

Akashi College		Year	2024		Course Title	Civil Engineering Materials II		
Course Information								
Course Code		6229		Course Category		Specialized / Compulsory		
Class Format		Lecture		Credits		School Credit: 1		
Department		Civil Engineering		Student Grade		2nd		
Term		Second Semester		Classes per Week		2		
Textbook and/or Teaching Materials		教科書:図説 わかる材料-土木・環境・社会基盤施設をつくる 監修 宮川豊章、編者 岡本享久(学芸出版社)						
Instructor		TAKEDA Naho						
Course Objectives								
Understand the properties of construction materials for building social infrastructure facilities, and can select and use appropriate materials for construction								
Rubric								
		Ideal Level		Standard Level		Unacceptable Level		
Achievement 1		Understand the properties of construction materials for building social infrastructure facilities, and can select and use appropriate materials for construction with consideration for various conditions		Understand the properties of construction materials for building social infrastructure facilities, and can select appropriate materials for construction		Do not understand the properties of construction materials for building social infrastructure facilities, and cannot select and use appropriate materials for construction		
Assigned Department Objectives								
Teaching Method								
Outline		The goal of this course is to understand properties of construction materials for the building of social infrastructure facilities, and acquire the knowledge to select and use appropriate materials.						
Style		The overall evaluations will be based 60% on periodic exams, 30% on exercises and reports, 10% on attitude toward class activities. Students who achieve 60% or above is evaluated to have the basic knowledge of construction materials, and can pass the course. The content of reports must show the level of understanding of the properties of each construction material, and must also satisfy precautions for taking this course.						
Notice		Various construction materials will be introduced, and students must pre-study and review to make sure they organize their understanding. Students should put effort to understand how construction materials are used in a familiar environment. Students who miss 1/3 or more of classes will not be eligible for evaluation.						
Characteristics of Class / Division in Learning								
☒ Active Learning		☒ Aided by ICT		☒ Applicable to Remote Class		☐ Instructor Professionally Experienced		
Course Plan								
			Theme		Goals			
2nd Semester r	3rd Quarter	1st	Types of cement and methods of manufacturing		Can explain the types of cement and the methods of manufacturing			
		2nd	Chemical properties of cement		Can explain the chemical properties of cement			
		3rd	Exercise 2 - 1		Understand the properties of the construction materials studied in class			
		4th	Role and types of aggregate		Can explain the role and types of aggregate			
		5th	Nature of aggregate		Can explain the nature of aggregate			
		6th	Exercise 2 - 2		Understand the properties of the construction materials studied in class			
		7th	Role and types of admixtures		Can explain the role and types of admixtures			
		8th	Functions of admixtures		Can explain the functions of admixtures			
	4th Quarter	9th	Exercise 2 - 3 Types of concrete		Understand the properties of the construction materials studied in class Can explain the types of concrete			
		10th	Degradation of hardened concrete-1		Can explain the degradation of hardened concrete			
		11th	Degradation of hardened concrete-2		Can explain the degradation of hardened concrete			
		12th	Exercise 2 - 4		Understand the properties of the construction materials studied in class			
		13th	Types of polymer material		Can explain the types of polymer materials			
		14th	Composite material made of polymers, and its application as repair and reinforcement material		Can explain the composite material made of polymers, and its application as repair and reinforcement material			
		15th	Global environmental issues and construction materials		Can explain global environmental issues and construction materials			
		16th	Final exam					
Evaluation Method and Weight (%)								
	Exams		Exercises and Reports		Effort status for classes		Total	
Subtotal		50		40		10		100
Basic Proficiency		20		10		10		40
Specialized Proficiency		30		20		0		50

Cross-Disciplinary Proficiency	0	10	0	10
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