

Anan College		Year	2024		Course Title	Civil Engineering Experiment 2
Course Information						
Course Code	1814T05		Course Category	Specialized / Compulsory		
Class Format	Experiment		Credits	Academic Credit: 2		
Department	Course of Civil Engineering		Student Grade	4th		
Term	Second Semester		Classes per Week	後期:4		
Textbook and/or Teaching Materials	Testing Procedures of Construction Materials (JSMS) , Engineering of Concrete Structure (Morikita Publisher CO. LTD.)					
Instructor	Kadono Takuma					
Course Objectives						
1. Able to enforce the standard tests of aggregate, rebar and concrete. 2. Able to organize the results of standard tests and their consideration, and create their reports. 3. Able to enforce the mix design and its revision, and explain them. 4. Able to enforce the explanation of outline, predictive calculation, comparison of experiment and calculation, and creating a report, on the structural experiment using RC beam. 5. Able to recognize the communication skill which is important as the engineer and the importance of safety management, and enforce the practice with the cooperativeness.						
Rubric						
		Ideal Level	Standard Level	Minimum Level		
Achievement 1		Able to understand the methods of standard tests of aggregate, rebar and concrete, and enforce them with sufficient accuracy.	Able to understand the methods of standard tests of aggregate, rebar and concrete, and perform them.	Able to perform the methods of standard tests of aggregate, rebar and concrete.		
Achievement 2		Able to understand and organize the results and their consideration of the standard tests, and create reports with sufficient accuracy.	Able to understand and organize the results and their consideration of the standard tests, and create reports.	Able to organize the results and their consideration of the standard tests, and create reports.		
Achievement 3		Able to understand and enforce the mix design and its revision, and explain their outlines with sufficient accuracy.	Able to understand and enforce the mix design and its revision, and explain their outlines.	Able to enforce the mix design and its revision, and explain their outlines.		
Achievement 4		Able to enforce the explanation of outline, predictive calculation, comparison of experiment and calculation, and creating a report, on the structural experiment using RC beam, with sufficient accuracy.	Able to enforce the explanation of outline, predictive calculation, comparison of experiment and calculation, and creating a report, on the structural experiment using RC beam, with accuracy.	Able to enforce the explanation of outline, predictive calculation, comparison of experiment and calculation, and creating a report, on the structural experiment using RC beam.		
Achievement 5		Able to understand and explain the communication skill which is important as the engineer and the importance of safety management, and enforce the practice with the cooperativeness with accuracy.	Able to understand and explain the communication skill which is important as the engineer and the importance of safety management, and enforce the practice with the cooperativeness.	Able to explain the communication skill which is important as the engineer and the importance of safety management, and enforce the practice with the cooperativeness.		
Assigned Department Objectives						
学習・教育到達度目標 D-2 学習・教育到達度目標 E-2						
Teaching Method						
Outline	This course is enforced the standard test of materials and loading test of structural member, focusing on reinforced concrete structure which is one of mainly structure on the civil engineering field. It improves the plan, enforcement, analysis, consideration, group activity and problem-solving abilities, to acquire the knowledge and skill on material, structure and construction through the experiments. In this course, faculty member who was in charge of research and development of concrete structures at company use its experience to teach this course.					
Style	【61 hours of calss time + final exam + self-study time 30hours】					
Notice	This course is one of JABBE course, absense should be prohibited because of acquiring the knowledge and skill accoring to the practical education by group work. For safety reason, students should wear clothes that are easy to move in and can get a little dirty, and athletic shoes should be worn. This is because during experiments, heavy objects may be handled and dust, oil, water may adhere to clothes. Students are sure to bring textbooks, pens and calculator, and careful to manage valuables. Students don't touch anything that is not related to this course, beause the laboratory contains equipments, samples and materials that are being used for graduation study, special study and other experimental practice.					
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	Guidance Standard tests of the aggregate	Able to explain the object, significance and notes in this course. Able to enforce the method of test for sieve analysis of aggregates, and explain it.		
		2nd	Standard tests of the aggregate	Able to enforce the method of test for density and water absorption of fine aggregates, for surface moisutire in fine aggregate and for moisutire content of aggregate and surface moisture in aggregate by drving. and explain it.		

		3rd	Standard tests of the aggregate	Able to enforce the method of test for density and water absorption of coarse aggregates and for moisture content of aggregate and surface moisture in aggregate by drying, and explain it.
		4th	Standard tests of the rebar	Able to enforce the tensile testing-method of test at room temperature of rebar, and explain it.
		5th	Mix design of concrete	Able to enforce the mix design of concrete, and explain it.
		6th	Mix design of concrete	Able to enforce the mix design of concrete, and explain it.
		7th	Mixing concrete and standard tests of fresh concrete	Able to mix concrete, and enforce the standard test at the time of fresh concrete(Slump, Air, Chloride content). And able to explain them. In addition, able to make test specimens that are used as the standard test of post-curing concrete.
		8th	Mixing concrete and standard tests of fresh concrete	Able to mix concrete, and enforce the standard test at the time of fresh concrete(Slump, Air, Chloride content). And able to explain them. In addition, able to revise its mix design.
	4th Quarter	9th	Midterm exam	
		10th	Return of answer Standard tests of the post-curing concrete	Able to enforce the standard tests of post-curing concrete(Compressive, Tensile, Non-destructive inspection), and explain them.
		11th	Standard tests of the post-curing concrete	Able to enforce organizational, analysis and consideration of results on the standard tests of post-curing concrete.
		12th	Experiment of RC beam(Explanation of outline, Production)	Able to explain the outline of loading test of RC beam. And able to make RC beam, and explain them.
		13th	Experiment of RC beam (Loading)	Able to enforce the loading test of RC beam, and explain it.
		14th	Experiment on RC beam(Comparison of experiment and calculation)	Able to calculate predictive values of mechanizm behavior on the loading test of RC beam, and enforce the comparison and consideration of calculation and experiment.
		15th	Experiment on RC beam(Comparison of experiment and calculation)	Able to calculate predictive values of mechanizm behavior on the loading test of RC beam, and enforce the comparison and consideration of calculation and experiment.
		16th	Final exam	

Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	20	0	0	20	50	0	90
Basic Proficiency	10	0	0	15	25	0	50
Specialized Proficiency	10	0	0	5	25	0	40
Cross Area Proficiency	0	0	0	0	0	0	0