



## Subject card

Subject name and code	Special Concretes, PG_00040233						
Field of study	Civil Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Katedra Wytrzymałości Materiałów -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marzena Kurpińska					
	Teachers	mgr inż. Lucyna Grabarczyk					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	0.0	0.0	45
	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	45	0.0		0.0		45
Subject objectives	Supplementing messages purchased during the basic concerning course is a purpose of the object of technology of concrete. Acquaintance of cement materials of a new generation and unconventional methods or conditions of arranging and the care. Practical knowledge of methods of testing the properties of special concretes. Deepening acquaintances of new standard nudes concerning cement concrete.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W15] has deep and adequate knowledge of civil engineering, within offered specialization and profile	The student knows modern concreting techniques and the possibilities of modifying the properties of concrete. The student defines the material, technological and environmental conditions of concrete durability.			[SW1] Assessment of factual knowledge		
	[K7_U15] has advanced skills in civil engineering within offered specialization/profile	The student is able to: - design a concrete composition with special requirements, - use knowledge of techniques concreting and transport, - verify the quality of concrete using an appropriate test method.			[SU3] Assessment of ability to use knowledge gained from the subject		
Subject contents	Concreting methods classification. Material, technological and environmental requirements for the durability of concrete. The classification of the equipment to production, transport, laying and thickening of the concrete mix. Concrete forming. Design and execution requirements for selected special concretes: lightweight concretes, architectural concretes, SCC concretes, high-strength concretes, fibro-concrete. Pomp concrete and shotcrete. Concreting in low and high temperatures.						
Prerequisites and co-requisites	Knowledge of the underlying technology of concrete and concrete techniques .						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Semester dissertation	100.0%			100.0%		
Recommended reading	Basic literature	1. Neville A. M. 'Properties of Concrete'					
	Supplementary literature	1. Collepardi M. 'New Concrete'					

	eResources addresses	Adresy na platformie eNauczenie: Betony Specjalne 2024 - III sem - Moodle ID: 37529 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37529">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37529</a>
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"><li>1. Describe the type of light-weight concrete components , requirements for . Quality components , workmanship , features concrete , care.</li><li>2. Replace procedures when laying concrete under water.</li><li>3. Identify and describe the types of exposure classes of concrete.</li></ol>	
Work placement	Not applicable	