

Toyama College		Year	2022		Course Title	Advanced Experiments	
Course Information							
Course Code		0022		Course Category		Specialized / Compulsory	
Class Format		Experiment / Practical training		Credits		Academic Credit: 2	
Department		Control Information Systems Engineering Course		Student Grade		Adv. 1st	
Term		Second Semester		Classes per Week		2	
Textbook and/or Teaching Materials							
Instructor		Tsukada Akira,Ito Nao,Mizumoto Iwao,Aso Tsukasa,Yoshii Yotsumi					
Course Objectives							
Through challenges, it is possible to understand technical expertise and evaluation methods for the development of systems. And, it is possible to summarize and publish the acquired technical knowledge.							
Rubric							
		Ideal Level of Achievement (Very Good)		Standard Level of Achievement (Good)		Unacceptable Level of Achievement (Fail)	
Have a design capability to solve the problem.		Utilizing science and technology and information, it is possible to respond to the demands of society with a wide perspective and advanced expertise.		Have specialized technologies that can meet the demands of society.		Do not have technology that meets the demands of society.	
Have the ability to perform the PJ.		The team or the person can systematically advance the PJ in the constraint and express the creative system and express it.		The team or the person can proceed with PJ systematically within the limits.		The team or the person cannot proceed systematically with PJ within the limits.	
The ability to resolve issues and publish the results of the efforts.		The background and purpose of the problem, including the trends in the relevant areas, can be understood and easily explained to others.		The background and purpose of the problem are almost understood, and it can be explained easily to the others.		Cannot understand the background or purpose of the problem, and cannot explain it easily to others.	
Assigned Department Objectives							
ディプロマポリシー C-2 JABEE C2							
Teaching Method							
Outline		Through the experiments, the expertise of electronics and information technology will be enhanced. We will also enhance our ability to build systems through our tasks.					
Style		Experiments are conducted on 5 themes.					
Notice		The credit approval requires more than 60 points.					
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		
2nd Semester	3rd Quarter	1st	Deep learning programming 1		To be able to set up a development environment and execute a sample program for deep learning (recognition of handwritten numbers).		
		2nd	Deep learning programming 2		Set up a problem that can be solved by deep learning in a team, and create a learning program for it.		
		3rd	Deep learning programming 3		Improve the learning program and discuss the results obtained.		
		4th	Analysis of data analysis using statistical analysis method 1		The statistical analysis method can be explained.		
		5th	Analysis of data analysis using statistical analysis method 2		A statistical analysis method can be used to perform basic data analysis.		
		6th	Analysis of data analysis using statistical analysis method 3		The statistical analysis method can be used to analyze the application data.		
		7th	Hands-On Experience with IoT Devices 1		An IoT device can be explained.		
		8th	Hands-On Experience with IoT Devices 2		You can experiment with the basic features of an IoT device.		
	4th Quarter	9th	Hands-On Experience with IoT Devices 3		You can experiment with the application functionality of an IoT device.		
		10th	Phase sensitive amplifier training		The phase sensitive amplifier can be explained.		
		11th	Simulation of the simulation of signals buried in the noise		Signal detection in the noise is possible.		
		12th	Training of weak signal detection systems		Detection of a weak signal is possible.		
		13th	Data collection and analysis exercise of sensing device 1		The sensing device and the data collection can be explained.		
		14th	Data collection and analysis exercise of sensing device 2		The experiment of element technology concerning sensing devices and data collection can be carried out.		

		15th	Data collection and analysis exercise of sensing device 3			The sensing device and the data collection system can be constructed.	
		16th	Occasional date				
Evaluation Method and Weight (%)							
	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	0	100	0	0	0	0	100
Basic Ability	0	0	0	0	0	0	0
Technical Ability	0	100	0	0	0	0	100
Interdisciplinary Ability	0	0	0	0	0	0	0