



Subject card

Subject name and code	Technology of Concrete Production II, PG_00044309						
Field of study	Civil Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2022/2023		
Education level	second-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	Part-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	1	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			exam		
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	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						
Technologia Betonów II 2022/23 - Moodle ID: 21968 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=21968							
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		7.0		63.0	100
Subject objectives	The aim of the course is to acquire knowledge in the field of concrete technology and new information from the basic course on concrete technology.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W01] has knowledge of higher mathematics, physics and chemistry, which is a base of subjects, such as construction theory and advanced material technology		Is able to perform statistical analysis of test results.		[SW3] Assessment of knowledge contained in written work and projects		
	[K7_U02] can design and dimension complex steel, concrete (including reinforced), wood and masonry constructions and its details		He knows the concrete ingredients. Is able to design the composition of concrete depending on the environment in which the construction will work. He knows the types of concrete. He knows the ways to care for concrete. He knows the standard requirements.		[SU5] Assessment of ability to present the results of task [SU1] Assessment of task fulfilment		
	[K7_U11] is able to plan and execute laboratory experiments to evaluate quality of construction materials and to determine strength of construction elements		He can assess the quality of basic ingredients. He knows the methods of research.		[SU1] Assessment of task fulfilment		

Subject contents	<ul style="list-style-type: none"> - The properties of binding binders -The properties of mineral and artificial aggregates - Mineral additives for concrete -Design of self-compacting concrete and HPC -Adhesives for mortars and concretes with special properties -Cons of fresh concrete mix - Research on the properties of hardened concrete - Concrete care -Chemical corrosion of concrete -Protection of reinforcement in concrete - Testing the composition of hardened concrete - Standard requirements for concrete components 														
Prerequisites and co-requisites	Knowledge of basic issues of concrete technology.														
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Subject passing criteria</th> <th style="width: 30%;">Passing threshold</th> <th style="width: 30%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Ocena sprawozdania</td> <td>100.0%</td> <td>20.0%</td> </tr> <tr> <td>Ocena prezentacji</td> <td>100.0%</td> <td>50.0%</td> </tr> <tr> <td>Lista obecności</td> <td>60.0%</td> <td>30.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Ocena sprawozdania	100.0%	20.0%	Ocena prezentacji	100.0%	50.0%	Lista obecności	60.0%	30.0%
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Recommended reading	<p>Basic literature</p> <p>Supplementary literature</p> <p>eResources addresses</p>	<p>1. Neville A. M., Concrete properties</p> <p>Articles in magazines:</p> <p>Construction and Building Materials</p> <p>ACI Materials</p> <p>ACI Structures</p>													
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 1. Discuss the properties of binding binders. Compare properties CEM I and CEM III. Explain the designation CEM II / A-S 42.5R, CEM and 42.5R SR3 NA. 2. Describe the properties of mineral and artificial aggregates. 3. Give examples of the use of pozzolana additives on concrete properties. 4. Discuss the principles of designing self-compacting concrete and HPC 5. Describe the types of admixtures for mortars and concretes with special properties 6. Discuss the characteristics of fresh concrete mix for pumpability. 7. Discuss methods of destructive and non-destructive testing of hardened concrete properties 8. Discuss protect metods for concrete. 9. Discuss the types of chemical corrosion of concrete 														
Work placement	Not applicable														