(2) Knowledge of specialized field technology is acquired and the ability which can be utilized for a design of a machine and a system, a policy and practical use is learned".</p> <p>Relationship with JABEE programs :</p> <p>The main goal of learning / education in this class is "(C) and (C-1)", also "(A-1) and (C-2)"is involved.</p> <p>Course outline :</p> <p>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.</p>				
Style	<p>Course method :</p> <p>The student maneuvers by a PC in the application seminar room in an overall information center mainly.</p> <p>Grade evaluation method :</p> <p>The understanding and the accomplishment which face each problem (report and work), 80% and announcement 20%</p>				
Notice	<p>Precautions on the enrollment :</p> <p>This class is "subject which requires learning in schooltime outside". Learning for 45 hours is needed per a semester hour together with learning outside the schooltime concerned and the schooltime. Follow directions of a teacher in charge about learning in schooltime outside.</p> <p>Course advice :</p> <p>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.</p> <p>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.</p> <p>Foundational subjects :</p> <p>Basic Practice I in Information Processing and or Applied practice I in Information Processing.</p> <p>Attendance advice :</p> <p>When it's within class starting for 20 minutes, it's made lateness and 1 deficit is done with the department by 3 times of lateness.</p>				
Characteristics of Class / Division in Learning					
<input type="checkbox"/> Active Learning		<input checked="" type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class	
				<input type="checkbox"/> Instructor Professionally Experienced	
Course Plan					

			Theme	Goals
2nd Semester	3rd Quarter	1st	Guidance	
		2nd	Numerical formula processing soft "maxima"	Numerical formula processing soft "maxima"
		3rd	Numerical formula processing by "maxima" Equation, simultaneous equation, procession and differential and integral calculus	Numerical formula processing by "maxima" Equation, simultaneous equation, procession and differential and integral calculus
		4th	Physical simulation by "Phun" (1)	Physical simulation by "Phun"
		5th	Physical simulation by "Phun" (2)	Physical simulation by "Phun"
		6th	Presentation of Physical simulation object	Presentation of Physical simulation object
		7th	CentoOS guide	CentoOS guide
		8th	Environmental improvement on CentoOS	Environmental improvement on CentoOS
	4th Quarter	9th	C programming on CentoOS (1)	C programming on CentoOS
		10th	C programming on CentoOS (2)	C programming on CentoOS
		11th	C programming on CentoOS (3)	C programming on CentoOS
		12th	Basic knowledge about Unix, job control and shell	Basic knowledge about Unix, job control and shell
		13th	File system and behavior of all kinds' command	File system and behavior of all kinds' command
		14th	Shell programming on CentoOS	Shell programming on CentoOS
		15th	File operation by shell	File operation by shell
		16th	Basic operation of Visio	Basic operation of Visio

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	0	20	0	0	80	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	0	20	0	0	80	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Practice in Information Processing II	
Course Information							
Course Code	0015		Course Category		Specialized / Elective		
Class Format	Lecture		Credits		School Credit: 1		
Department	Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 1st		
Term	Second Semester		Classes per Week		2		
Textbook and/or Teaching Materials							
Instructor	TERAMOTO Takayuki						
Course Objectives							
Learning purposes : To acquire information processing skills through exercises and to deepen the knowledge and skills necessary to judge and evaluate information.							
Course Objectives : 1. Understand the composition system and be able to create the necessary documents. 2. To be able to create a manual for using the system and to explain how to use it to others. 3. To be able to create appropriate schematics, flowcharts, and Gantt charts for use in papers and other documents.							
Rubric							
	Excellent		Good		Acceptable		Not acceptable
Achievement 1	Understand the typesetting system and be able to create documents at a level that can be submitted to conferences.		Understand the typesetting system and be able to create general documents.		Understand the typesetting system, and be able to create necessary documents to some extent.		Cannot create documents that meet the purpose.
Achievement 2	To be able to write a manual for using the TeX system, and to be able to explain how to use it to others.		To be able to write a manual for using the TeX system and to be able to explain to others how to use it.		To be able to create a manual for using the TeX system.		Cannot write a manual for using the TeX system.
Achievement 3	To be able to create circuit diagrams, flowcharts, Gantt charts, etc. appropriately for given tasks.		To be able to create circuit diagrams, flowcharts, Gantt charts, etc. to some extent for given tasks.		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 Department Objectives							
Teaching Method							
Outline	General or Specialized : Specialized						
	Field of learning : Experiment and practice						
	Foundational academic disciplines : Information science, information engineering and related fields/ Statistical science related, computer systems related, software related						
	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.						
Style	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.						
	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.						
Notice	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%.						
	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.						

Characteristics of Class / Division in Learning							
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced		
E l e c t i v e   S u b j e c t s							
Course Plan							
			Theme	Goals			
2nd Semester r	3rd Quarter	1st	Overview [Guidance].	Understanding the Overview			
		2nd	Overview of the TeX system, construction of the learning environment and exercises.(1)	Understand the TeX system and be able to set up an exercise environment.(1)			
		3rd	Overview of the TeX system, construction of the learning environment and exercises.(2)	Understand the TeX system and be able to set up an exercise environment.(2)			
		4th	Learning about the history and technology of plate making systems	Understand the history and technology of typographical systems and be able to confirm the contents through exercises.			
		5th	Exercises on handling metafonts, PostScript fonts and image files (EPS, etc.)	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 writing exercise (1)	Understand the jLaTeX manual and be able to check the contents through exercises.(1)			
		7th	jLaTeX manual writing exercise (2)	Understand the jLaTeX manual and be able to check the contents through exercises.(2)			
		8th	jLaTeX manual writing exercise (3)	Understand the jLaTeX manual and be able to check the contents through exercises.(3)			
	4th Quarter	9th	jLaTeX manual writing exercise (4)	Understand the jLaTeX manual and be able to check the contents through exercises.(4)			
		10th	Create flowcharts and various design drawings using Visio(1)	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 and various design drawings using Visio(2)	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 lectures on various design drawings using Visio	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 design drawings using Visio(2)	Understand and be able to explain various design drawings in Visio to others(2)			
		15th					
		16th	Summarize the exercise and conduct a peer evaluation	Summarize the exercise and conduct a peer evaluation			
Evaluation Method and Weight (%)							
	Examination	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 College		Year	2021		Course Title	Computer System Engineering
Course Information						
Course Code	0016		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	Second Semester		Classes per Week	2		
Textbook and/or Teaching Materials						
Instructor	MIYASHITA Takuya					
Course Objectives						
Learning purposes : Understand the structure of a computer and the functions of the components actually used, and understand the main technologies used in it. In addition, be able to explain the correspondence between logical formulas and logic circuits, and be able to design logic circuits.						
Course Objectives : 1. Explain the role of each of the five major devices and the flow of data between them. 2. A simple combination logic circuit and a simple sequential circuit can be designed. 3. Explain the position of the operating system in the computer system. 4. Explain the role and mechanism of the compiler.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	Explain the roles of each of the five major devices, including peripheral devices, and the flow of data between them.	Explain the role of each of the five major devices and the flow of data between them.	A brief explanation can be given for each of the five major devices.	It has not reached the left.		
Achievement 2	It is possible to design applied combination logic circuits and simple sequential circuits.	A simple combination logic circuit and a simple sequential circuit can be designed.	Explain the operation of a given simple combinational circuit.	It has not reached the left.		
Achievement 3	Explain concretely the functions and roles of the operating system in computer systems.	Explain the position of the operating system.	Explain the operating system, albeit with minor mistakes.	It has not reached the left.		
Achievement 4	Explain programming using a compiler in detail.	Be able to give an overview of the role and mechanism of the compiler.	Explain the differences between compilers, interpreters, and assemblers.	It has not reached the left.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized  Field of learning : Information system, control  Foundational academic disciplines : Informatics / Information Science, Information Engineering and Related Fields / Computer Systems Related.  Relationship with Educational Objectives : This class is equivalent to "(2) Acquire knowledge in specialized technical fields related to electricity / electronics and information / control, and acquire the ability to utilize it for the design, manufacture, and operation of machines and systems".  Relationship with JABEE programs : The main goal of learning / education in this class are "(A) , A-2:  Course outline : Lectures will be given on basic technology related to software and basic knowledge on hardware such as logical formulas and logic circuits.					
Style	Course method : Classes will be conducted using textbooks, centered on board writing. In addition, related technologies will be supplementarily explained as necessary. Also, impose exercises to deepen understanding.  Grade evaluation method : Equally evaluate the results of the two regular exams (80%, mid-term exams: final exams = 1:1). ・ Each exam does not allow notebooks to be brought in. ・ For those who have less than 60 points in each Regular Exams, the points may be changed if their understanding can be confirmed by supplementary lessons and re-exams. However, the evaluation after the change shall not exceed 60 points. Evaluate by exercises and reports assignment (20%).					

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 : There are many contents related to fields other than your own specialty, but you should study with interest in order to broaden your horizons as an engineer. Make sure to check the contents of the basic subjects listed as preparatory learning in advance.
	Foundational subjects : Electronic Information Circuit (3rd year of electrical and electronic), Special Theory of Electronic Information Circuit (5th year of electrical and electronic), Introduction of Computer (3rd year of information), Digital Engineering I (2nd year of information), Digital Engineering II (3rd year of information), etc.
	Related subjects : Information System Exercise I, II (2nd year), Special Lecture on Numerical Analysis (2nd year).
	Attendance advice : The content of the study is something that has already been learned in this department, but I would like you to think deeply and learn the essence rather than superficial shallow learning and understanding. Late arrivals are handled in 1/4 (= 0.5 hour) of class time (= 2 hour).

### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input checked="" type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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### E l e c t i v e s u b j e c t s

### Course Plan

			Theme	Goals
2nd Semester	3rd Quarter	1st	Guidance, computer overview Learning content outside class hours: Report assignments are assigned to each learning content as appropriate. The report must be submitted by the specified date.	Understand the purpose of education, learning content, evaluation method, etc. Also, understand the outline of computers.
		2nd	Data representation on a computer	Understand how to convert and handle binary numbers.
		3rd	Boolean algebra and digital circuits (1)	Understand simple combination logic circuits.
		4th	Boolean algebra and digital circuits (2)	Understand simple combination logic circuits.
		5th	Binary arithmetic and arithmetic circuits	Understand binary adders and subtractors.
		6th	Microprocessor architecture	Understand the instruction set of microprocessors.
		7th	Microprocessor instructions and addressing	Understand various addressing.
		8th	Memory	Understand the types and characteristics of memory.
	4th Quarter	9th	2nd semester mid-term exam	Check what you have learned so far
		10th	Interface	Understand the connection relationship between computers and peripheral devices.
		11th	Peripherals	Understand peripheral devices based on specific examples.
		12th	Software	Understand the structure and features of software.
		13th	Network	Understand the outline of the network based on the IP address and so on.
		14th	Computer System	Analytical understanding of the relationship between failure rate and system reliability.
		15th	(2nd semester final exam)	Check what you have learned so far
		16th	Return and commentary of exam answers	Check and repair areas where learning is insufficient

### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	80	0	0	0	20	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	80	0	0	0	20	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Special Lecture on Information Systems
Course Information						
Course Code	0017		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	First Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Teaching Materials: books, online resources and so on that the students find					
Instructor	ONISHI Atsushi					
Course Objectives						
Learning purposes : Improving skill to utilize information and the information systems appropriately and safely by understanding the structure of the familiar information systems.						
Course objectives : 1. To investigate the given problem and to explain findings clearly 2. To understand what another students explained and to utilize them appropriately 3. To explain the picture of the information system what the students use and to utilize it appropriately						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	The student can investigate the given problem without an error, and he can announce findings at the time when it was appointed.	The student can investigate the given problem with help of another students, and he can finally announce findings enough.	The student can conduct the minimum investigation about the given problem and explain findings.	The student can't conduct the minimum investigation about the given problem or he can't announce the minimum.		
Achievement 2	The student attend the announcement of other students and he can ask appropriate questions and he can utilize their announcement for own investigation.	The student attend the announcement of other students and he can utilize their announcement for own investigation.	The student can do the announcement that is not in conflict with announcement of other students.	The student can't do the announcement that is not in conflict with announcement of other students.		
Achievement 3	The student can investigate the designated information system exhaustively.	The student can investigate the designated information system enough.	The student can conduct the minimum investigation about the designated information system.	The student can't investigate the minimum about the designated information system.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized Field of learning : Information·Control, Information System·Programming·Network Foundational academic disciplines : Information Science, Computer Engineering and related fields / Computer system-related, Information network-related  Relationship with Educational Objectives : This class is equivalent to "(2) Acquire the specialized technical knowledge about electronics, information·control and acquire the skill to utilize these knowledge to design, manufacture and application of machinery or some system".  Relationship with JABEE programs : The main goal of learning / education in this class are "(C), C-1", also "A-2", "C-2" and "F-1" are involved.  Course outline : The information system is aggregate of a lot of techniques and it is related to the scene of every learning. This class treats a technique to build such a complicated information system appropriately and a basic way of thinking to utilize a information system.					
Style	Course method : The students don't hear the lecture that the teacher performs but investigate the designated problems about some information system based on own leaning and announce findings. And the students deepen understanding by summarizing these findings in a report. The reports are shared among the students. The examples of the problem are as follows.  The component of the PC and expansion method of PC function The peripheral device of the PC and standard for the connection The duty of the operating system and the characteristic of each operating system The trends of VR, AR, MR system The personal identification method The trends of the cloud service The trends of the computer security  Grade evaluation method : Aqressiveness for the investigation and the announcement(50%) + Reports(50%)					

Notice	<p>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.</p> <p>Course advice : As a preparatory study, the students are required to review the learning about computers that the students have gotten previously. And the students should pay attention to news about information-oriented society. The student should teach own charge for other students with every effort .</p> <p>Fundational subjects : Information Literacy(1st year), Introduction to Computers(3rd), Computer System(5th) Related subjects : Computer System Engineering(Advanced Course 1st)</p> <p>Attendance advice : When the student is absent, he should share the missing contents with other students, because the student is required to hear the all announcement of other students. If absence is over four hours, the students are assigned to the examination to check whether they share the missing contents. If the examination is failure, all report will not be accepted. If the student is late for the role call, he will be treated as a latecomer. The teacher considers that this student was absent once when late twice. In this class, it is required for every communication to use the computer network. The student should contact the teacher if he has any question. The students should be always conscious of connection with own information system while hearing the class.</p>
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### Characteristics of Class / Division in Learning

<input checked="" type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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### E l e c t i v e s u b j e c t s

### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance, Investigation and Report generation	Selection of the own problem
		2nd	Explanation of the investigation contents and Q&A, Investigation and Report generation	Decision of own problem and the investigation plan
		3rd	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 1st announcement of the precedent group
		4th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 1st announcement of the rear group
		5th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 2nd announcement of the precedent group
		6th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 2nd announcement of the rear group
		7th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 3rd announcement of the precedent group
		8th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 3rd announcement of the rear group
	2nd Quarter	9th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 4th announcement of the precedent group
		10th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 4th announcement of the rear group
		11th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 5th announcement of the precedent group
		12th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the 5th announcement of the rear group
		13th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the final announcement of the precedent group
		14th	Explanation of the investigation contents and Q&A, Investigation and Report generation	Completion of the final announcement of the rear group
		15th	Explanation of the investigation contents and Q&A, Investigation and Final report generation	Confirmation of the design about the final report
		16th	Summary, supplementary, commentary	Completion of the collection of the reports, results confirmation

### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Report	Other	Total
Subtotal	0	50	0	0	50	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	0	25	0	0	25	0	50
Cross Area Proficiency	0	25	0	0	25	0	50

Tsuyama College		Year	2021		Course Title	Linear Algebra
Course Information						
Course Code	0018		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		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 will learn the theory of n-dimensional number vector space. In particular, learn new concepts such as Jordan normal form, quaternions, and groups.						
Acquire the basic idea of the theory of n-dimensional number vector space.						
1. 1. Understand n-dimensional number vector space.						
2. Understand the concept of inner product and distance.						
3. Geometrically explain the difference in space deformation depending on the type of matrix.						
4. Explain the representation matrix and the change of basis.						
5. Understand the concept of Jordan normal form.						
6. Understand quaternions and the rotation of space.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	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	A good understanding of inner product and distance.	About 70% have an understanding of inner product and distance.	About 60% have an understanding of inner product and distance.	Don't understand the inner product and distance.		
Achievement 3	It is possible to explain the difference in the deformation of space depending on the type of matrix geometrically and precisely.	Geometrically, about 70% of the differences in spatial deformation depending on the type of matrix can be explained.	Geometrically, about 60% of the differences in spatial deformation depending on the type of matrix can be explained.	It is not possible to geometrically explain the difference in the deformation of space depending on the type of matrix.		
Achievement 4	Explain the representation matrix and the basis basis precisely.	Explain about 70% of representation matrices and basis transformations.	Explain about 60% of representation matrices and basis transformations.	Can't explain the representation matrix and the change of basis.		
Achievement 5	The idea of Jordan normal form is well understood.	About 70% of the Jordan normal form is known.	About 60% of the Jordan normal form is known.	Don't understand the idea of Jordan normal form.		
Achievement 6	A good understanding of quaternions and the rotation of space.	Understand about 70% of quaternions and the rotation of space.	Understand about 60% of quaternions and the rotation of space.	Don't understand the quaternion and the rotation of space.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized					
	Field of learning : Natural science Common / Basic					
	Required, Elective: Elective must complete subjects					
	Foundational academic disciplines : Mathematical science / Mathematics / Analysis basics					
	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".					
Style	Course method : Focus on understanding the content on the board, and assign as many exercises as possible to deepen understanding.					
	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.					

Notice	Precautions on enrollment : Students must take this class (no more than one-third of the required number of class hours missed) in order to complete the academic year.
	Course advice: This course teaches the basic ideas of probability and statistical methods required for engineering, so this course is of great importance.
	Foundational subjects : Fundamental Mathematics (1st year), Fundamental Linear Algebra (2nd), Differential and Integral I (2nd), Differential and Integral II (3rd), Differential Equations (3rd)
	Related subjects: Mathematics, physics, and other subjects after the third year
Attendance advice : If you are late after, you may be treated as absent after a warning.	

### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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### E l e c t i v e s u b j e c t s

### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance	
		2nd	n-dimensional space number vector space	Understanding the definition of n-dimensional space number vector space
		3rd	Dot product and Gram-Schmidt orthogonalization method	Understanding the definition of inner product and understanding Gram-Schmidt's orthogonalization method
		4th	Transformation of space by matrix Part 1	Understanding the deformation of space by a matrix Part 1
		5th	Transformation of space by matrix Part 2	Understanding the deformation of space by a matrix Part 2
		6th	Relationship between representation matrix and coordinates	Understanding the relationship between the representation matrix and coordinates
		7th	Dimension theorem	Understanding the dimensional theorem
		8th	Mid-term exam	Confirm basic matters
	2nd Quarter	9th	Jordan normal form part 1	Understanding Jordan Normal Form Part 1
		10th	Jordan normal form part 2	Understanding Jordan Normal Form Part 2
		11th	Jordan decomposition 1 part 1	Understanding of Jordan Decomposition 1 Part 1
		12th	Jordan decomposition 1 part 2	Understanding of Jordan Decomposition 1 Part 2
		13th	Complex numbers and quaternions	Understanding complex numbers and quaternions
		14th	Quaternion and rotation	Understanding quaternions and rotations
		15th	Last term exam	Confirm basic matters
		16th	Return of answer and explanation of answer	

### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	50	0	0	50	0	0	100
Basic Proficiency	50	0	0	50	0	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	Environmental Science Theory
Course Information						
Course Code	0019		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	Second Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Textbook: Barron's "Environmental Science, 8th edition", print materials will be distributed during class. Reference book: Kikuo Miyokawa "Basics of Environmental Science Revised Edition" (Baifukan)					
Instructor	KOBAYASHI Toshiro					
Course Objectives						
Learning purposes : The goal is to Understand the current situation and countermeasures for global environmental problems. In addition, through exercises and reports, students will develop the ability to comprehensively apply various academic fields and techniques, the ability to set problems through compound-eye thinking, and the ability to recognize problems from the perspectives of public health and safety, ethics, and so on.						
Course Objectives : 1. Understand and explain the Earth's energy resources (fossil fuels, nuclear energies, renewable energies, etc.) 2. Understand and explain global environmental problems (air pollution, acid rain, global warming, etc.) 3. Understand and explain environmental management (ecosystem destruction) 4. Can calculate CO2 emissions, which is an indicator of environmental problems						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	• Understand the energy resources of the earth and compare and explain their merits and demerits (fossil fuels, nuclear energy, renewable energy, etc.)	• Understand and explain the energy resources of the earth (fossil fuels, nuclear energy, renewable energy, etc.)	• Understand and explain the basics of the earth's energy resources (fossil fuels, nuclear energy, renewable energy, etc.)	• Cannot explain the energy resources of the earth (fossil fuels, nuclear energy, renewable energy, etc.)		
Achievement 2	• Understand global environmental problems and discuss how to deal with them (air pollution, acid rain, global warming, etc.)	• Understand and explain global environmental problems (air pollution, acid rain, global warming, etc.)	• Understand and explain basic global environmental problems (air pollution, acid rain, global warming, etc.)	• Cannot explain global environmental problems (air pollution, acid rain, global warming, etc.)		
Achievement 3	• Understand environmental management and discuss issues (ecosystem destruction)	• Understand and explain environmental management (ecosystem destruction)	• Understand and explain basic environmental management (ecosystem destruction)	• Cannot explain about environmental management (ecosystem destruction)		
Achievement 4	• It is possible to calculate and consider CO2 emissions, which are indicators of environmental problems.	• Can calculate CO2 emissions, which is an indicator of environmental problems	• Know the basic calculation method of CO2 emissions, which is an indicator of environmental problems.	• Don't know how to calculate CO2 emissions, which is an indicator of environmental problems.		
Assigned Department Objectives						
Teaching Method						
Outline	* Relationship with work experience: This subject is taught by a teacher who has experience in research and development of clean energy-related equipment such as fuel cells, hydrogen production equipment, and solar cell production equipment, and atomic energy-related equipment such as sensors for fast breeder reactors and vacuum pumps for fusion equipment.					
Style	General or Specialized : Specialized  Foundational academic disciplines : Science and Engineering / Engineering / Comprehensive Engineering / Earth / Resource System Engineering  Relationship with Educational Objectives in advanced course: This subject is equivalent to a learning goal of the advanced course , which is "(1) To deepen knowledge of natural science subjects centered on mathematics and physics, and to acquire the ability to apply as basic academic ability related to mechanical / control system engineering and electronic / information system engineering."  Relationship with JABEE programs : The main goal of this subject is to "(A) deepen basic knowledge about technology and to be able to acquire and explain knowledge in a wide range of fields of natural science as basic knowledge about A-1 engineering". Concomitantly, it is also involved in "B-1" and "G-1".  Course outline : Deterioration of the global environment represented by global warming and ozone layer depletion is thought to be progressing along with the activation of human economic activities, and foreign literature is also used to discuss the actual conditions of these global environmental problems. learn. Next, we will deepen our understanding of the efforts of the United Nations, governments and space agencies of each country, and specific environmental conservation measures.					

Notice	<p>Course method : Classes will be conducted using handout prints, projectors and board writing. Foreign literature is also used as a teaching material in class. In addition, questions will be asked at any time to confirm the level of understanding of the students. Furthermore, by having them practice, they will improve their understanding, and by imposing reports, they will develop their awareness of environmental issues as engineers.</p> <p>Grade evaluation method : Be sure to submit the report assignment by the specified date. Test (70%) "In principle, it is once, but depending on the situation, a retest may be performed. The retest is evaluated in the same way as this test." Report assignments and exercises will be assigned 30%. In addition to self-written notebooks, handouts, calculators, and printouts of the manuscripts used in the lectures, you can bring them into the exam.</p> <p>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.</p> <p>Course advice : As preparatory study to be conducted in advance, it is desirable to be interested in the latest information, data, and current affairs news about 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 actively come into contact with English on a daily basis.</p> <p>Foundational subjects : Environmental science (5th year)</p> <p>Related subjects: Mathematical Science II (5th year), Life Science II (5th), Science Inquiry (2nd in advanced course)</p> <p>Attendance advice : "This subject is related to environmental education and nuclear core human resource development. " Information on the environment is published on various websites, including the websites of the United Nations and the Ministry of 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.</p>

#### Characteristics of Class / Division in Learning

<input checked="" type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input checked="" type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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#### E l e c t i v e s u b j e c t s

#### Course Plan

			Theme	Goals
2nd Semester	3rd Quarter	1st	● Guidance, outline of global environmental problems, formation of global environment	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 issues of environmental and energy problems" (select different survey items for each person) Explain renewable energy.
		6th	● Basics of earth science	Explain the basics of earth science.
		7th	● Environmental Management I [Air Pollution]	Explain the mechanism and countermeasures of air pollution.
		8th	● Environmental management II [acid rain]	Explain the mechanism and countermeasures of acid rain
	4th Quarter	9th	● Environmental Management III [Global Warming ① / Greenhouse Gas]	Report subject (2) "Investigation and examination of energy consumption and CO2 emissions at home" Explain greenhouse gases.
		10th	● Environmental Management IV [Global Warming ② / Forecasting and Countermeasures]	Explain the mechanism and prediction method of global warming
		11th	● Environmental management V [Destroy ecosystem]	Explain the destruction of ecosystems.
		12th	● Environmental Management VI [Aquatic Pollution]	Explain the pollution and circulation of the hydrosphere.
		13th	● Future energy selection discussion (students with similar values)	Explain your views on environmentally friendly energy choices.
		14th	● Future energy selection discussion (different values) Students)	Be able to logically explain own views on environmentally friendly energy choices.
		15th	(Final exam)	Attend and submit your answer.
		16th	Returning the final exam answer and explaining the answer	Correct the wrong answer question.

#### Evaluation Method 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	70	0	0	0	30	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Engineering Ethics
Course Information						
Course Code	0020		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 1st		
Term	First Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Textbook: Hayashi, Miyazawa et al. "Ethics of Engineers (Revised Edition)" Corona Publishing Co., Ltd., Reference Book: Hisatake Kato "Ethics of Technology and Humans" NHK Library, etc.					
Instructor	HOSOTANI Kazunori,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: <ul style="list-style-type: none"><li>• Recognize the responsibility and originality that engineers have on society, and be able to give consideration so that the results of technology will be accepted by society.</li><li>• Understand the historical and social background and importance of engineer ethics, and explain the role and responsibility of engineers in society.</li><li>• Understand and explain basic matters related to engineer behavior such as accountability, whistleblowers, product liability, and risk management.</li><li>• Through the examination of issues by the group, it is possible to promote collaborative work with a sense of ownership.</li></ul>						
Rubric						
	Ideal Level	Standard Level	Acceptable Level	Acceptable Level		
Achievement 1	It is possible to understand and explain that engineers are aware of the responsibilities and creativity that society has, and to give consideration so that the results of technology will be accepted by society, and even apply it.	Be able to understand and explain that engineers recognize the responsibilities and creativity that society has, and take care to ensure that the results of technology are accepted by society.	It is possible to recognize the responsibility and originality that engineers have on society, and to recognize the importance of giving consideration to the acceptance of technological results by society.	It has not reached the left.		
Achievement 2	Understand the historical and social background and importance of engineer ethics, understand and explain the roles and responsibilities of engineers in society, and even apply them.	Understand the historical and social background and importance of engineer ethics, and understand and explain the roles and responsibilities of engineers in society.	Understand the historical and social background and importance of engineer ethics, and recognize the importance of the role and responsibility of engineers in society.	It has not reached the left.		
Achievement 3	Can understand and explain basic matters related to engineer behavior such as accountability, whistleblowing, product liability, and risk management, and can even apply them.	Understand and explain basic matters related to engineer behavior such as accountability, whistleblowers, product liability, and risk management.	Recognize the importance of basic matters related to engineer behavior such as accountability, whistleblowers, product liability, and risk management.	It has not reached the left.		
Achievement 4	Through the examination of issues by the group, it is possible to promote collaborative work with a sense of ownership, to lead the members as a coordinator of discussions, and to actively present their own opinions.	Through the examination of issues by the group, it is possible to promote collaborative work with a sense of ownership, actively participate in discussions, and speak multiple times.	Through the examination of issues by the group, it is possible to promote collaborative work with a sense of ownership and to participate in discussions.	It has not reached the left.		
Assigned Department Objectives						
Teaching Method						

Outline	<p>* Relationship with business: In this course, faculty members who were engaged in the management and operation of large-scale computers and networks at other institutions will make use of their experience to teach about engineer ethics issues in the information society. In addition, faculty members who were engaged in design / development at an electronics manufacturer and information programming at an environmental research company will use their experience to give lessons on engineer ethics issues that can occur in the real world.</p> <p>By general / specialty: Specialty, natural science basics / common</p> <p>Basic discipline of choice : Engineering ethics / engineer ethics</p> <p>Major related to learning goals: This subject is the major learning goals "(( 5) Along with studying engineering ethics and taking special lectures on engineer ethics, you can broadly understand engineer ethics. "</p> <p>Relationship with Engineer Education Program: The main learning and educational goals of this subject are "(G) Understanding of Engineer Ethics, G-1: Deepening Understanding of Ethical, Economic and Safety Consideration, Engineers Being aware of the responsibility to society and being able to explain it, but incidentally, it is also involved in "B-1".</p> <p>Class outline: Modern society is built on many technologies, and misuse of technologies can pose a serious crisis to society and nature. For this reason, engineers must have a responsibility to correctly understand the meaning of the technology they handle and to make it useful for society and nature. From this point of view, we deal with engineering ethics in general.</p>
Style	<p>Class method: Classes are conducted in various ways such as board writing, projectors, discussions, and presentations, mainly through case studies in the fields of machinery / control and electronics / information. It is necessary to think for yourself, investigate, and actively exchange opinions.</p> <p>Grade evaluation method: The grades of the first half (Miyashita) and the second half (Hosoya) are evaluated equally. In the first half, group reports are evaluated at 40%, and individual reports including evaluations by others are evaluated at 60%. In the second half, reports including report assignments are evaluated at 60%, and group discussions and presentations are evaluated at 40%.</p>
Notice	<p>Precautions for taking this course: This course is a "course that requires study outside of class hours". Classes are offered for 15 credit hours per credit, but 15 credit hours are required in addition to this. Follow the instructions of your instructor for these studies.</p> <p>Course advice: Courses that include essential content in the engineer education program. Those who aim to play an active role as engineers in the future must take this course. "This subject is related to environmental education and nuclear core human resource development. 』</p> <p>Basic subjects: Ethics (1 year) and Engineering Ethics (5), general engineering subjects, basic knowledge related subjects such as society, economy, nature, environment, companies, etc. : Advanced technology special lecture (special 1, specialized) 2), Special Research (Special 1, Special 2), Environmental Science (Special 1), Contemporary Philosophy (Special 2), Bioengineering (Special 1), etc.</p> <p>Advice on Courses: General Course Faculty of Industrial Ethics (5) Following the overview, this subject taught by a professional teacher aims at more practical engineering ethics education. A broad perspective on science / technology, manufacturing, society / economy, companies, the global environment, etc. is important. This subject is an environmental education related subject.</p> <p>In this lecture, attendance less than 30 minutes from the start of class will be delayed, and attendance after that will be treated as absent.</p>

#### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input checked="" type="checkbox"/> Aided by ICT	<input checked="" type="checkbox"/> Applicable to Remote Class	<input checked="" type="checkbox"/> Instructor Professionally Experienced
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#### E l e c t i v e s u b j e c t s

#### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	• Guidance	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
		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
		6th	• Learning content outside class hours: • Preparation for general discussion	
		7th	• Group discussion 2 [Summary for general discussion]	Understand and explain the items on the left
		8th	• Learning content outside class hours: Preparation of presentation materials	
	2nd Quarter	9th	• Overall discussion [evaluation by others]	Understand and explain the items on the left
		10th	• Learning content outside class hours: Survey on issues to be examined	
		11th	• Regroup discussion after general discussion	Understand and explain the items on the left
		12th	• Learning content outside class hours: Meeting for preparation of general report	
		13th	• Summary of group discussions, report preparation	Summarize the results of group discussions regarding the content of the first half of the discussion

		14th	• Learning content outside class hours: Preparation of group reports and individual reports	
		15th	• Guidance	
		16th	• Learning content outside class hours: [Preparation for discussion]	

#### Evaluation Method and 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	0	0	0	0	0	0	0
Cross Area Proficiency	0	20	5	0	55	20	100

Tsuyama College		Year	2021		Course Title	Experiments of Electronic and Computer Systems	
Course Information							
Course Code	0021		Course Category		Specialized / Compulsory		
Class Format	Experiment		Credits		School Credit: 4		
Department	Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 1st		
Term	Year-round		Classes per Week		4		
Textbook and/or Teaching Materials							
Instructor	NAKAMURA Shigeyuki						
Course Objectives							
Learning objectives: To acquire teamwork skills through organized experiments in circuit design, control design, network design, etc., and at the same time, to deepen basic knowledge and problem-solving skills.							
Objectives:							
1. To deepen students' basic knowledge of circuits, controls, networks, and other technologies.							
2. To be able to summarize the results of experiments in a report using easy-to-understand diagrams and text.							
◎ To be able to demonstrate teamwork skills and work systematically to solve problems.							
◎ Develop design skills, such as the ability to find a problem clearly and find the most appropriate solution or method.							
◎ To be able to carry out experiments systematically according to a schedule							
Rubric							
	Excellent		Good		Acceptable		Not acceptable
Achievement 1	To be able to fully understand the basic principles and phenomena of circuits, control, networks, and other technologies through experiments, to further deepen their knowledge, and to provide technical instructions and information to other students.		Understand and deepen their knowledge of basic principles and phenomena related to circuits, control, networks, and other technologies through experiments, and be able to conduct experiments autonomously.		Be able to conduct experiments on circuits, controls, and networks with specific help from other members of the group on some of the content.		Unable to conduct experiments on technologies such as circuits, control, and networks.
Achievement 2	To be able to logically summarize the validity evaluation and discussion of experimental results in a report with instructions and corrections from others.		With strong instructions and corrections from others, they can barely summarize the validity evaluation and discussion of the experimental results in a report.		It is not possible to summarize the evaluation of the validity of the experimental results and the discussion in the report.		Be able to control the actions of members to achieve goals so that appropriate communication can take place among members.
Achievement 3	By getting specific help from other members, you can accomplish your role and goals.		Can't accomplish my roles and goals.		Be able to use basic knowledge of circuits, control, networks, and other technologies to find appropriate ways to solve problems and instruct other students.		Use basic knowledge of circuits, control, networks, and other technologies to judge the appropriateness of problem solving methods proposed by other students, or to propose modifications.
Achievement 4	Can't judge whether the problem-solving methods proposed by other students, etc. are appropriate or not.		Be actively involved in the planning and execution of the experiment so that not only you but also other members can achieve the goal as planned.		Be able to act autonomously to achieve goals according to a set plan.		Under the guidance of others, be able to take action to achieve goals according to a set plan.
Assigned Department Objectives							
Teaching Method							
Outline	Specialized						
	Field of Study: Experimental and Practical						
	Required/Elective: Required						
	Underlying disciplines: Electrical and electronic engineering and related fields/control and systems engineering related, information science, information engineering and related fields/information networks related						
	Relationship to learning and educational goals: This course corresponds to the learning goal of the major: "(3) Through practical learning in special experiments, students will deepen their understanding of knowledge related to the basic disciplines, and at the same time, acquire the ability to carry out experiments and analyze and consider data. These subjects are equivalent to the following						
	Relationship to the Engineer Education Program: The main learning and educational attainment objective of this course is "(D) Cultivation of problem-solving skills, D-3: To be able to work systematically to solve problems while forming a common understanding with others", but it is also incidentally related to "A-2", "A-3", "C-1", "C-2", "D-1", and "D-2".						
	Outline of the class: In the special experiments, students will systematically engage in experiments related to the content studied in this course in order to develop teamwork skills that are essential in the field of engineering.						

Style	<p>Method of teaching: In the experiments of electrical and electronic systems, students are not divided into groups and conduct experiments on two themes in 15 weeks. For the information experiments, students will be divided into two groups and each group will conduct experiments for seven weeks. In each experiment, students are required to cooperate with each other and work on the problem systematically, keeping in mind the development of teamwork skills. Three teachers will be in charge of each experiment. Students are required to submit a report for each theme. The method of conducting each experiment is as follows.</p> <p>For the experiments in electrical and electronic engineering, two themes shown in the lesson plan will be conducted in 15 weeks. (In charge: Nakamura). Guidance will be given in the first week. The method of conducting the experiments is as follows. Students will devise, design, fabricate, program, and experiment with electric and electronic circuits as teaching materials, with an eye to entering various electrical, electronic, and information contests. Students will be divided into groups of several and work together to develop teamwork skills. Students design and fabricate a printed circuit board and enter it in a contest.</p> <p>Experiments on information systems will be conducted in two groups, with seven weeks of experiments per group, for a total of 15 weeks. (In charge: Onishi, Sori). Guidance will be given in the first week.</p> <p>How to conduct Onishi's experiment The first half of the week is spent investigating a small problem to be solved each week, and the second half is spent conducting experiments based on the results of the investigation. Each student will have a different background in the subject before entering the major course. Students will be assigned to different roles based on their abilities and interests, and will work together to ensure that all students have the same level of knowledge and skills at the end of each week's experiment. In order to confirm that the cooperation is successful, the students are required to construct a network in the campus using the knowledge and skills they have acquired in the last week of the experiment.</p> <p>Grading method: Each teacher in charge of the experiment will evaluate (100%), and the average score will be used for evaluation. The teacher in charge of the experiment will evaluate the students based on the learning objectives and achievement goals of this course, using the following evaluation method as a basis, but the details of the evaluation may differ from person to person.</p> <p>Evaluation method Each week, students are asked to mutually evaluate the status of their roles and the achievement of their roles. The teacher will evaluate the teamwork skills based on the results (70%). The teacher will evaluate the teamwork skills based on the results (70%), and the level of knowledge and skills achieved will be evaluated by the experiment report (30%).</p> <p>Method of conducting the experiment in charge of Sori Students will be divided into groups of three to four students to conduct experiments on the tasks set each week. Students will be divided into groups of 3 or 4 students per group and will be assigned roles based on their abilities and interests. Students should work together to ensure that all students have the same level of knowledge and skills at the end of each week's experiment. In the final week's experiment, students will design a motor control system controller for a four-wheeled vehicle and conduct a demonstration experiment using the knowledge and skills they have acquired so far, in order to confirm that the cooperation and teamwork skills have been established.</p> <p>Translated with <a href="http://www.DeepL.com/Translator">www.DeepL.com/Translator</a> (free version)</p>
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Notice	<p>Note: This course requires students to study outside of class hours. 15 credit hours per credit hour are offered, but 30 credit hours of study are also required. Students are required to study 30 credit hours. Advice for students: This is a valuable opportunity to understand the basic techniques of engineering technology through experiments. This is a valuable opportunity to understand the basic techniques of engineering technology through experiments, and I hope that students will understand this and take it seriously.</p> <p>Basic subjects: Digital Engineering I, II (Information 2, 3), Electronic Circuits I, II (Electrical and Electronic 3, 4), Control Engineering (Electrical and Electronic 4), Information Processing (Electrical and Electronic 5), Control Engineering I, II (Information 4, 5), Information Network (Information 4), Information and Communication Engineering (Information 5), etc.</p> <p>Related courses: Special Research on Electronics and Information Systems (2nd year), etc.</p> <p>Advice for students: The above lesson plan is an example, and actual progress may vary. The above lesson plan is an example, and actual progress may vary. You will be given instructions on how to proceed in your group and precautions to take during the guidance, so be sure to attend and confirm the instructions. Late arrivals will also be instructed in the guidance.</p> <p>Unlike the experiments in this course, we will not give detailed instructions on the contents of the experiments, how to collect data, and how to compile reports.</p>
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### Characteristics of Class / Division in Learning

<input checked="" type="checkbox"/> Active Learning	<input checked="" type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance for Electrical and Electronic Experiments	
		2nd	Experiments [Invention, design and fabrication of microcomputer circuits, programming and operation experiments]	Completion of the 1st electrical and electronic experiments based on group activities
		3rd	Experiments [Invention, design and fabrication of microcomputer circuits, programming and operation experiments]	Completion of the 2nd electrical and electronic experiments based on group activities
		4th	Experiments [Invention, design and fabrication of microcomputer circuits, programming and operation experiments]	Completion of the 3th electrical and electronic experiments based on group activities
		5th	Experiments [Invention, design and fabrication of microcomputer circuits, programming and operation experiments]	Completion of the 4th electrical and electronic experiments based on group activities
		6th	Experiments [Invention, design and fabrication of microcomputer circuits, programming and operation experiments]	Completion of the 5th electrical and electronic experiments based on group activities

		7th	Experiments [Invention, design and fabrication of microcomputer circuits, programming and operation experiments]	Completion of the 6th electrical and electronic experiments based on group activities
		8th	Revision of reports and additional experiments	Completion of all electrical and electronic
	2nd Quarter	9th	Experiment [Design and fabrication of printed circuit boards]	Completion of the 7th electrical and electronic experiments based on group activities
		10th	Experiment [Design and fabrication of printed circuit boards]	Completion of the 8th electrical and electronic experiments based on group activities
		11th	Experiment [Design and fabrication of printed circuit boards]	Completion of the 9th electrical and electronic experiments based on group activities
		12th	Experiment [Design and fabrication of printed circuit boards]	Completion of the 10th electrical and electronic experiments based on group activities
		13th	Experiment [Design and fabrication of printed circuit boards]	Completion of the 11th electrical and electronic experiments based on group activities
		14th	Experiment [Design and fabrication of printed circuit boards]	Completion of the 12th electrical and electronic experiments based on group activities
		15th	Apply a contest	Completion of all electrical and electronic
		16th		
2nd Semester	3rd Quarter	1st	Guidance for Information System Experiment	
		2nd	Experiments [Design and construction of network systems]	Completion of the 1st network experiment based on group activities
		3rd	Experiments [Design and construction of network systems]	Completion of the 2nd network experiment based on group activities
		4th	Experiments [Design and construction of network systems]	Completion of the 3rd network experiment based on group activities
		5th	Experiments [Design and construction of network systems]	Completion of the 4th network experiment based on group activities
		6th	Experiments [Design and construction of network systems]	Completion of the 5th network experiment based on group activities
		7th	Experiments [Design and construction of network systems]	Completion of the 6th network experiment based on group activities
		8th	Revision of the report and additional experiments	Completion of the network experiment and submission of the report
	4th Quarter	9th	Experiments [Embedded programming with H8 microcomputers]	Completion of the 1st network experiment based on group activities
		10th	Experiments [Embedded programming with H8 microcomputers]	Completion of the 2nd network experiment based on group activities
		11th	Experiments [Embedded programming with H8 microcomputers]	Completion of the 3rd network experiment based on group activities
		12th	Experiment [Control simulation using MATLAB]	Completion of the 4th network experiment based on group activities
		13th	Experiment [Four-wheel motor control experiment]	Completion of the 5th network experiment based on group activities
		14th	Experiment [Four-wheel motor control experiment]	Completion of the 6th network experiment based on group activities
		15th	Revision of reports, additional experiments	Completion of all experiments and submission of reports, grade confirmation
		16th		

#### Evaluation Method and Weight (%)

	Examination	Presentation	mutual evaluation	Behavior	Report	Other	Total
Subtotal	0	0	70	0	30	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	0	0	0	0	30	0	30
Cross Area Proficiency	0	0	70	0	0	0	70

Tsuyama College		Year	2021	Course Title	Practical English II
Course Information					
Course Code	0029		Course Category	General / Elective	
Class Format	Lecture		Credits	Academic Credit: 2	
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd	
Term	First Semester		Classes per Week	2	
Textbook and/or Teaching Materials	Successful Keys to the Toeic, Goal 500; Handouts, Dictionary				
Instructor	RAMBO Eric				
Course Objectives					
<p>[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.</p> <p>[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 thoughts in an easy-to-understand manner and devise an explanation method, and gain a sufficient understanding.</p>					
Rubric					
	Ideal Level		Standard Level		Unacceptable Level
Achievement 1	Has acquired very well English proficiency to understand and convey basic information and ideas about familiar matters and one's specialty.		Has acquired generally well English proficiency to understand and convey basic information and ideas about familiar matters and one's specialty.		Has not acquired English proficiency to 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 generally acquired sufficient presentation skills in English for international conferences.		Has not 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 generally solve TOEIC 450-point level vocabulary, grammar, reading comprehension, and listening comprehension problems.		Cannot solve TOEIC 450-point level vocabulary, grammar, reading comprehension, and listening comprehension problems.
Assigned Department Objectives					
Teaching Method					
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 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%.				
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. For 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					
<input checked="" type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class	
				<input type="checkbox"/> Instructor Professionally Experienced	
Elective subjects					
Course Plan					
			Theme	Goals	
1st Semester	1st Quarter	1st	Course introduction, e-learning, TOEIC study method.	Understand the goals and methods of the course.	
		2nd	Writing your Curriculum Vitae (CV) in English. TOEIC Unit 8	Understand the structure and purpose of the CV. Effective TOEIC practice.	



		3rd	Writing about your background experience. TOEIC Unit 8	Good explanation with correct grammar. Effective TOEIC practice.
		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.	Write a well-explained and correct CV; Give good answers in the job interview.
		7th	Prepare for the Midterm Exam	Know all the vocabulary and grammar for the TOEIC units; Explain your CV in writing.
		8th	Midterm Exam	
	2nd Quarter	9th	Return Midterm Exam and correct mistakes. TOEIC Unit 10	Learn from mistakes. Effective TOEIC practice.
		10th	Start PPT about "My Current Research". TOEIC Unit 10	Good explanation with correct grammar. Effective TOEIC practice.
		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.	Know all the vocabulary and grammar for the TOEIC units; Explain your "Current Research" in writing.
		15th	Final Examination	
		16th	Return Final Exam and correct mistakes. Summary of English learning strategies.	Learn from mistakes. Plan for future English learning.

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	50	30	0	0	0	20	100
Basic Proficiency	50	30	0	0	0	20	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	Social Sciences
Course Information						
Course Code	0030			Course Category	General / Elective	
Class Format	Lecture			Credits	Academic Credit: 2	
Department	Advanced Electronics and Information System Engineering Course			Student Grade	Adv. 2nd	
Term	Second Semester			Classes per Week	2	
Textbook and/or Teaching Materials	木村護郎クリストフ『節英のすすめ』萬書房。また、各自の選択テーマによって、購入すべき文献を別途指示することがある。					
Instructor	KADOYA Hidenori					
Course Objectives						
学習目的：専門とは異なる分野における思考方法をまなぶことによって、人間性涵養の背景となるような教養を身につけることを学習目的とする。 到達目標：社会科学的な視点から人間、社会、文化について多面的に理解し、国際社会の一員として社会的諸問題の解決に向けて主体的に貢献する自覚と素養を培う。人間活動や科学技術の役割と影響に関心を持ち、幸福とは何かを追究しながら技術者として社会に貢献する自覚と素養を培う。						
Rubric						
	優		良		可	不可
評価項目1	十分に授業に参加すること		2/3以上の授業に参加すること		2/3以上の授業に参加すること	10回をこえて欠席すること
評価項目2	指示に十分に合ったレポートを提出する／または口頭報告をおこなうこと		指示にある程度合ったレポートを提出する／または口頭報告をおこなうこと		指示に最低限合ったレポートを提出する／または口頭報告をおこなうこと	指示に従ったレポートを提出しない／または口頭報告をおこなわないこと
Assigned Department Objectives						
Teaching Method						
Outline	一般・専門の別：一般 人文・社会 基礎となる学問分野：史学・ジェンダー学・社会学・言語学・障害学 専攻科学習目標との関連：本科目は専攻科学習目標「(4)特別研究を自主的、積極的に推進することにより、技術者として必須の問題発見能力と課題解決能力、すなわち創造的な成果を生み出すデザイン能力、研究能力を身につけるとともに、研究結果を学会などで発表し、他の研究者や技術者との交流を通じて、プレゼンテーション能力やコミュニケーション能力を身につける。」に相当する科目である。 技術者教育プログラムとの関連：本科目が主体とする学習・教育到達目標は「(B)地球の視野に立った人間性の育成」「B-2:地球上の多様な歴史観・文化・習慣の違いを理解し、説明できること」である。 授業の概要：この科目は、近代以降に生み出された社会科学の古典やよく知られた諸学説に関する基本的な知識を参照・学習しながら、現代社会の具体的な諸問題について考えることによって、社会科学的なものの見方、思考方法を身につけることを目的とする。					
Style	授業の方法：毎週の当番報告者を中心として講義をおこないながら、受講者の意見を求め、そこからさらに議論を発展させていく方法で進める。 成績評価方法：提出課題（100%）もしくは口頭報告（100%）。十分な参加が評価対象となる必要条件である。課題は課題提示の翌週の提出することとし、授業時間外の学習評価はその内容によってなされる。					
Notice	履修上の注意：本科目は「授業時間外の学修を必要とする科目」である。当該授業時間と授業時間外の学修を合わせて1単位あたり45時間の学修が必要である。授業時間外の学修については、担当教員の指示に従うこと。 履修のアドバイス：この科目の受講者には、履修のために相当の学習意欲・知的好奇心・積極性が要求される。また、講義中の積極的な発言が歓迎される。遅刻（授業開始におくれること、）に対するペナルティはもうけないが、受講者の自律性につよく期待する。事前に行う準備学習はとくに必要ない。事前に行う準備学習はとくに必要ない。 基礎科目：世界史（1年）、政治経済（2）、日本史（3）、「人間と文化」（4）、「人間と社会」（5） 関連科目：なし 受講上のアドバイス：この科目の受講者には、履修のために相当の学習意欲・知的好奇心・積極性が要求される。また、講義中の積極的な発言が歓迎される。遅刻（授業開始におくれること、）に対するペナルティはもうけないが、受講者の自律性につよく期待する。					
Characteristics of Class / Division in Learning						
<input checked="" type="checkbox"/> Active Learning		<input checked="" type="checkbox"/> Aided by ICT		<input checked="" type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced
選択						
Course Plan						
			Theme		Goals	
2nd Semester	3rd Quarter	1st	ガイダンス、導入「社会科学」とはなにか。			
		2nd	社会科学的な思考について		以下、毎週、レポート／プレゼンテーション準備を十分に行ったうえで参加すること。	
		3rd	演習			
		4th	演習			
		5th	演習			
		6th	演習			
		7th	演習			
		8th	演習			
	4th Quarter	9th	演習			
		10th	演習			
		11th	演習			
		12th	演習			
		13th	演習			
		14th	演習			
		15th	後期末試験			

		16th	演習				
Evaluation Method and Weight (%)							
	試験	発表	相互評価	自己評価	課題	小テスト	Total
Subtotal	0	100	0	0	0	0	100
基礎的能力	0	100	0	0	0	0	100
専門的能力	0	0	0	0	0	0	0
分野横断的能力	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Modern Philosophy	
Course Information							
Course Code		0031		Course Category		General / Elective	
Class Format		Lecture		Credits		Academic Credit: 2	
Department		Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 2nd	
Term		Second Semester		Classes per Week		2	
Textbook and/or Teaching Materials		None					
Instructor		KAMIYA Ken					
Course Objectives							
The aim of this class is to enable students to recognize their responsibility as engineers towards society through the systematic study of the problems of contemporary philosophy.							
Rubric							
	Excellent		Good		Acceptable		Not acceptable
Achievement 1	The student understands the historical background and importance of contemporary philosophy and can explain very well its details.		The student understands the historical background and importance of contemporary philosophy and can explain the basics of its issues in detail.		The student understands the historical background and importance of contemporary philosophy and can explain its basic issues.		The student has not reached these levels.
Achievement 2	The student understands the problems and concepts of contemporary philosophy and can explain them expansively in detail.		The student understands the problems and concepts of contemporary philosophy and can explain the basics of its issues in detail.		The student understands the problems and concepts of contemporary philosophy and can explain its basic issues.		The student has not reached these levels.
Achievement 3	The student has gained an interest in the public welfare and can express the unique nature of herself and of others expansively and in detail.		The student has gained an interest in the public welfare and can express in detail the unique nature of herself and of others in a basic manner.		The student has gained an interest in the public welfare and can express the unique nature of herself and of others in a basic manner.		The student has not reached these levels.
Assigned Department Objectives							
Teaching Method							
Outline	General or Specialized : General Field of learning : Humanities Foundational academic disciplines : philosophy/ethics Relationship with Educational Objectives : This class corresponds to goal "(5)" of the advanced engineering course. Relationship with JABEE programs : The main goal of learning and education in this subject is "G". Course outline : Education in ethics is a necessary culture for contemporary engineers and researchers in the field of engineering. This year, we will inquire further into the character of our technological society through the treatment of fundamental philosophical and ethical problems.						
Style	Course method : Classes will be held in the second semester. Teaching will be conducted mainly through discussion with students. Students will be expected to study outside of the classroom to prepare their coursework. Grade evaluation method: One paper (50%) and one presentation or report on the contents of the course (50%). There will be no makeup exams.						
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. Advice concerning enrollment: Since it will be obligatory to submit a paper, read newspapers etc. on a daily basis and form your own interests. Organize what you have learned and whatever questions you may have 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 evaluated, students should attend at least 2/3 of the classes. Although students who repeatedly arrive late will not be considered absent for that reason, students who come excessively late will be considered absent.						
Characteristics of Class / Division in Learning							
<input checked="" type="checkbox"/> Active Learning		<input checked="" type="checkbox"/> Aided by ICT		<input checked="" type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced	
Elective subjects							
Course Plan							
			Theme		Goals		
2nd Semester	3rd Quarter	1st	Introduction		General explanation of the goals		
		2nd	The Foundations of Contemporary Philosophy		Goals 1 & 3		
		3rd	The Foundations of Contemporary Philosophy		Goals 1 & 3		
		4th	The Foundations of Contemporary Philosophy		Goals 1 & 3		
		5th	The Development of Contemporary Philosophy		Goals 1 & 3		
		6th	The Development of Contemporary Philosophy		Goals 1 & 3		
		7th	The Development of Contemporary Philosophy		Goals 1 & 3		
		8th	The Development of Contemporary Philosophy		Goals 1 & 3		

	4th Quarter	9th	Contemporary Philosophy and Technology	Goal 2
		10th	Contemporary Philosophy and Technology	Goal 2
		11th	Contemporary Philosophy and Technology	Goal 2
		12th	Contemporary Philosophy and Society	Goals 2 & 3
		13th	Contemporary Philosophy and Society	Goals 2 & 3
		14th	Contemporary Philosophy and Society	Goals 2 & 3
		15th	Contemporary Philosophy and Society	Goals 2 & 3
		16th	Explanation of Evaluation	Goal 3

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual evaluations between students	Self Assessment	Assignment	Mini exams	Total
Subtotal	0	50	0	0	50	0	100
Basic Proficiency	0	40	0	0	40	0	80
Specialized Proficiency	0	0	0	0	0	0	0
Cross Area Proficiency	0	10	0	0	10	0	20

Tsuyama College		Year	2021		Course Title	Special Lecture on Advanced Engineering
Course Information						
Course Code	0022		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 1		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	Intensive		Classes per Week			
Textbook and/or Teaching Materials	Distribute reference materials as needed.					
Instructor	HOSOTANI Kazunori,TERAMOTO Takayuki,KONISHI Daijiro					
Course Objectives						
Learning purposes : By learning about the ever-increasing technological trends and recognizing the importance of technology in society, this subject will provide hints for new developments in research and learning.						
Course Objectives : 1. Be able to know the trends of advanced technology, understand the contents of technology and engineering required in the world, and explain the outline appropriately. 2. Considering the relationship with society and the impact of technology on society, you can express your own thoughts and opinions regarding the direction of advanced technology.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	You can thoroughly investigate the content of the lecture and write a exemplary report according to the task, including the content.	You can investigate the content of the lecture and write a exemplary report according to the task, including the content.	For tasks, you can write a report according to the task.	You have not reached the level shown on the left.		
Achievement 2	Considering the relationship with society and the impact of technology on society, you can write a exemplary report that fully includes your own thoughts and opinions.	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.	You can write a report that includes your own thoughts and opinions.	You have not reached the level shown on the left.		
Assigned Department Objectives						
Teaching Method						
Outline	<p>* Relationship with practice: This subject participates in lectures and workshops designated by the advanced course and tackles the designated tasks. The lecture will be held by inviting lecturers who are involved in front-end technology at companies etc. Students will learn about the technological trends and the progress of the research in various fields, broaden your horizons, and learn about the impact of technology on society.</p> <p>General or Specialized : Specialized Field of learning : Common and basics of natural science Foundational academic disciplines : Engineering / social Science</p> <p>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".</p> <p>Relationship with JABEE programs : The main goal of learning / education in this class is "(A) A-1". Accompanyingly, it is also involved in "G-1". Since the content is diverse, it may be related to the development of humanity from a global perspective and the development of comprehensive abilities in collaboration with local communities.</p> <p>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.</p>					
Style	<p>Course method : Students will independently select assignments from lectures, workshops, remote learning classes, etc. designated by the advanced course, participate in them, and complete the designated tasks. Information will be posted on the advanced course website and e-mail, so do not overlook it.</p> <p>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.</p>					

Notice	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 specialty. 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.

### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input checked="" type="checkbox"/> Instructor Professionally Experienced
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### E l e c t i v e s u b j e c t s

### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance (conducted at the orientation at the beginning of the school year)	You can make an attendance plan for special lectures on this subject throughout the two years.
		2nd	Participation in lectures, workshops, remote learning classes, etc. designated by 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.
		3rd	Participation in lectures, workshops, remote learning classes, etc. designated by 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.
		4th	Participation in lectures, workshops, remote learning classes, etc. designated by 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.
		5th	Participation in lectures, workshops, remote learning classes, etc. designated by 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.
		6th	Participation in lectures, workshops, remote learning classes, etc. designated by 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.
		7th	Participation in lectures, workshops, remote learning classes, etc. designated by 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.
		8th	Participation in lectures, workshops, remote learning classes, etc. designated by 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.
	2nd Quarter	9th	It is necessary to participate in the above lectures at least 7 times	
		10th		
		11th		
		12th		
		13th		

2nd Semester		14th		
		15th		
		16th		
	3rd Quarter	1st		
		2nd		
		3rd		
		4th		
		5th		
		6th		
		7th		
	4th Quarter	8th		
		9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th		
		16th		

#### Evaluation Method and Weight (%)

	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



Tsuyama College		Year	2021	Course Title	Production Control Engineering
Course Information					
Course Code	0023		Course Category	Specialized / Elective	
Class Format	Lecture		Credits	Academic Credit: 2	
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd	
Term	First Semester		Classes per Week	2	
Textbook and/or Teaching Materials	Textbook: 坂本賢也「生産管理入門」(理工学社), 「産業財産権標準テキスト: 特許編」(発明協会)				
Instructor	KAWAI Masahiro				
Course Objectives					
<p>Learning purposes: Learn how to manage the product management system with understanding each control item and its applicable problems, and how to write the patent specification with understanding the importance of the patent.</p> <p>Course objectives: 1. To be able to explain the role of the product management system in the company. 2. To be able to explain the fundamental methodologies of quality control. 3. To gain the manner of writing about the patent specification with the planning of the concrete patent application.</p>					
Rubric					
	Excellent	Good	Acceptable	Not acceptable	
Outline for the product management system	The student can explain the purpose and some methodologies for the product management system in detail.	The student can explain the purpose and some fundamental methodologies for the product management system.	The student can explain some fundamental methodologies for the product management system.	The student cannot explain any fundamental methodologies for the product management system.	
Quality control techniques	The student can explain the purpose and some methodologies for the quality control in details.	The student can explain the purpose and some fundamental methodologies for the quality control.	The student can explain some fundamental methodologies for the quality control.	The student cannot explain any fundamental methodologies for the quality control.	
Patent specification writing	The student can write the patent specification with understanding intellectual property rights and application process.	The student can write the patent specification with understanding fundamental thinking about intellectual property rights.	The student can explain the patent specification and fundamental thinking about intellectual property rights.	The student cannot explain the patent specification and fundamental thinking about intellectual property rights.	
Assigned Department Objectives					
Teaching Method					
Outline	<p>Connection to actual practice: The teacher has the expertise in product management and intellectual property rights with experience gained from designing electronic products in a company, conducts this class about the product management system and patent in a didactic manner mainly.</p> <p>General or Specialized: Specialized Field of learning: Basics of natural science</p> <p>Foundational academic disciplines: Machine, Control, Electrical, Electronic, and Information engineering Relationship with Educational Objectives: This class is equivalent to "(2) The student has acquired knowledge of the following specialized technical fields for designing, manufacturing, and operation of machinery and systems." Relationship with JABEE programs: the main goal of learning /education in this class is "(A)" and "(D)."</p> <p>Course outline: Learn about product management that enhances the company's productivity by controlling production activities and patent specification writing.</p>				
Style	<p>Course method: * Use a blackboard mainly. However, interactively learn through thinking the solution of concrete problems about each control item of the product management system. * Give some reports for students' comprehension. * Organize the student's presentations about the patent plan made by each of them to learn design skills.</p> <p>Grade evaluation method: Presentation (40%) + mini-exam(30%) + reports(30%) * Evaluate submission date of each report strictly. * No regular exams.</p>				
Notice	<p>Precautions on the enrollment: This class is "Required outside of teaching hours course study." Therefore, this course consists of a total of forty-five hours of teaching and homework per one unit. The student should deal with the homework based on the instructions of the teacher.</p> <p>Attendance advice: Make sure to study voluntarily by using books about quality and reliability other than the textbook and read "「産業財産権標準テキスト: 特許編」(発明協会)" thoroughly.</p> <p>Foundational subjects: Applied Mathematics I (4th) Related subjects: All around subjects of advanced engineering course</p>				
Characteristics of Class / Division in Learning					
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class <input checked="" type="checkbox"/> Instructor Professionally Experienced	
Elective subjects					

Course Plan						
1st Semester r	1st Quarter		Theme	Goals		
		1st	Guidance / About intellectual property rights	Understand terms about intellectual property rights		
		2nd	Patent systems	Understand some patent systems		
		3rd	Discussion about patent seeds			
		4th	Scope of claim for patent	Understand the scope of claim in the patent specification		
		5th	Patent survey and map	Understand the patent map		
		6th	Patent specification writing	Understand the patent specification		
		7th	Presentation for the patents	Make presentation about the essentials of the patent		
	8th	About product management	Understand terms about product management			
	2nd Quarter	9th	About company and organization	Understand terms about company and organization		
		10th	About the product management system	Understand terms of the product management system		
		11th	About process management	Understand terms about process management		
		12th	About quality control	Understand terms about quality control		
		13th	Statistical approaches in quality control	Understand statistical approaches in quality control		
		14th	About cost control	Understand statistical processing techniques in cost control		
		15th	About environment control	Understand management techniques in environment control		
16th						
Evaluation Method and Weight (%)						
	Examination	Presentation	Mutual Evaluations between students	Assignment	MIni-examination	Total
Subtotal	0	40	0	30	30	100
Basic Proficiency	0	20	0	15	15	50
Specialized Proficiency	0	20	0	15	15	50
Cross Area Proficiency	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Practice on Regional Cooperation		
Course Information								
Course Code		0024		Course Category		Specialized / Elective		
Class Format		Seminar		Credits		Academic Credit: 1		
Department		Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 2nd		
Term		First Semester		Classes per Week		1		
Textbook and/or Teaching Materials		教科書, 教材等 各種行事の開催案内, 講座のテキスト等						
Instructor		HOSOTANI Kazunori,TERAMOTO Takayuki						
Course Objectives								
学習目的:地域密着型教育機関である本校の果たすべき役割を知るとともに小中学生に科学・技術や実験の面白さを伝えることにより, 各自の知識や技術を再確認し研究や学習の新たな展開を図るための一助とする。 地域企業等からの依頼による課題の解決に寄与する。								
到達目標 ◎地域社会と連携した協働活動を通じて, クライアントの要求を解決するために創案した設計解を実践して評価できる ◎一般市民にも専門的な知識や技術を分かりやすく説明, 伝えることができる								
Rubric								
	優		良		可		不可	
評価項目1	クライアントの要求を解決するために創案した設計解を実践して評価できただけでなく, 新たな問題提起・提案ができる。		地域社会と連携した協働活動を通じて, クライアントの要求を解決するために創案した設計解を実践して評価できる。		地域社会と連携した協働活動を通じて, クライアントの要求を解決するために創案した設計解を実践できる。		クライアントの要求を解決するために創案した設計解を実践できない。	
評価項目2	自ら教材を提案・作製し, 一般市民にも専門的な知識や技術を分かりやすく説明し伝えることができる。		与えられた教材を用いて, 一般市民にも専門的な知識や技術を分かりやすく説明し伝えることができる。		与えられた教材を用いて, 一般市民にも専門的な知識や技術を説明し伝えることができる。		与えられた教材を用いても, 一般市民に専門的な知識や技術を説明し伝えることができない。	
Assigned Department Objectives								
Teaching Method								
Outline	一般・専門の別:専門      学習の分野:自然科学系共通・基礎  基礎となる学問分野: 工学・社会科学  専攻科学学習目標との関連: 本科目は専攻科学学習目標「(6)校外実習, 先端技術特別講義や学協会への参加を通じて, 地域社会との連携を図るとともに, 地球的視点からものを見ることの大切さを理解していること」に相当する科目である。  技術者教育プログラムとの関連: 本科目の学習・教育到達目標は主として「(H) 地域社会との連携による総合能力の展開, H-1: 地域社会との連携した学習や研究などの協働活動をとおして, 専門分野を理解し(もしくは専門的観点から生産システムを理解し), 説明できること」であるが, 付随的には「A-1」, 「D-3」にも関与する。内容は多岐にわたるので, (B) 地球的視野に立った人間性の育成, (F) コミュニケーション能力, プレゼンテーション能力の育成にも関連する。  授業の概要: 今まで学習してきた知識や技術を活かして, 公開講座等を通じて地域社会に貢献する。知識を深めるとともに視野を広げ, 社会とのかかわりや技術が社会に及ぼす影響について広く学ぶ。							
	Style	授業の方法: 本校の関わる公開講座や出前授業, オープンキャンパス, 地域イベント等へ積極的に参加して担当教員に協力し, 実施後に指定された報告書を提出する。または, 地域ニーズの高い内容で授業を実施する。  成績評価方法: 単位認定願の提出があった者に対し, 行事の報告書(レポート)により評価する。評価は「100点法」とし, 年度末の専攻科運営委員会を経て単位認定を行う。地域ニーズにより授業として開講した場合には, 試験70%, 課題30%で評価して単位認定を行う。						
		Notice	履修上の注意: 本科目は「授業時間外の学修を必要とする科目」である。当該授業時間と授業時間外の学修を合わせて, 1単位あたり45時間の学修が必要である。授業時間外の学修については, 担当教員の指示に従うこと。  履修のアドバイス: 事前に専攻科ホームページより地域連携演習実施報告書をダウンロードして印刷しておくこと。授業として開講する場合は資料を電子データ等で配布するので授業中に閲覧できるようにしておくこと。各自の専門を活かして地域社会に貢献するとともに, これにより知見を広げる努力をすることが大切である。 2年間に亘って履修可能な科目である。  基礎科目: これまで学習してきた科目全般  関連科目: 全ての科目  受講上のアドバイス: 主として, 地域社会と関わる授業となるので, 実施に際しては本校学生としての自覚を持って行動すること。 自分の専門分野以外にも積極的な協力を期待している。本科目の関係する行事等は担当教員に確認すること。					
Characteristics of Class / Division in Learning								
<input type="checkbox"/> Active Learning			<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced	
選択								
Course Plan								
			Theme			Goals		
1st Semester	1st Quarter	1st	行事への支援 30時間以上					
		2nd	● 本校の関わる公開講座や出前授業, オープンキャンパス, 地域イベント等での指導と支援					

		3rd	● 複数の行事に合計30時間以上協力し、決められた報告書（レポート）を提出すること(実施時間に移動時間は含めない)。	
		4th	合 計 30時間以上	
		5th		
		6th	授業時間外の学習内容〔項目〕 （指示事項）：● 行事の予習、準備、後片付け （準備日を設けて準備を行った場合は、授業時間に含めても良い）● 決められた報告書の作成（書式は別途指示）	
		7th	令和3年度は地域ニーズにより、外部講師により高等教育を基盤とした社会人基礎力養成に関する授業を実施する。	
	2nd Quarter	8th		
		9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th		
		16th		

#### Evaluation Method and Weight (%)

	試験	課題	相互評価	態度	ポートフォリオ	その他	Total
Subtotal	70	30	0	0	0	0	100
基礎的能力	0	0	0	0	0	0	0
専門的能力	0	0	0	0	0	0	0
分野横断的能力	70	30	0	0	0	0	100

Tsuyama College		Year	2021		Course Title	Thesis Work II
Course Information						
Course Code	0025		Course Category	Specialized / Compulsory		
Class Format	Experiment		Credits	School Credit: 8		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	Year-round		Classes per Week	8		
Textbook and/or Teaching Materials						
Instructor	KATORI Shigetaka, NAKAMURA Shigeyuki, NISHIO Kimihiro, SHIMADA Takao, TERAMOTO Takayuki, KAWANAMI Hiromichi, KIKUCHI Yosuke					
Course Objectives						
Learning purposes : To acquire the ability to identify engineering and technical problems and to solve them concretely, and to acquire the basic skills of an engineer.						
Course Objectives : 1. To be able to use international papers and other sources to research information on research themes and to grasp trends in advanced technologies. 2. To be able to independently develop a research plan, use hardware and software, perform specific experiments and analyses, and solve technical problems. ◎3. Students can present their research results at academic conferences outside the university. To be able to freely exchange opinions and ideas with many engineers. ◎4. Have an awareness as an engineer and be able to contribute to the local community and the world.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	To be able to conduct research in foreign language papers and to understand related technology and research trends by collecting, organizing and analyzing necessary information.	To be able to conduct research in foreign language papers, and to understand simple related technology and research trends by collecting, organizing, and analyzing necessary information.	To be able to read a given article in a foreign language. Able to research literature in Japanese.	Cannot read a given paper in a foreign language. Cannot research literature in Japanese.		
Achievement 2	To be able to formulate a research plan on one's own in accordance with the research objectives, and to be able to logically explain the hypothesis, the method of testing and evaluating the research, and the results.	To be able to formulate a research plan by oneself according to the research objectives, and to be able to test simple hypotheses and investigations.	To be able to understand the methods and results of experiments and analyses, and to understand their meanings with reference to the textbook.	Cannot understand the methods and results of experiments and analyses.		
Achievement 3	To be able to make presentations and exchange opinions at conferences in foreign languages.	To be able to make a poster presentation in a foreign language.	To be able to make presentations and exchange opinions in Japanese.	Cannot make presentations or exchange opinions in Japanese.		
Achievement 4	Understand the effects and impact of technology on society and nature, and understand the responsibility that engineers have to society. To be able to continuously improve oneself in order to grow as an engineer, and to take action to solve local problems.	Understand the influence and effect of technology on society and nature, and understand the responsibility that engineers have to society. To be able to continuously improve oneself in order to grow as an engineer.	To be able to continuously improve oneself in order to grow as an engineer.	Cannot engage in continuous self-improvement to grow as an engineer.		
Assigned Department Objectives						
Teaching Method						

Outline	General or Specialized : Specialized			
	Field of learning : Experiment and practice			
	Foundational academic disciplines : Engineering/Electrical and Electronic Engineering, Information Engineering			
	Relationship with Educational Objectives :This class is equivalent to "(4) Develop multi-disciplinary ability".			
	Relationship with JABEE programs :The main goals of learning / education in this class are "(E)Development of research skills, E-1", also "A-3, C-1, C-2, D-1, D-2, D-3, E-2, E-3, F-1, F-2, G-1, G-2, " and "H-1" is involved. In this class, students are expected to acquire the following design skills: conceptual ability, problem-setting ability, ability to recognize problems from the viewpoint of public health and safety, culture, economy, environment, ethics, etc., ability to find solutions under the constraints arising from these problems, ability to express the conceptualized ideas in diagrams, sentences, formulas, programs, etc., and ability to plan and implement continuously. In this course, students will be involved in developing the ability to find solutions under constraints arising from these problems, the ability to express their concepts in diagrams, sentences, formulas, programs, etc., and the ability to plan and implement continuously. In addition, students are required to attend a lecture on engineering ethics.			
	Course outline :This class is designed to cultivate the ability to discover problems and solve problems independently by working on distinctive research topics, and to deepen knowledge and acquire research and development skills. The results of the research will be submitted as a summary of the interim presentation, and if necessary, external presentations will be made at academic conferences.			
Style	Course method : Students are expected to carry out research activities independently under the guidance of their supervisor. In the course of their efforts, the instructors provide guidance and advice on how to conduct engineering research, write scientific and technical papers, and make presentations and discussions as appropriate.			
	Grade evaluation method : The supervisor will evaluate according to the conditions indicated in the lesson plan. In particular, the theme presentation will be evaluated as professional ability (10%), and the off-campus practical training report will be evaluated as cross-disciplinary ability (10%). In addition, the preparation for the midterm presentation (outline, preliminary draft) and the report on the lecture on engineering ethics will be evaluated as professional competence (70%), and the report on the fieldwork will be evaluated as cross-disciplinary competence (10%). In the evaluation, the level of achievement will be evaluated for each item of (A) and (C) to (H) of the educational program, and the student will pass if the total evaluation score is 60% or more. If the evaluation score does not reach the passing score, guidance will be given and re-evaluation may be conducted.			
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 subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters.			
	Foundational subjects : All subjects			
	Related subjects : General subjects to be studied in the major			
	Attendance advice : This subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters.			
Characteristics of Class / Division in Learning				
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class
<input type="checkbox"/> Instructor Professionally Experienced				
Course Plan				
			Theme	Goals
1st Semester	1st Quarter	1st	Guidance (explanation by supervisor on how to proceed with the special research)	
		2nd	Students should plan their research for each special research theme. Create a "Learning Summary Course Plan".	
		3rd	Mid-term presentation (around the end of April)	
		4th	Research Activities	
		5th	Consult with your academic advisor and make a presentation at an off-campus conference at an appropriate time (while in the major course).	
		6th	Attendance at a lecture on engineering ethics	
		7th		
		8th		
	2nd Quarter	9th		
		10th		
		11th		
		12th		
		13th		

2nd Semester		14th		
		15th		
		16th	Writing a course plan for a general course of study Attendance at a lecture on engineering ethics	
	3rd Quarter	1st	Degree Application	
		2nd		
		3rd		
		4th		
		5th		
		6th		
		7th		
		8th		
	4th Quarter	9th		
		10th	Time to prepare the "Special Research Report" (December - January)	
		11th	Students compile the results of their research into a "Special Research Report" according to the designated outline and submit it to the department head (late January).	
		12th	Special research presentation (early February)	
		13th	Prepare for the presentation and submit the outline of the presentation to the steering committee member of the major department in charge (late January).	
		14th	Final presentation of the Special Study Report (mid-February)	
		15th	After peer review, revise the "Special Research Report" and submit it to the head of the department. After review, revise the "Special Research Report" and submit it to the department head.	
		16th		

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	50	50	0	0	0	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	50	40	0	0	0	0	90
Cross Area Proficiency	0	10	0	0	0	0	10

Tsuyama College		Year	2021		Course Title	Electrical Network Analysis
Course Information						
Course Code	0026		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	First Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Electrical Network Analysis(The Institute of Electrical Engineers of Japan)					
Instructor	NISHIO Kimihiro					
Course Objectives						
Learning purposes : We use network theory mathematically to solve circuit problems. Network theory does not solve all the problems of electric circuits, but the purpose is to solve these problems while showing the relation with the AC theory that has already been learned.						
Course Objectives : 1. The network can be analyzed by signal transmission. 2. The two-terminal network can be expressed by the drive point impedance. 3. Reactance two-terminal network can be synthesized. 4. Can analyze a four-terminal network.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	The student can understand and accurately analyze the network.	The student can understand and analyze the network.	The student can almost analyze the network.	The student will not understand and analyze the network.		
Achievement 2	The student can understand and accurately explain the two-terminal network.	The student can understand and explain the two-terminal network.	The student can almost explain the two-terminal network.	The student will not understand and explain the two-terminal network.		
Achievement 3	The student can understand and accurately explain reactance two-terminal network.	The student can understand and explain reactance two-terminal network.	The student can almost explain reactance two-terminal network.	The student will not understand and explain reactance two-terminal network.		
Achievement 4	The student can understand and accurately explain four-terminal network.	The student can understand and explain four-terminal network.	The student can almost explain four-terminal network.	The student will not understand and explain four-terminal network.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized Field of learning : Electrical and electronic Required, Elective, etc. : Elective subjects Foundational academic disciplines : Engineering / Electrical and Electronic Engineering / Communication Network Engineering  Relationship with Educational Objectives : This class is equivalent to "(2) Acquire basic science and technical knowledge".  Relationship with JABEE programs : The main goal of learning / education in this class is "(A), A-2", also "A-1" is involved.  Course outline : In this lecture, the student will learn about network analysis and design or synthesis. The former is "to find the characteristics of the input and output when the internal network configuration is given." The latter is "design the internal network given the inputs and outputs."					
Style	Course method : Classes will be held in the first semester due to class timetable. Courses are offered in 2 credit hours per week. Classes are centered around textbooks. Solve the exercises during class. Students are required to submit reports.  Grade evaluation method : Exams (70%) + Report (30%). Examinations will be conducted a total of 1 time, and the evaluation ratios will be the same. Textbooks and notebooks are not allowed for the exam. Retaking Exams may be conducted for those with poor grades.					
Notice	Precautions on the enrollment : This is a "class that requires study outside of class hours". Classes are offered for 15 hours per credit, but 30 credit hours are required in addition to this. Follow the instructions of your instructor for these studies.  Course advice : Carefully check and understand the meanings and definitions of terms that appear in textbooks. Solve the examples and the exercises prepared at the end of each chapter and check the contents carefully.  Foundational subjects : Electric Circuits II (4th year) Related subjects : Electric and Electronic System Engineering Experiments and Practice II (3rd year), Electric and Electronic System Engineering Experiments (4th), Design of Electronic and Information Circuits (5th),  Attendance advice : It is recommended that you take notes while understanding the contents explained in the class. If you do not understand the content of the lesson, ask the teacher. If you are late for the start time, you will be treated as absent after 25 minutes.					



Characteristics of Class / Division in Learning							
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input checked="" type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced	
Course Plan							
			Theme	Goals			
1st Semester	1st Quarter	1st	Guidance				
		2nd	Introduction of basic circuit network				
		3rd	Overview of two-terminal circuit and four-terminal circuit				
		4th	Response, Frequency characteristics				
		5th	Immittance function				
		6th	Reactance two-terminal network				
		7th	Series circuit, Parallel circuit				
		8th	Reactance function, Equivalent circuit of reactance circuit				
	2nd Quarter	9th	Synthesis of reactance circuit				
		10th	Basic expression of four-terminal network				
		11th	Four-terminal network connection				
		12th	Equivalent circuit of four-terminal network				
		13th	Equivalent circuit of each network				
		14th	Analysis method of each network				
		15th	(1st semester final exam)				
		16th	Return and commentary of exam answers				
Evaluation Method and Weight (%)							
	Examination	Presentation	Mutual Evaluations between students	Behavior	Report	Other	Total
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

Tsuyama College		Year	2021		Course Title	Electronic Device Engineering
Course Information						
Course Code		0027		Course Category	Specialized / Elective	
Class Format		Lecture		Credits	Academic Credit: 2	
Department		Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd	
Term		First Semester		Classes per Week	2	
Textbook and/or Teaching Materials						
Instructor		NAKAMURA Shigeyuki				
Course Objectives						
学習目的：電子デバイスの一つである太陽電池を理解するのに必要な基礎知識を習得し、その発電原理を理解する。さらに変換効率の向上のために必要な技術について学び、アイデアを考える。						
到達目標						
1. 電子デバイスの理解に必要な半導体物性の基礎を理解する。 2. 電子デバイスの応用としての太陽電池を理解する。 3. 英語の技術論文を原文で読み、その内容をまとめる力をつける。 ◎ 4. 技術論文をもとにディベート力を身につける。 5. 変換効率向上のためのアイデアを考える。						
Rubric						
	優	良	可	不可		
評価項目1	半導体中の電子のエネルギーレベルについて定量的に説明できる。	半導体中の電子のエネルギーレベルについて定性的に説明できる。	半導体中の電子のエネルギーレベルについて大まかに説明できる。	半導体中の電子のエネルギーレベルについて全く説明できない。		
評価項目2	太陽電池の発電メカニズムについてエネルギー準位図を用いて定量的に説明できる。	太陽電池の発電メカニズムについてエネルギー準位図を用いて定性的に説明できる。	太陽電池の発電メカニズムについてエネルギー準位図を用いて大まかに説明できる。	太陽電池の発電メカニズムについてエネルギー準位図を用いて全く説明できない。		
評価項目3	英語の技術論文を読み、その内容を発表できるだけでなく、それに関する周辺の技術も発表できる。	英語の技術論文を読み、その内容を日本語で発表できる。	英語の技術論文を読み、その内容を大まかに日本語で発表できる。	英語の技術論文を読み、その内容を全く発表できない。		
評価項目4	発表内容に関する質問に十分に答えられる。	発表内容に関する質問に8割程度は程度答えられる。	発表内容に関する質問に6割程度は答えられる。	発表内容に関する質問に6割程度も答えられない。		
評価項目5	実現の可能性が高い変換効率向上のためのアイデアを説明できる。	実現性には係わらず変換効率向上のためのアイデアを説明できる。	実現性には係わらず変換効率向上のための簡単なアイデアを説明できる。	変換効率向上のためのアイデアを説明できない。		
Assigned Department Objectives						
Teaching Method						
Outline	一般・専門の別：専門 学習の分野：電気・電子					
	基礎となる学問分野：工学/電気電子工学/電子デバイス・電子機器					
	専攻科学習目標との関連：本科目は専攻科学習目標「(2)電気・電子、情報・制御に関する専門分野技術の知識を修得し、機械やシステムの設計・政策・運用に活用できる能力を身につける」に相当する科目である。					
	技術者教育プログラムとの関連：本科目が主体とする学習・教育到達目標は「（A）技術に関する基礎知識の深化、A-2：「電気・電子」に関する専門技術分野の知識を修得し、説明できること」であるが、付随的には「（A-1）」にも関与する。					
Style	授業の概要：現在の科学技術の急速な進歩は、基幹部品である電子デバイスの発展なしには語れない。本講座では電子デバイスの例として太陽電池を取り上げ、原理や特徴を解説するとともに最新の技術について多くの時間を割いて解説する。さらに、英語の原著論文を講読する。					
	授業の方法：前半は板書あるいはパワーポイントを中心に進めていくが、後半は各学生が最新の技術英語論文を調べ、それを個人ごとにまとめて発表し、他の学生からの質問を受けることにより、技術プレゼンテーション力の向上を図る。興味喚起のため、毎回、太陽電池に関する英語の報道等から話題提供を行う。					
	成績評価方法：定期テストの成績（50％）。試験には自筆ノートの持ち込みのみ許可する。課題発表：レポート内容（40％）、質問対応力（10％）。					
Notice	履修上の注意：本科目は「授業時間外の学修を必要とする科目」である。当該授業時間と授業時間外の学修を合わせて、1単位あたり45時間の学修が必要である。授業時間外の学修については、担当教員の指示に従うこと。					
	履修のアドバイス：「電子工学」（電気電子、情報3年）の教科書を復習しておくこと。					
	基礎科目：電子工学（電気電子、情報3年）、電気磁気学（電気電子、情報3,4）、電子回路（電気電子3、4、情報4）、電気電子材料（電気電子5）、光エレクトロニクス（電気電子5）など 関連科目：特別研究					
受講上のアドバイス：授業の開始時に欠席をとり、その際に返事がなく、その後入室してきた者は遅刻とする。遅刻3回で1回の欠席とする。20分以上の遅刻は1欠課、65分以上の遅刻は2欠課とする。授業時間以外の学習（予習と復習およびレポート課題）は行わなければならない。論文は原文で読む必要があるので技術英語力の向上も心がけること。レポート課題は指定した期日までに必ず提出すること。						
Characteristics of Class / Division in Learning						
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input checked="" type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced
選択						
Course Plan						
			Theme	Goals		

1st Semester	1st Quarter	1st	ガイダンス 各自、太陽電池の作製に関する最新（おおむね2年以内）の英語技術論文を読み、内容をまとめ、紹介する。周辺技術の発表は認めない。	
		2nd	電子デバイスと半導体	
		3rd	半導体物性の基礎	
		4th	太陽電池の動作原理と特性	
		5th	最近の技術動向	
		6th	最近の技術動向 発表用パワーポイント作成	
		7th	最近の技術動向	
		8th	最近の技術動向	
	2nd Quarter	9th	各自課題の発表と質疑応答	
		10th	各自課題の発表と質疑応答	
		11th	各自課題の発表と質疑応答	
		12th	各自課題の発表と質疑応答	
		13th	各自課題の発表と質疑応答	
		14th	各自課題の発表と質疑応答	
		15th	期末試験の返却と解説 太陽電池の変換効率向上のためのアイデアをレポートにまとめる。	
		16th		

#### Evaluation Method and Weight (%)

	試験	発表	質問対応	態度	ポートフォリオ	その他	Total
Subtotal	50	40	10	0	0	0	100
基礎的能力	0	0	0	0	0	0	0
専門的能力	50	0	10	0	0	0	60
分野横断的能力	0	40	0	0	0	0	40

Tsuyama College		Year	2021		Course Title	Power Electronics	
Course Information							
Course Code	0028		Course Category		Specialized / Elective		
Class Format	Lecture		Credits		Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 2nd		
Term	First Semester		Classes per Week		2		
Textbook and/or Teaching Materials	Textbook: Ned Mohan et al. Power Electronics (John Wiley & Sons, Inc.)						
Instructor	KOBAYASHI Toshiro						
Course Objectives							
Learning purposes : Understand the principles and features of various power conversion circuits, power devices, and control methods, and learn the principles of power conversion.							
Course Objectives 1. Understand the application area and application field. 2. Understand power devices and control methods. 3. Understand the operating principle of major power conversion circuits.							
Rubric							
	Excellent		Good		Acceptable		Not acceptable
Achievement 1	Be able to explain concretely the industrial application areas and application fields.		Explain basic application areas and application fields.		Understand basic application areas and application fields.		It has not reached the left.
Achievement 2	Explain in detail the types, structures and features of power devices and control methods.		Explain basic power devices and control methods.		Understand power devices and control methods.		It has not reached the left.
Achievement 3	Explain in detail the concept, types and operating principles of power conversion circuits.		Explain the operating principle of basic power conversion circuits		Understand the operation of basic power conversion circuits.		It has not reached the left.
Assigned Department Objectives							
Teaching Method							
Outline	General or Specialized : Specialized  Field of learning : Electrical / Information / Control  Foundational academic disciplines : Engineering / Electrical and Electronic Engineering / Power Engineering / Electrical Equipment Engineering  Relationship with Educational Objectives : This class is equivalent to a learning goal in advance course "(2) Acquire knowledge in specialized technical fields related to electricity / electronics, information / control, and acquire the ability to utilize it for the design / policy / operation of machines and systems."  Relationship with JABEE programs : The main goals of learning / education in this class is "(A) Deepening basic knowledge about technology, A-2 : To be able to acquire and explain the knowledge of specialized technical fields related to "electricity / electronics" and "information / control". "  Course outline Understand the basic characteristics of power devices and the operating principles of typical circuits for power electronics technology widely used in industry. Students will also learn the basics of technology applied to various applications. Use English texts to improve technical English reading comprehension.						
Style	Course method : Classes are conducted in the form of each student presenting the shared part. Report and exercise as appropriate to deepen understanding.  Grade evaluation method : Presentation content ・ Evaluate based on presentation materials (40%) and assignments (60%).						

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 : As a preparatory study to be conducted in advance, the lecture will be given on the assumption that the basics of semiconductor power conversion have already been taken. In semiconductor power conversion circuits, it is important to understand the operation of inductors and capacitors, which are the basic elements of electric circuits.
	Foundational subjects : Electrical and Electronic Basics II (2nd Year), Electronic Engineering (3rd), Electrical Circuit I, II (3rd, 4th), Electrical Equipment I, II (2nd, 3rd)
	Related subjects : Electrical and electronic equipment (1st in advanced course)
	Attendance advice : Rather than the passive attitude of listening to the lecture, the lesson is regarded as a place to announce the results of the preparation and exchange opinions with teachers and other students, or as a place to ask questions and comments to the presenter from a critical point of view. If it is within 25 minutes of the start of class, it will be late, and 3 times late will result in 1 absence.

### Characteristics of Class / Division in Learning

<input checked="" type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input checked="" type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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### E l e c t i v e s u b j e c t s

#### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance	Understand the following contents respectively
		2nd	Power electronics concept	Explain what power electronics are.
		3rd	Features and fields of application	Explain the application fields of power electronics.
		4th	Basic components	Explain the basic circuit configuration.
		5th	Concept of operation and advantages and disadvantages	Explain the concept of operating principle.
		6th	About various power devices	Explain the types of power semiconductor elements.
		7th	Diode, thyristor	Explain the operating characteristics of diodes and thyristors.
		8th	Power transistor	Explain the operating characteristics of power transistors.
	2nd Quarter	9th	Power MOSFET	Explain the operating characteristics of power MOSFETs.
		10th	GTO, IGBT, etc.	Explain the operating characteristics of GTO and IGBT.
		11th	What is a power conversion circuit?	Explain the operating principle and application of power conversion circuits.
		12th	Converters and various formulas	Explain the outline and method of the converter.
		13th	Step-down converter	Explain the configuration and principle of the step-down converter.
		14th	Boost converter	Explain the configuration and principle of the step-up converter.
		15th	(Final test)	
		16th	Inverter and various methods	Explain the configuration and principle of the inverter.

### Evaluation Method and Weight (%)

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

Tsuyama College		Year	2021		Course Title	Practice in Information System I	
Course Information							
Course Code		0032		Course Category		Specialized / Elective	
Class Format		Seminar		Credits		School Credit: 1	
Department		Advanced Electronics and Information System Engineering Course		Student Grade		Adv. 2nd	
Term		First Semester		Classes per Week		2	
Textbook and/or Teaching Materials		Distributed original textbook. Books related to Linux system and programming.					
Instructor		SORI Hitoshi,KAWAI Masahiro					
Course Objectives							
Learning purposes: Learn the fundamental knowledge related to computer systems and the methodologies of software development. Further, gain imagination from studying, planning, implementing, and considering through problem resolution.							
Course objectives: 1. To be able to explain fundamental mechanisms and configurations of computer systems. 2. To be able to explain the fundamental programming techniques and software developments. 3. To be able to address the applied problem by using programming techniques.							
Rubric							
	Excellent		Good		Acceptable		Not acceptable
Achievement 1	The student can explain the fundamental mechanisms and configurations of computer systems including advantages and disadvantages concretely.		The student can explain the fundamental mechanisms and configurations of computer systems concretely.		The student can explain the fundamental mechanisms and configurations of computer systems.		The student cannot explain the fundamental mechanisms and configurations of computer systems.
Achievement 2	The student can explain the fundamental programming techniques and software developments including advantages and disadvantages concretely.		The student can explain the fundamental programming techniques and software developments concretely.		The student can explain the fundamental programming techniques and software developments.		The student cannot explain the fundamental programming techniques and software developments.
Achievement 3	The student can apply the programming techniques in problems at a high level.		The student can apply the programming techniques in problems.		The student can apply the programming techniques in problems by reference to example problems.		The student cannot apply the programming techniques in problems by reference to example problems.
Assigned Department Objectives							
Teaching Method							
Outline	General or Specialized: Specialized Field of learning: Information and control  Foundational academic disciplines: Informatics, computer systems, and networks  Relationship with Educational Objectives: This class is equivalent to "(2) The student has acquired knowledge of the following specialized technical fields for designing, manufacturing, and operation of machinery and systems." Relationship with JABEE programs: the main goal of learning /education in this class is "(A)," "(C)," and "(D)."  Course outline: Learn the foundational programming techniques and software developments through study for mechanisms and configurations of computer systems and software development environments.						
Style	Course method: Learn the mechanisms, configurations, and software developments of computer systems through using a Linux system, a scripting language, and C programming language. There are a total of six themes for the practice, and each theme is for two classes. The student must submit a report for each theme.  Grade evaluation method: Reports(100%) Evaluate by six reports.						
Notice	Precautions on the enrollment: This class is "Required outside of teaching hours course study." Therefore, this course consists of a total of forty-five hours of teaching and homework per one unit. The student should deal with the homework based on the instructions of the teacher.  Attendance advice: Make sure to prepare for computer systems and software by using an original textbook.  Foundational subjects: Basic Programming (2nd year in Communication and Information System Program), Algorithms and Data Structures (3rd year in Communication and Information System Program), Special Lecture on Information Systems (1st year in Advanced Engineering Course), and Information Science (2nd year in Advanced Engineering Course). Related subjects: Practice in Information System II (2nd year in Advanced Engineering Course)  Course Advice: Should prepare same software development environments in another computer other than practice room. If a student is late on time from taking attendance to half of one period, the student is treated as late for the class. If a student is more than half of one period late in the class, the student will be treated as one absent.						

Characteristics of Class / Division in Learning							
<input type="checkbox"/> Active Learning		<input checked="" type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced		
Course Plan							
			Theme	Goals			
1st Semester	1st Quarter	1st	Guidance	Understand the course plan.			
		2nd	Practice * Mechanisms of Linux and configurations of network	Address the assignment about mechanism of Linux and configurations of network.			
		3rd	Practice * Mechanisms of Linux and configurations of network	Address the same issue with previous week and submit the report.			
		4th	Practice * Software development environment	Address the assignment about software development environment.			
		5th	Practice * Software development environment	Address the same issue with previous week and submit the report.			
		6th	Practice * Programming (1)	Address the assignment about the programming (1).			
		7th	Practice * Programming (1)	Address the same issue with previous week and submit the report.			
		8th	Optional day * Coaching reports	Complete the incomplete report and submit it.			
	2nd Quarter	9th	Practice * Programming (2)	Address the assignment about the programming (2).			
		10th	Practice * Programming (2)	Address the same issue with previous week and submit the report.			
		11th	Practice * Programming (3)	Address the assignment about the programming (3).			
		12th	Practice * Programming (3)	Address the same issue with previous week and submit the report.			
		13th	Practice * Programming (4)	Address the assignment about the programming (4).			
		14th	Practice * Programming (4)	Address the same issue with previous week and submit the report.			
		15th	Optional day * Coaching reports	Complete the incomplete report and submit it.			
		16th	Final submission deadline of each report	Complete all reports submission.			
Evaluation Method and Weight (%)							
	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	0	0	0	0	100	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	0	0	0	0	100	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Practice in Information System II
Course Information						
Course Code	0033		Course Category	Specialized / Elective		
Class Format	Seminar		Credits	School Credit: 1		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	Second Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Distributed original textbook. References: books related to programming techniques and software developments.					
Instructor	SORI Hitoshi,KAWAI Masahiro					
Course Objectives						
Learning purposes: Learn the fundamental methodologies for the construction of information systems. Gain imagination from studying, planning, implementing, and considering through problem resolution. Further, enhance communication skills related to summarizing achievements and making a presentation.						
Course objectives: 1. To be able to explain fundamental methodologies of software developments. 2. To be able to study, plan, implement, consider, and make a presentation for problem resolution. 3. To be able to make a presentation that summarizes developed software by own plan.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	The student can explain the fundamental software developments comprehensibly.	The student can explain the fundamental software developments.	The student can explain the outline of the fundamental software developments.	The student cannot explain the outline of the fundamental software developments.		
Achievement 2	The student can study, plan, implement, consider, and make a presentation for a problem resolution at a high level.	The student can study, plan, implement, consider, and make a presentation for a problem resolution.	The student can study, plan, implement, consider, and make a presentation for a problem resolution at the fundamental level.	The student cannot study, plan, implement, consider, and make a presentation for a problem resolution at the fundamental level.		
Achievement 3	The student can make a presentation for own developed software comprehensibly.	The student can make a presentation for own developed software.	The student can make a presentation for the basic part of own developed software.	The student cannot make a presentation for the basic part of own developed software.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized: Specialized Field of learning: Information and control  Foundational academic disciplines: Informatics, computer systems, and networks  Relationship with Educational Objectives: This class is equivalent to "(2) The student has acquired knowledge of the following specialized technical fields for designing, manufacturing, and operation of machinery and systems." Relationship with JABEE programs: the main goal of learning /education in this class is "(A)," "(C)," "(D)," and "(F)."  Course outline: Learn the foundational skills for software developments through the development process. Further, complete a software application in a half year. Finally, make a presentation about its development.					
Style	Course method: First, decide the development problem for each student and complete the software development according to methodologies such as sequentially creating documents for a plan, specification, and design. Second, make the first presentation about the result, get feedback, and modify the work with the feedback. Finally, make the second presentation about the final result.  Grade evaluation method: Reports(70%) + Work(10%) + Presentation(20%)					
Notice	Precautions on the enrollment: This class is "Required outside of teaching hours course study." Therefore, this course consists of a total of forty-five hours of teaching and homework per one unit. The student should deal with the homework based on the instructions of the teacher. Make sure to prepare the previous knowledge of the programming language for software development.  Attendance advice: Make sure to prepare the environment for software development on one's computer.  Foundational subjects: Basic Programming (2nd year in Communication and Information System Program), Algorithms and Data Structures (3rd year in Communication and Information System Program), Special Lecture on Information Systems (1st year in Advanced Engineering Course), and Information Science (2nd year in Advanced Engineering Course). Related subjects: Practice in Information System I (2nd year in Advanced Engineering Course)  Course Advice: Should create a program with the minimum specification for each target function, check the difference between the implementation and its specification, and modify it step-by-step. If a student is late on time from taking attendance to half of one period, the student is treated as late for the class. If a student is more than half of one period late in the class, the student will be treated as one absent.					
Characteristics of Class / Division in Learning						



<input type="checkbox"/> Active Learning	<input checked="" type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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Course Plan				
			Theme	Goals
2nd Semester	3rd Quarter	1st	Guidance	Understand the course plan.
		2nd	Practice * Software development according to an example	Understand the development flow through the software practice.
		3rd	Practice * Software development according to an example	Understand the development flow through the software practice.
		4th	Practice * Choice of the development problem and creation of the implementation document	
		5th	Practice * Presentation and discussion about the selected development problem	Modify the implementation document with feedback and submit it.
		6th	Practice * Analysis of the specification and creation of software requirements specification * Design and creation of the prototype	Design the prototype and create it through analyzing the specification and the creation of software requirements specification.
		7th	Practice * Design and creation of the prototype	Design the prototype and create it.
		8th	Practice * Design and creation of the prototype * Preparation for the presentation	Design the prototype and create it. Prepare a presentation for the developed software.
	4th Quarter	9th	Mid-Debriefing	Make a presentation about the interim progress of one's software.
		10th	Practice * Addition and modification of the program	Add functions to the program and modify it.
		11th	Practice * Addition and modification of the program	Add functions to the program and modify it.
		12th	Practice * Finish of the program and preparation for the presentation	Finish one's program and prepare for the presentation about it.
		13th	Debriefing	Make a presentation about the developed software.
		14th	Report writing * Creation of final report	Create the final report.
		15th	Optional day * Creation of the final report	Create the final report.
		16th	Report submission	Submit the final report.

  

Evaluation Method and Weight (%)							
	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	0	20	0	0	80	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	0	20	0	0	80	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Numerical Analysis
Course Information						
Course Code	0034		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	Second Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Textbooks : HORINOUCHI Soichi et al., "Introduction to Numerical Calculation in C 2nd Ed.(Japanese)"(Morikita Pub.), Reference books : YAMAMOTO Tetsuro, "Introduction to Numerical Analysis" (Science Pub.)					
Instructor	KIKUCHI Yosuke					
Course Objectives						
Learning purposes : It is necessary to understand the computer-specific errors, in order to execute calculations for a large scale engineering phenomena by a computer. it is also necessary to understand calculation that is suitable for computers and methods to obtain approximate solutions for problems for which there is no general solution method. The purpose of this lecture is to understand these points.						
Course Objectives : 1. To understand the various errors that occur on a computer. 2. To be able to explain the principles and characteristics of well-known numerical methods.						
Rubric						
	Excellent		Good		Acceptable	Not acceptable
Achievement 1	The students list and explain at least four numerical error.		The students list at least four numerical error. The students can also connect error to their explanations , for given errors and their explanations.		The students list at least four numerical error. The students can not connect error to their explanations , for given errors and their explanations.	The students can not list more than four numerical errors.
Achievement 2	The students can make programs using the ideas of bisection method and Newton's method with referring to the textbook.		The students can make a calculation using the ideas of bisection method and Newton's method with referring to the textbook in Excel.		The students can calculate the examples in the textbook using the ideas of bisection method and Newton's method in Excel.	The students can not calculate the examples in the textbook in Excel.
Achievement 3	The students can make programs using the ideas of LU decomposition, Gauss-Seidel method, trapezoidal rule and Euler method with referring to the textbook.		The students can make programs using the ideas of LU decomposition, Gauss-Seidel method, trapezoidal rule and Euler method with referring to the textbook for examples of the textbook.		The students can make more than 2 programs using the ideas of LU decomposition, Gauss-Seidel method, trapezoidal rule or Euler method with referring to the textbook for examples of the textbook.	The students can not make more than 2 programs using the ideas of LU decomposition, Gauss-Seidel method, trapezoidal rule or Euler method with referring to the textbook for examples of the textbook.
Assigned Department Objectives						
Teaching Method						
Outline	※Relationship with practice: This course is provided by a teacher who worked at another institute (IMAI Quantum Computation and Information Project and Quantum Computation and Information Project Solution Oriented Research for Science and Technology. The purpose of this course is to use teacher's experience in understanding the basic idea of information theory as the basis of information engineering. This course is given in lecture format.					
	General or Specialized : Specialized Foundational academic disciplines : Informatics/Computing Technologies/High performance computing Relationship with Educational Objectives :This class is equivalent to "(2) Specialized technical fields pertaining to electrical/electronic engineering, and information/control systems".					
	Relationship with JABEE programs : The main goal of learning / education in this class are "A A-2" also "A-1" is involved.					
	Course outline : Simulation is one of the essential part of technology development in any engineering field. In simulation, computer solve a mathematical model that describes an engineering phenomena. This course provides understanding the calculations and their important points in computing on a computer.					
Style	Course method : The class explains the topics of numerical analysis using materials. Depending on the number of students, the class may be seminar format. Exercises will be given as much as possible. Some explanations that are not in textbook will based on handouts. In principle, preparation or review will be presented for each topics.					
	Grade evaluation method : Exams (100%). Examinations will be conducted a total of 2 times, and the evaluation ratios will be weighted. As a general, retaking exams can not performed. Bringing textbook and notebook at examination is not permitted but depending on the situation. Examinations are based on the rubric but there is no guarantee that the examinations cover achievements in rubric.					

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 class is suitable for students who would like to know development of computer simulation systems and to acquire the basic knowledge of the development. The students are expected to have knowledge of mathematics they have learned. Information concerned with classes will appear on Blackboard(LMS). The students need to consult Blackboard in advance.
	Foundational subjects : Fundamental Mathematics I(1), Differential and Integral I(2), Fundamental Linear Algebra(2), Differential and Integral II(3), Applied Mathematics II(4), Programming I(1), Programming II(2), Programming Language(3), Experiments of Electronic and Computer Systems(EC1)
	Attendance advice : If you are late for the roll call, you will be treated as absent 1 period. This class is based on knowledge of mathematics the students have learned, like Differential and Integral, Linear Algebra and so on. Students should be able to refer to their texts and notes as appropriate. The preparatory work is the main part of the study outside of lecture. Then the students should be done. This work help the students' understanding of lecture.

### Characteristics of Class / Division in Learning

<input checked="" type="checkbox"/> Active Learning	<input checked="" type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input checked="" type="checkbox"/> Instructor Professionally Experienced
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### E l e c t i v e s u b j e c t s

### Course Plan

			Theme	Goals
2nd Semester	3rd Quarter	1st	Guidance	
		2nd	Errors	The student can name at least two types of error. The students understand the relation between numerical representation and errors on a computer. The students understand the effects of errors of numerical calculations on a computer.
		3rd	Equation(Bisection method, Newton's method)	The students can explain bisection method. The students can explain some numerical algorithms for computers.
		4th	Equation(Principle of contraction mapping)	The students can explain contraction mapping.
		5th	Equation system(Sweeping-out method)	The students can make a program of sweeping-out method referring textbook. The students can explain some numerical algorithms for computers.
		6th	Equation system(LU decomposition, Gauss-Seidel method)	The students can make a program of LU decomposition referring textbook. The students can explain some numerical algorithms for computers.
		7th	Interpolation	The students can make a program of interpolation referring textbook. The students can explain some numerical algorithms for computers.
		8th	Mid-term exam	
	4th Quarter	9th	Return and commentary of exam answers	
		10th	Numerical integration 1(Trapezoidal rule)	The students can make a program of trapezoidal rule referring textbook. The students can explain some numerical algorithms for computers.
		11th	Numerical integration 2(Simpson's rule)	The students can make a program of Simpson's rule referring textbook. The students can explain some numerical algorithms for computers.
		12th	Numerical integration 3(Newton-Cotes rules, Composite numerical integration)	The students can explain Newton-Cotes rules and Composite numerical integration. The students can also explain some numerical algorithms for computers.
		13th	Ordinary differential equation(Euler method, Heun's method)	The students can explain initial value problem. The students can also explain some numerical algorithms for computers.
		14th	Ordinary differential equation(Runge-Kutta method)	The students can make a program of Runge-Kutta method referring textbook. The students can explain some numerical algorithms for computers.
		15th	(Final exam)	
		16th	Return and commentary of exam answers	

### Evaluation Method and Weight (%)

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

Tsuyama College		Year	2021		Course Title	Image Processing
Course Information						
Course Code	0035		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	First Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Textbooks : Nothing, Reference : Resources on the Internet, such as related books					
Instructor	YABUKI Noboru					
Course Objectives						
Learning purposes : To understand the concept of image processing and image processing methods for practical use of image processing technology. In addition, to understand how to configure an image processing system and to learn how to configure the system.						
Course Objectives : To understand the field of image processing that has not been covered in other subject areas. 1. To be able to understand and explain image processing methods. 2. To understand how to configure image processing systems. 3. To deepen the understanding through exercises, research presentations and assignment reports.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	To be able to explain in detail the methods of image processing, including applications.	To be able to explain the basic methods of image processing in detail.	To be able to explain the basic methods of image processing (presentation).	Cannot explain the methods of image processing.		
Achievement 2	To be able to construct an image processing system in detail and explain it fully.	To be able to construct an image processing system in detail.	To be able to explain the basic configuration of an image processing system (examination).	Cannot explain the configuration of an image processing system.		
Achievement 3	Be able to serve as a role model for other students in research presentations and assignment report writing.	To be able to make sufficient research presentations and reports.	Be able to make a presentation and write a report.	Cannot make a presentation or write a report.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized Field of learning : Information / Control Foundational academic disciplines : Engineering / Electrical and Electronic Engineering / Instrumentation Engineering Relationship with Educational Objectives : This class is equivalent to "(2) Knowledge in the following specialized technical fields can be applied to mechanical and system design, manufacture, and operations. Specialized technical fields pertaining to electrical/electronic engineering, and information/control systems."  Relationship with JABEE programs : The main goal of learning / education in this class are "(A)... A-2...", incidentally also involved in "A-3".  Course outline : With the development of computers, image processing technology has come to be used in all fields of industry. In this course, students will learn the concept of image processing and image processing methods for using image processing technology, and check the actual processing results. In addition, students will be explained how to construct an image processing system by using examples.					
Style	Course method : The basic information of image processing will be explained first, and then the students will present their research on various image processing methods. In other words, the students are asked to report the results of their investigations and examples of the class contents, and the missing items are explained. In addition, students are required to learn the configuration of the image processing system as extra time to deepen their understanding.  Grade evaluation method : Examination(60%)+Research presentation (20%)+ assignment report, etc. (20%) ・ Examination allow notebooks to be brought in. ・ For those who have less than 60 points in each regular test, supplementary lessons will be given, and if the understanding can be confirmed by the retest, the points may be changed. However, the evaluation after the change shall not exceed 60 points.  List of Research presentation Sampling theorem, density transform, histogram, spatial filtering, smoothing, edge extraction, Histogram, Spatial Filtering, Smoothing, Edge Extraction, Fourier Transform, Frequency Filtering, Binarization, Binary Image Processing, Line Detection, Color Image, Pattern Recognition, Video Image Processing, Image Coding, etc. Lessons Learned in Extra Time * Research on the class contents and prepare presentation materials * Configuration of image processing systems and preparation of assignment reports Content of the report Objectives Flow of the image processing system Summary (Proaress report of the system configuration will be given during the lecture.)					

Notice	<p>Precautions on the enrollment :  For network program choosers, students must take this class (no more than one-third of the required number of class hours missed) in order to complete the 5th year course. 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.</p> <p>Course advice :  As a preparatory study, students should research the applications of using images.</p> <p>Foundational subjects : Differential and Integral I , II (2nd,3th), Applied Mathematics I , II (E4th,C4th), Digital Signal Processing(C5th)</p> <p>Related subjects : Digital Signal Processing(EC-2nd), etc.</p> <p>Attendance advice :  There is a certification examination related to image processing (Image Processing Engineer Certification Examination), and it would be a good idea to challenge this examination. Students who have not taken imaging courses in this course should actively seek advice from their instructors if they have any questions about research methods or content.</p> <p>Check for late arrivals in quarters of class time. Late arrivals of 25 minutes or more are treated as one absence.</p> <p>Students are required to submit a report on their overtime study after all lectures.</p>
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### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input checked="" type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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### E l e c t i v e S u b j e c t s

#### Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance, overview and history of image processing	Understand the overview of image processing
		2nd	Basics of digital images, Application fields of image processing, Examples of image processing applications	Be able to explain the basics of image processing
		3rd	Basics of image processing systems	To understand the basics of image processing systems
		4th	To be able to explain the structure of input/output devices (digital cameras, etc.)	To be able to explain the structure of input/output devices
		5th	Presentation of assignment	Presentation of assignment Questions and answers
		6th	Presentation of assignment	Presentation of assignment Questions and answers
		7th	Presentation of assignment	Presentation of assignment Questions and answers
		8th	Presentation of assignment	Presentation of assignment Questions and answers
	2nd Quarter	9th	Presentation of assignment	Presentation of assignment Questions and answers
		10th	Presentation of assignment	Presentation of assignment Questions and answers
		11th	Presentation of assignment	Presentation of assignment Questions and answers
		12th	Presentation of assignment	Presentation of assignment Questions and answers
		13th	Configuration of image processing system	Preparation of the concept of image processing system configuration
		14th	Creation of algorithms for image processing system	Completion of creation of algorithms for the image processing system
		15th	Summary of image processing and final exam of the previous semester	Confirmation of summary of image processing so far and the final exam
		16th	(Final exam of the first semester)	(Later, return and check the answer sheets of the final exam)

### Evaluation Method and Weight (%)

	Examination	Presentation	Assignment	Total
Subtotal	60	20	20	100
Basic Proficiency	0	0	0	0
Specialized Proficiency	60	20	20	100
Cross Area Proficiency	0	0	0	0

Tsuyama College		Year	2021	Course Title	Digital Signal Processing
Course Information					
Course Code	0036		Course Category	Specialized / Elective	
Class Format	Lecture		Credits	Academic Credit: 2	
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd	
Term	Second Semester		Classes per Week	2	
Textbook and/or Teaching Materials	Lecture slide PDF / Reference book : Koichi SAKAI, "Digital Signal Processing for Technical College Students (高専学生のためのデジタル信号処理)" (Coronasha)				
Instructor	KAWANAMI Hiromichi				
Course Objectives					
<p>Learning Purposes : Digital signal processing (DSP) is widely used for communication, information processing, control, medical electronics and so on. In this lecture, learn a basic theory of DSP and how to program the basic idea.</p> <p>Course objectives :          ◎Understand essential terms on signal processing which a information technology expert should know.          1. Learn Fourier series, Discrete Fourier transform and z-transform and analysis of fundamental periodical function.          2. Learn relationship between parameters of 2nd order system and its transfer function.</p>					
Rubric					
	Excellent	Good	Acceptable	Not acceptable	
Achievement 1	The student can concretely explain and apply function analysis using Fourier series and Fourier Transform.	The student can explain function analysis using Fourier series and Fourier Transform.	The student can explain function analysis using Fourier series and Fourier Transform.	The student can not explain function analysis using Fourier series and Fourier Transform.	
Achievement 2	The student can concretely explain and apply function analysis using z-transform.	The student can explain function analysis using z-transform.	The student can explain function analysis using z-transform.	The student can not explain function analysis using z-transform.	
Achievement 3	The student can concretely explain and apply 2nd order transfer function.	The student can concretely explain 2nd order transfer function.	The student can explain 2nd order transfer function.	The student can not explain 2nd order transfer function.	
Assigned Department Objectives					
Teaching Method					
Outline	<p>General or Specialized : Specialized Field of learning : Information theory, Control Foundational academic disciplines : Engineering/Electric and Electronic Engineering/System Engineering</p> <p>Relationship with Educational Objectives : This class is equivalent to "(2) Acquire knowledge in specialized technical fields related to electricity / electronics and information / control, and acquire the ability to utilize it for the design, manufacture, and operation of machines and systems". Relationship with JABEE programs : The main goal of learning / education in this class are "A", "A-2" and also "D-2" is involved.</p> <p>Course outline : Study the basic theory on digital signal processing and learn a technique to construct the algorithm on a DSP device.</p>				
Style	<p>Course method : Lectures are given using presentation slides. Exercises are also given to confirm students' understanding.</p> <p>Grade evaluation method : Examination : 75 % (final examination) Exercise: 25 %</p>				
Notice	<p>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.</p> <p>Course advice : Preparatory study using the reference book and a manual of "octave" or "matlab" is recommended.</p> <p>Foundational subjects : Differential and Integral I (2 year), Differential and Integral II (3), Applied Mathematics II (4E, 4C), Electrical Circuits System (4C), Control Engineering (4C), Communication Engineering (4E), etc.</p> <p>Related subjects : Advanced Control Engineering (EC2)</p> <p>Attendance advice : This class uses fundamental knowledge of mathematical analysis.</p>				
Characteristics of Class / Division in Learning					
<input type="checkbox"/> Active Learning		<input checked="" type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class	
				<input type="checkbox"/> Instructor Professionally Experienced	
Elective subjects					
Course Plan					
			Theme	Goals	

2nd Semester	3rd Quarter	1st	Guidance / Introduction to digital signal processing	
		2nd	Fourier series (1)	
		3rd	Fourier series (2)	
		4th	Exercise on Fourier series	
		5th	Fourier transform (1)	
		6th	Fourier transform (2)	
		7th	Exercise on Fourier transform and inverse Fourier transform	
		8th	Sampling theorem	
	4th Quarter	9th	Discrete Fourier transform (1)	
		10th	Discrete Fourier transform (2)	
		11th	Exercise on Discrete Fourier transform	
		12th	z-transform (1)	
		13th	z-transform (2)	
		14th	Linear time Invariant System	
		15th	Examination	
		16th	Returning and commentary on the examination	

#### Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Self evaluation	Exercise	Other	Total
Subtotal	75	0	0	0	25	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	75	0	0	0	25	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Mathematical Engineering
Course Information						
Course Code	0037		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	First Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Textbooks : Haruto Ohta, "Let's Start Topological Space" (Nihonhyoronsha), Reference Books : Haruto Ohta, "Let's Solve Topological Space" (Nihonhyoronsha)					
Instructor	YOKOTANI Masaaki					
Course Objectives						
Learning purposes : Learn topology and its way of thinking.						
Course Objectives : 1. Acquire the knowledge of mathematics, computational skills, and applied skills necessary to solve basic engineering problems. 2. Understand Euclidean geometry and topology. 3. Understand Euclidean space and its shapes. 4. Understand the deformation and mapping of figures.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	Have mastered the applied skills of mathematics necessary to solve basic engineering problems.	Be familiar with the knowledge of mathematics and have mastered computational skills necessary to solve basic engineering problems.	Have acquired the knowledge of mathematics necessary to solve basic engineering problems.	Insufficient knowledge of mathematics and calculation skills necessary to solve basic engineering problems.		
Achievement 2	Understand the relationship between isometric transformations and joint transformations.	Understand the concept of topology.	Understands Euclidean geometry and similar geometry.	Lack of understanding of Euclidean geometry and topology.		
Achievement 3	Understands figure crafting, graphs, and self-similar figures.	Understand the concept of figures from a topological point of view.	Understand distance and Euclidean space.	Lack of understanding of the concept of Euclidean space and figures.		
Achievement 4	Understand the sequence of points in a shape and its convergence.	Understand the nature of mapping.	Understand that the deformation of a figure is represented by a map.	There is a lack of understanding of the deformation of figures and the sequence of points.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized Field of learning : Common and basics of natural science Foundational academic disciplines : Mathematical science / mathematics / mathematics in general Relationship with Educational Objectives : This class is equivalent to "(1) To deepen the knowledge of natural science subjects centered on mathematics and physics, and acquire the ability to apply it as basic academic ability related to mechanical / control system engineering and electronic / information system engineering". Relationship with JABEE programs : The main goals of learning / education in this class are "(A), A-1". Course outline : One way to solve problems that occur in engineering is to grasp the essence of the phenomenon and cut it down from what you can understand. The significance of this lecture is to learn how to see and use useful things in such cases. Topology is a discipline that examines the property of maintaining invariance even when a figure is continuously deformed. Through this, we learn how to see what is invariant, that is, what captures the essence.					
Style	Course method : Classes will be centered on board writing, but at the same time, as much exercise time as possible will be provided so that students can understand the content of the lecture more deeply and acquire the ability to solve problems on their own. Grade evaluation method : Evaluate by regular examination (60%) and report (40%). Depending on the grades, etc., a re-examination may be conducted (report assignment is imposed).					
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 : • As a preparatory study to be conducted in advance, review the contents of basic mathematics I, basic mathematics II, calculus I, calculus II, and basic linear algebra, which are the basic subjects. • It is important to make sure to prepare and review, and to understand the lecture contents more deeply by solving the exercises on your own. Foundational subjects : Basic Mathematics I (1st year), Basic Mathematics II (1), Calculus I (2), Calculus II (3), Basic Linear Algebra (2) Related subjects : Subjects of each specialized department Attendance advice : It is important to understand the content of the lecture well and solve the problem by yourself. I want you to value finding a solution on your own. If you are late a lot, you may be treated as absent after giving a warning.					



Characteristics of Class / Division in Learning							
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class			
<input type="checkbox"/> Instructor Professionally Experienced							
E l e c t i v e   s u b j e c t s							
Course Plan							
			Theme	Goals			
1st Semester	1st Quarter	1st	Guidance, Euclidean geometry  Learning content outside class hours: Report assignment (1) "Euclidean geometry and topology"	Understand congruence transformation and become familiar with the properties of invariant figures under congruence transformation.			
		2nd	Similar geometry  Learning content outside class hours: Report assignment (1) "Euclidean geometry and topology"	Understand similarity transformations and become familiar with the properties of invariant figures under similarity transformations.			
		3rd	topology  Learning content outside class hours: Report assignment (1) "Euclidean geometry and topology"	Familiarize yourself with the idea of topology.			
		4th	Isometric transformation and joint transformation  Learning content outside class hours: Report assignment (1) "Euclidean geometry and topology"	Understand the relationship between isometric transformation and joint transformation.			
		5th	Exercise (Euclidean geometry and topology)  Learning content outside class hours: Report assignment (1) "Euclidean geometry and topology"				
		6th	Distance and Euclidean space  Learning content outside class hours: Report assignment (2) "Euclidean space and its figures"	Familiarize yourself with distance and Euclidean space.			
		7th	Shape  Learning content outside class hours: Report assignment (2) "Euclidean space and its figures"	Familiarize yourself with some examples of shapes in Euclidean space.			
		8th	Crafting figures, graphs, and self-similar figures  Learning content outside class hours: Report assignment (2) "Euclidean space and its figures"	Familiarize yourself with figure work, graphs, and self-similar figures.			
	2nd Quarter	9th	Set and logic  Learning content outside class hours: Report assignment (2) "Euclidean space and its figures"	Familiarize yourself with sets and logic.			
		10th	Exercise (Euclidean space and its figures)  Learning content outside class hours: Report assignment (2) "Euclidean space and its figures"				
		11th	Shape transformation  Learning content outside class hours: Report assignment (3) "Transformation and mapping of figures"	Understand the basic properties of figure deformation and represent the deformation by mapping.			
		12th	Map  Learning content outside class hours: Report assignment (3) "Transformation and mapping of figures"	Familiarize yourself with the nature of mapping.			
		13th	Sequences and point sequences of figures  Learning content outside class hours: Report assignment (3) "Transformation and mapping of figures"	Understand the sequence of numbers and the sequence of points of figures, and show convergence by the $\epsilon$ -N theory.			
		14th	Exercise (transformation and mapping of figures)  Learning content outside class hours: Report assignment (3) "Transformation and mapping of figures"				
		15th	(final exam)				
		16th	Return and commentary of the final exam answer				
Evaluation Method and Weight (%)							
	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	60	0	0	0	0	40	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	60	0	0	0	0	40	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Scientific Investigation
Course Information						
Course Code	0038		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	Second Semester		Classes per Week	2		
Textbook and/or Teaching Materials	Handouts and other materials will be distributed as appropriate.					
Instructor	YAMAGUCHI Daizo					
Course Objectives						
Learning purposes : When selecting a machine material, it is important to fully understand its properties and to judge how it should be used. In this class we will learn how to evaluate the properties of mechanical materials, and in group work we will learn what the results mean and what we need to pay attention to when evaluating them.						
Course Objectives : 1. To understand the methods of investigating the properties of mechanical materials and to be able to select the required evaluation method. 2. To be able to judge which materials are most suitable for the required performance. 3. To be able to draw up an evaluation and analysis plan.						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	Be able to explain how to investigate the properties of materials and select the required evaluation methods.	Understand how to investigate the properties of materials and be able to work collaboratively in a team to select the required evaluation method.	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	It is possible to determine which materials are most suitable for the required performance.	The ability to work as a team to determine which materials are most suitable for the required performance.	With the advice of a supervisor, be able to judge what materials are most suitable for the required performance.	Not reached the left column.		
Achievement 3	Be able to develop an evaluation and analysis plan.	Be able to work in a team to develop a collaborative evaluation and analysis plan.	Be able to develop an evaluation and analysis plan with the advice of a supervisor.	Not reached the left column.		
Assigned Department Objectives						
Teaching Method						
Outline	General or Specialized : Specialized Field of learning : Common and basic natural sciences Foundational academic disciplines : Engineering / Materials / Mechanics of materials / Materials evaluation 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 "(A), A-1. Course outline : When selecting a machine material, it is important to fully understand its properties and to judge how it should be used. In this course, students will learn how to evaluate the properties of mechanical materials, and in group work, they will learn what the evaluation results mean and what to pay attention to when evaluating them.					
Style	Course method : Each group will research, study and make a presentation on the evaluation, analysis equipment and research field. The teacher will assist the students in their presentations and they will submit a report by the next week. Students are expected to prepare for the next lesson and understand the meaning of technical terms. Grade evaluation method : (1) Distribution of marks: examination (report method): 80%, presentation content: 20%. (2) Evaluation criteria: The basic content and understanding of the items listed in the achievement objectives and their basic application will be the evaluation criteria. 60 points or more is a passing score. (3) Re-examination: Students will be re-examined only once by oral examination. (3) Retest: Only one retest by oral examination will be given; however, a retest may be given if the subject in question does not meet the standard. A special report may also be substituted.					

Notice	Precautions on the enrollment : In addition to the 15 credit hours per credit, students are required to study 30 credit hours. Students are expected to follow the instructions of their teachers regarding these studies.
	Course advice : It is essential that students prepare for the class by communicating and reviewing with their teammates, and that they maintain a regular interest in mechanical materials.
	Foundational subjects : Applied Chemistry (all 4th year), Chemistry II (3rd), Materials Science (M 2nd), Mechanics of Materials I (M 3rd), Mechanics of Materials II (M 4th), Electrical and Electronic Materials (E 5th).
	Related subjects : Functional Materials Science (MS 2nd), Strength of Materials (MS 2nd).
	Attendance advice : No previous learning of analytical instruments in the sciences is necessary, but students should be curious and actively seek to acquire new knowledge. Students are expected to study independently so that they can understand the basic purposes and principles of analytical instruments. Students who enter the room more than 15 minutes after the start of the class will be treated as absent.

#### Characteristics of Class / Division in Learning

<input checked="" type="checkbox"/> Active Learning	<input checked="" type="checkbox"/> Aided by ICT	<input checked="" type="checkbox"/> Applicable to Remote Class	<input checked="" type="checkbox"/> Instructor Professionally Experienced
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#### E l e c t i v e s u b j e c t s

#### Course Plan

			Theme	Goals
2nd Semester	3rd Quarter	1st	Guidance (Study outside class time: Assignment (1) Materials assessment methods (overview of different methods))	Understand how the class is run.
		2nd	Mechanical characterisation (tensile, compression, bending, hardness and impact tests) (Study outside class time: Assignment (2) Tensile and compression tests).	Understand typical mechanical properties evaluation methods.
		3rd	Preparation of Presentation Slides I (Study outside class time: Assignment (3) Bending Examination)	Work in groups to produce a slide about the evaluation device.
		4th	Preparation of presentation slides II (Study outside class time: Assignment (4) Hardness test)	Students work in groups to prepare slides on phenomena and theories.
		5th	Preparation of presentation slides III (Study outside class time: Assignment (5) on the impact test)	Each group will prepare a slide presentation on an application in a real company.
		6th	Presentation by group 1 (Study outside class time: preparation of assignment (6) by group 1)	Be able to understand the content of the presentation.
		7th	Presentation group 2 (Study outside class time: assignment (7) preparation of group 2)	Be able to understand the content of the presentation.
		8th	Presentation by 3 groups (Study outside class time: Assignment (8) Preparation of 3 groups)	Be able to understand the content of the presentation.
	4th Quarter	9th	Evaluation of mechanical materials (XRD, SEM, TEM) (Study outside class time: Assignment (9) XRD)	Be able to understand typical mechanical material evaluation methods.
		10th	Preparation of presentation slides I (Study outside class time: Assignment (10) SEM)	Work in groups to produce slides about the analyser.
		11th	Preparation of presentation slides II (Study outside class time: Assignment (11) TEM)	In groups, prepare a slide presentation on the principles of evaluation and analysis.
		12th	Presentation by group 1 (Study outside class time: preparation of assignment (12) by group 1)	Be able to understand the content of the presentation.
		13th	Presentation group 2 (Study outside class time: preparation of assignment (13) group 2)	Be able to understand the content of the presentation.
		14th	Presentation by group 3 (study outside class time: assignment (14) preparation by group 3)	Be able to understand the content of the presentation.
		15th	Completing the report	Correct inadequate report content.
		16th	Summary	

#### Evaluation Method and Weight (%)

	Examination (Report)	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	80	20	0	0	0	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	80	20	0	0	0	0	100
Cross Area Proficiency	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	System Control Engineering
Course Information						
Course Code	0039		Course Category	Specialized / Elective		
Class Format	Lecture		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	Second Semester		Classes per Week	2		
Textbook and/or Teaching Materials	テキストとなる資料を配布する。					
Instructor	YAGI Hideyuki					
Course Objectives						
学習目的：伝達関数で表現されたシステムに対して時間領域で表現された状態空間モデルについて説明でき、システムの可制御性と可観測性の概念を理解する。						
到達目標： 1.実在システムから状態変数モデルが構築できる。 2.状態方程式の解法を知り、解を求めることができる。 3.可制御、可観測について理解し、系の可制御、可観測性が判定できる。 4.状態フィードバックによって系の極を指定できる。						
Rubric						
	優		良		可	不可
評価項目1	複雑な問題に対し状態空間モデルの理論を適用することができる。		状態空間モデルに関する理論を理解できる。		状態空間モデル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2	状態方程式の座標変換に関して発展的に理論を適用できる。		状態方程式の座標変換を理解できる。		状態方程式の基礎的な座標変換を理解できる。	左記に達していない。
評価項目3	システムの可制御性と可観測性の概念に関して発展的に理論を適用できる。		システムの可制御性と可観測性の概念に関する理論を理解できる。		システムの可制御性と可観測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	応用的な問題に対し、状態フィードバックによる制御系設計理論を適用できる。		状態フィードバックによる制御系設計について理解できる。		状態フィードバックによる基礎的な制御系設計について理解できる。	左記に達していない。
Assigned Department Objectives						
Teaching Method						
Outline	一般・専門の別：専門・情報・制御					
	基礎となる学問分野：工学/電気電子工学/制御工学					
	専攻科学学習目標との関連：本科目は専攻科学学習目標「(2)専門技術分野の知識を修得し、機械やシステムの設計・製作・運用に活用できる能力を身につける」に相当する科目である。					
	技術者教育プログラムとの関連：本科目が主体とする学習・教育到達目標は「(A)技術に関する基礎知識の深化、A-1：工学に関する基礎知識として、自然科学の幅広い分野の知識を修得し、説明できること」である。					
Style	授業の概要：本講義では、モデル化されたシステムを現代制御理論により解析する。これらシステムの安定論、可制御・可観測性、構造解析など状態方程式を基に統一的に論ずる。					
	授業の方法：複雑なシステムのモデル化から制御設計手法まで、「倒立2輪車両ロボット」の制御モデル例を交えながら講義する。更に、理解が深まるように、レポート課題を課す。					
Notice	成績評価方法：定期試験の結果を評価する（70％）。レポート課題などの提出物の内容を評価する（30％）。レポート課題の提出期限が守られていない場合は、最大20％までの評価とする。 理解度が不十分であると感じられる部分は補講を行い、再試を行う場合もある。再試の結果は上限60点として定期試験結果に入れる。					
	履修上の注意：本科目は「授業時間外の学修を必要とする科目」である。当該授業時間と授業時間外の学修を合わせて、1単位あたり45時間の学修が必要である。授業時間外の学修については、担当教員の指示に従うこと。					
	履修のアドバイス：本科制御工学で学んだ内容を理解していることが望ましい。					
	基礎科目：制御工学（電気電子、情報4）、制御工学特論（電気電子5）など 関連科目：線形代数学（専1年）、回路網解析（専2）など					
受講上のアドバイス：本講義では線形代数の知識を駆使することになる。行列演算等はコンピュータを用いて効率的に計算できるが、基本的な計算はハンドワークによって確認する必要がある。また、与えられる課題を遅延なくこなすことも重要である。 授業の開始時に出欠をとり、その際返事がなく、その後入室をしてきた者は遅刻とする。遅刻3回で1回の欠席とする。						
Characteristics of Class / Division in Learning						
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced
選択						
Course Plan						
			Theme		Goals	
2nd Semester	3rd Quarter	1st	・ガイダンス		倒立2輪車両の安定化実例	
		2nd	・動的システムと状態方程式		状態方程式の計算	
		3rd	・システムモデルと線形化（1）		電気回路のモデル化	
		4th	・システムモデルと線形化（2）		タンクシステムのモデル化	

		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
	4th Quarter	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	
		16th	・答案の返却と解説	

#### Evaluation Method and Weight (%)

	試験	発表	相互評価	自己評価	課題	小テスト	Total
Subtotal	70	0	0	0	30	0	100
基礎的能力	0	0	0	0	0	0	0
専門的能力	70	0	0	0	30	0	100
分野横断的能力	0	0	0	0	0	0	0

Tsuyama College		Year	2021		Course Title	Long Term Internship
Course Information						
Course Code	0040		Course Category	Specialized / Elective		
Class Format	Practical training		Credits	Academic Credit: 2		
Department	Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd		
Term	Intensive		Classes per Week			
Textbook and/or Teaching Materials						
Instructor	HOSOTANI Kazunori,TERAMOTO Takayuki,KONISHI Daijiro					
Course Objectives						
Learning purposes : The purpose of the internship is to deepen knowledge and improve research ability so as not to be separated from the technology of the real world. Students in the advanced course are required to carry out about 30 hours of off-campus training as part of Thesis Work. However, it is thought that there are many items that cannot be learned in the short time of 30 hours, so we have made it possible to select long-term internships (about 4 weeks, about 140 hours) as elective courses (2 credits) from the above mentioned short-term off-campus training.						
Course Objectives : 1. Explain the training content from a professional perspective through collaborative activities such as learning and research in collaboration with society ◎ Can recognize the responsibility and originality that engineers have on society ◎ Through collaborative activities, you can understand your role and communicate to work appropriately with others. ◎ You can design your own career through corporate activities						
Rubric						
	Excellent	Good	Acceptable	Not acceptable		
Achievement 1	The content of the training can be explained in reports and presentations from a professional point of view so that readers and the audience can fully understand the content of the training.	The content of the training can be explained in reports and presentations from a professional point of view so that readers and the audience can understand the content of the training.	The content of the training can be explained in reports and presentations.	You have not reached the level shown on the left.		
Achievement 2	Understand and fully explain the responsibilities and creativity that companies owe to society.	Understand and explain the responsibilities and creativity that companies owe to society.	Show the responsibilities and creativity that companies owe to society.	You have not reached the level shown on the left.		
Achievement 3	Through practical training, you can understand your role and communicate sufficiently with others (by presentation, etc.).	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	Utilizing the practical training experience at the company, you can think about your career systematically and explain it sufficiently.	Utilizing the practical training experience at the company, you can think about your career systematically and explain it.	Utilizing the practical training experience at the company, you can explain your career .	You have not reached the level shown on the left.		
Assigned Department Objectives						
Teaching Method						
Outline	* Relationship with practical work: This subject is practiced at a private company outside the college with the aim of deepening knowledge and improving research ability so as not to be separated from the technology of the real world. It is set as a 2-credit course with the requirement of conducting practical training for about 4 weeks (about 140 hours).  General or Specialized : Specialized Field of learning : Experiment / practice Foundational academic disciplines : Engineering / Mechanical Engineering / Electrical and Electronic Engineering / Electronic Control Engineering / Information 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 global perspective".  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 evaluation.					

Notice	Precautions on the enrollment : Be sure to take out insurance when you go to practice.			
	Course advice : 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 / business content. Be sure to follow the discipline of the company. intern's evaluation leads to school evaluation and affects recruitment and job hunting.			
	Foundational subjects : All the subjects you have learned.			
	Related subjects : Thesis Work I , II (Advanced Course 1st, 2nd)			
	Attendance advice : Unless it is unavoidable, do not be late or absent from the training.			
Characteristics of Class / Division in Learning				
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class <input checked="" type="checkbox"/> Instructor Professionally Experienced
E l e c t i v e   s u b j e c t s				
Course Plan				
			Theme	Goals
1st Semester	1st Quarter	1st	Guidance (beginning of the school year)	You can plan your long-term internship course and your career.
		2nd	Decision of training company	You can plan your long-term internship course and your career.
		3rd	Confirmation of practical training contents with the supervisor / company staff	You can understand the contents at the internship destination and make a training plan.
		4th	Practical training in companies, etc.	Understand your own role and practice, and through the practice you can understand the responsibility and creativity that a company has on society.
		5th	Practical training in companies, etc.	Understand your own role and practice, and through the practice you can understand the responsibility and creativity that a company has on society.
		6th	Practical training in companies, etc.	Understand your own role and practice, and through the practice you can understand the responsibility and creativity that a company has on society.
		7th	Practical training in companies, etc.	Understand your own role and practice, and through the practice you can understand the responsibility and creativity that a company has on society.
		8th	Preparation for Internship debriefing session	From a professional point of view, the training content can be summarized in a report and a presentation manuscript.
	2nd Quarter	9th	Internship debriefing session	You can present the training content in an easy-to-understand manner from a professional perspective.
		10th	Participate in practical training at companies for about 4 weeks or 140 hours.	
		11th		
		12th		
		13th		
		14th		
		15th		
		16th		
2nd Semester	3rd Quarter	1st		
		2nd		
		3rd		
		4th		
		5th		
		6th		
		7th		
		8th		
	4th Quarter	9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th		
		16th		
Evaluation Method and 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 College		Year	2021		Course Title	Practice on International Communication
Course Information						
Course Code		0041		Course Category	Specialized / Elective	
Class Format		Seminar		Credits	Academic Credit: 1	
Department		Advanced Electronics and Information System Engineering Course		Student Grade	Adv. 2nd	
Term		Intensive		Classes per Week		
Textbook and/or Teaching Materials		Information on various events, training textbooks, etc.				
Instructor		KONISHI Daijiro,HOSOTANI Kazunori,TERAMOTO Takayuki				
Course Objectives						
Learning purposes : Improve communication skills in English and deepen understanding of various cultures and customs on the earth. Foster awareness as an engineer who can play an active role internationally.						
Course Objectives : 1. Understand the other person's thoughts in English, and be able to explain and convey your thoughts and specialized knowledge / skills in an easy-to-understand manner. 2. You can acquire an international sense and summarize the results.						
Rubric						
	Excellent		Good		Acceptable	Not acceptable
Achievement 1	After understanding the other person thoughts in English regardless of the person to be communicated, such as a technician or the general public, you can convey your own opinions and ideas in an easy-to-understand manner while devising an explanation method, and gain a sufficient understanding.		After understanding the other person in English, you can convey your own opinions and ideas and gain understanding while devising an explanation method.		It can be said in an easy-to-understand manner using effective procedures and means in English.	It can not be said in an easy-to-understand manner using effective procedures and means in English.
Achievement 2	Understand differences in culture and values, develop multifaceted perspectives and ways of thinking, and combine "newly acquired information" and "past knowledge" to come up with new ideas.		Understand the differences in culture and values, and consider while associating "newly acquired information" with "past knowledge."		You can associate "newly acquired information" with "past knowledge".	You can not associate "newly acquired information" with "past knowledge".
Assigned Department Objectives						
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 global perspective".  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.					
Style	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.  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.					

Notice	<p>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.</p> <p>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.</p> <p>Foundational subjects : All the subjects you have learned so far, especially English</p> <p>Related subjects : Practical English I , II (Advanced Course 1st, 2nd), Reading on Technical English (Advanced Course 1st), Thesis Work I , II (Advanced Course 1st, 2nd)</p> <p>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 related to this subject.</p>
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#### Characteristics of Class / Division in Learning

<input type="checkbox"/> Active Learning	<input type="checkbox"/> Aided by ICT	<input type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
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#### E l e c t i v e s u b j e c t s

#### Course Plan

			Theme	Goals
1st Semester	1st Quarter	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.
		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.
		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.
		5th		
		6th		
		7th		
		8th		
	2nd Quarter	9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th		
		16th		
2nd Semester	3rd Quarter	1st		
		2nd		
		3rd		
		4th		
		5th		
		6th		
		7th		
		8th		
	4th Quarter	9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th		
		16th		

#### Evaluation Method and Weight (%)

	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