

Akashi College		Year	2024		Course Title	Laboratory Experiments in Architectural Engineering A
Course Information						
Course Code	6421			Course Category	Specialized / Compulsory	
Class Format	Experiment			Credits	School Credit: 1	
Department	Architecture			Student Grade	4th	
Term	First Semester			Classes per Week	2	
Textbook and/or Teaching Materials						
Instructor	KAKUNO Yoshinori, NAKAGAWA Hajime					
Course Objectives						
1) Understand the mechanical properties of concrete and steel materials, its experiment method and purpose. 2) Understand the mechanical properties of reinforced concrete beams and steel beams, their structural experiment method, and purpose. 3) Understanding the experiments method, and purpose, the students will be able to elaborate a report using the results of the experiments.						
Rubric						
	Ideal Level		Standard Level		Unacceptable Level	
1) Materials Experiments	Can well understand the materials experiment method and purpose.		Can understand the materials experiment method and purpose.		Can not understand the materials experiment method or purpose.	
2) Structural Experiments	Can well understand the structural experiment method and purpose.		Can understand the structural experiment method and purpose.		Can not understand the structural experiment method and purpose.	
3) Experiments Reports	Can well elaborate a report using the results of the experiments.		Can elaborate a report using the results of the experiments.		Can not elaborate a report using the results of the experiments.	
Assigned Department Objectives						
Teaching Method						
Outline	Learn through structural and material experiments the properties and structural characteristics of the main structural materials such as concrete and steel (reinforcing bar). The students will conduct material experiments on framework materials, concrete mixing design, strength experiments, reinforced concrete loading experiments, H-shaped steel loading experiments. Moreover, the students will deepen their understanding of building material/design/ construction by watching videos about it. Multiple instructors system(kakuno 30 hours, Nakagawa 20 hours). The instructor (Nakagawa) has experience in design supervision at construction sites of famous companies, and through the exercises will transmit to the students their knowledge.					
Style	Students are expected to understand and describe the purpose, method, summary of results for each experiment performed. Experiments are conducted in groups, and each group has to elaborate a report about the experiments performed. Also, the students will elaborate reports about the assignment. The submitted reports are evaluated mutually based on the course rubric.					
Notice	To understand the relation between the lectures and the experiments. To properly execute the experiments according to the specified test method. Each student should keep records of the experiment's data, and reflect on the results in their reports. The students should bring their calculator to the lessons. They should also take care of safety and wear appropriate clothing and present appropriate attitudes concerning the practical aspects of the experiments. 3 absences will be excused					
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 checked="" type="checkbox"/> Instructor Professionally Experienced
Course Plan						
			Theme	Goals		
1st Semester	1st Quarter	1st	Course outline explanation Experiments plan and schedule.	Explanation about the Experiments and Schedule		
		2nd	Experiment 1 part 1 Explanation of unit volume mass sand and gravel test	To understand the purpose, method, and results of unit volume mass experiment.		
		3rd	Experiment 1 part 2 Class divided into groups, Group A works on experiment 1, Group B works on the assignment.	To conduct the experiments in groups. Summarize the experiment results in a report and write a report about the assignment.		
		4th	Experiment 1 part 3 Class divided into groups, Group B works on experiment 1, Group A works on the assignment.	To conduct the experiments in groups. Summarize the experiment results in a report and write a report about the assignment.		
		5th	Experiment 1 part 1 Screening of sand and gravel test explanation	To understand the purpose, method and the results of the aggregate sieving test.		
		6th	Experiment 2 part 2 Class divided into groups, Group A works on experiment 2, Group B works on the assignment.	To conduct the experiments in groups. Summarize the experiment results in a report and write a report about the assignment.		
		7th	Experiment 2 part 2 Class divided into groups, Group B works on experiment 2, Group A works on the assignment.	To conduct the experiments in groups. Summarize the experiment results in a report and write a report about the assignmnet.		
		8th	Creating an experiment report	To understand the experiment results through the repot.		
	2nd Quarter	9th	Experiment 3 part 1 Concrete slump test explanation	To understand the purpose, method, and results of the concrete slump test.		

		10th	Experiment 3 part 2 Class divided into groups, Group A works on experiment 2 , Group B works on the assignment.	To conduct the experiments in groups. Summarize the experiment results in a report and write a report about the assignment.
		11th	Experiment 3 part 3 Class divided into groups, Group B works on experiment 2 , Group A works on the assignment.	To conduct the experiments in groups. Summarize the experiment results in a report and write a report about video watched.
		12th	Mixture Design Explanation on how to design the concrete mixture.	To understand the method of compounding as specified by JASS 5.
		13th	Experiment 4 part 1 Concrete compression strength test	To understand the purpose, method, and results of concrete compressive strength test.
		14th	Experiment 4 part 2 Class divided into groups, Group A works on experiment 2 , Group B works on the assignment.	To conduct the experiments in groups. Summarize the experiment results in a report and write a report about the assignment.
		15th	Experiment 4 part 3 Class divided into groups, Group B works on experiment 2 , Group A works on the assignment.	To conduct the experiments in groups. Summarize the experiment results in a report and write a report about the assignment.
		16th	No end-term Exam	

Evaluation Method and Weight (%)

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