GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Technology of Concrete Production II, PG_00044309		
Field of study	Civil Engineering		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2023/2024
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

Adresy na platformie eNauczanie:
Technologia Betonów II 2023/24 - Moodle ID: 34614
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=34614

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 construtions 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

<table>
<tr><td>Subject contents</td><td>- 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</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Knowledge of basic issues of concrete technology.</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<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>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>1. Neville A. M., Concrete properties</td></tr>
<tr><td>Supplementary literature</td><td>Articles in magazines:

Construction and Building Materials

ACI Materials

ACI Structures</td></tr>
<tr><td>eResources addresses</td><td>Technologia Betonów II 2023/24 - Moodle ID: 34614
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=34614</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>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</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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