



## Subject card

Subject name and code	Technology of Concrete Production , PG_00044009						
Field of study	Civil Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2022/2023		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Concrete Structures -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		mgr inż. Lucyna Grabarczyk				
	Teachers		dr inż. Elżbieta Haustein mgr inż. Lucyna Grabarczyk				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		5.0		15.0	50
Subject objectives	Acquainting with classification and meaning features technical ingredients of concrete, concrete blends and hardened concrete, the selection of elements of concrete and establishing the yard of concrete, classification and applying concrete, basic technological processes in the production of concrete.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W01] has knowledge of selected branches of mathematics, physics and chemistry, which is a base of construction subjects, such as construction theory and material technology and id needed to formulate and solve typical problems of civil engineering		Student defines and explains at the basic level the concepts and principles of concrete technology. Student selects the ingredients (aggregate, cement, admixtures, additives) and the method of designing ordinary concrete. Student designs concrete taking into account the purpose, method of laying and compacting the concrete mix.				
	[K6_U10] can prepare cost estimation and schedule of construction works; is able to make basic economical analysis of engineering investment		Student knows the attitudes for assessing the cost of construction works. Student can present the order of activities in the scope of works performed.				
Subject contents	Genesis and definition of concrete, binder, admixtures, additives and gravel. Basic parameters of binders. Gypsum and lime binders: types and characteristics. Types and classification of cements. The components of concrete, chemical and mineral composition. Special cements. Aggregates: classification, origin and characteristics. Water for concrete mix. Admixtures and additives. Concrete mix - its consistency, workability and homogeneity. Methods of concrete design. Concrete tests and the analysis of the results. Concrete mix production.Vibration. Concrete care.						
Prerequisites and co-requisites	No requirements						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	test		60.0%		50.0%		
	assessment of laboratory work		60.0%		50.0%		
Recommended reading	Basic literature		1. Neville A. M. , Properties of Concrete'				

	Supplementary literature	1. Collepardi M. 'New Concrete' Torino 2006 Grafiche Tintoretto
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	1. Discuss the properties of phase constants in the clinker.  2. Discuss the process of ordinary concrete design method 3R	
Work placement	Not applicable	