Annex No. 9
to the Rector's Decision No. 35/19
of 12 June 2019.

COURSE SPECIFICATION

Course code	**B2-1-BIM-211, B2-1-KB-212, B2-1-M-013**
Course title in Polish	**Wybrane Zagadnienia z Konstrukcji Betonowych**
Course title in English	**Some Aspects of Concrete Structures**
Valid from academic year	**2019/2020**

CURRICULAR ALIGNMENT

Programme	**CIVIL ENGINEERING**
Level	**second-cycle**
Programme profile	**academic**
Mode of attendance	**full-time**
Specialism	**Building Structures, BIM, Bridges**
Academic unit responsible for the course	**Department of Strength of Materials of Concrete Structures and Bridges**
Course coordinator	**dr inż. Artur Wójcicki**
Approved by	**prof. dr hab. inż. Marek Iwański**

COURSE DESCRIPTION

Teaching block	**specialism**
Course status	**elective**
Language of instruction	**English**
Semester of delivery	**semester I**
Prerequisites	**-**
Exam (YES/NO)	**NO**
ECTS	**2**

Mode of teaching	**lecture**	**class**	**lab**	**project**	**seminar**
Number of hours per semester	**15**			**15**	

LEARNING OUTCOMES

Category	**Code**	**Learning outcomes**	**Corresponding programme outcome code**

Knowledge	W01	Students are familiar with terminology associated with concrete structures and prestressed concrete structures.	B2_W09 B2_W14 B2_W16
Skills	U01	Students can use basic terms and solve basic problems associated with design of concrete structures.	B2_U03
Competence	K01	Students are able to work independently and in a team, allocate tasks to team members according to their skills.	B2_K01 B2_K03 B2_K05 B2_K06 B2_K07
	K02	Students are responsible for the reliability of the obtained test results.	B2_K02

COURSE CONTENT

Teaching mode*	Topics covered
lecture	1. Introduction: – information about course contents, – information about grading methods, recommended reading.
	2. Types of reinforced concrete structural members and structures: Frame structures. Precast concrete. Composite concrete flexural members. Changes in cross sections of RC bending element under load. Nonlinear behaviour of complex concrete structures Load level influence on distribution of internal forces in reinforced concrete complex structures, examples of calculations.
	3. Nondestructive metods – testing reinforced concrete structures
	4. Plastic state and behaviour of reinforced concrete structures.
project	1. Design of a reinforced concrete slab.

METHODS OF LEARNING OUTCOMES VERIFICATION

Learning outcome	Learning outcome verification methods					
	Oral exam	Written exam	Test	Project	Report	Other
W01			X	X		
U01			X	X		
K01			X	X		
K02			X	X		

ASSESSMENT

Teaching mode*	Assessment type	Criteria
lecture	exam	*Scoring at least 50% on the in-class test.*
project	mark-based	*A passing grade or higher on project defence.*

STUDENT WORKLOAD

ECTS weighting							
	Activities	Student workload					Unit
1.	Scheduled contact hours	W	C	L	P	S	h
		15			15		
2.	Other (office hours, exams)	2			2		h
3.	**Total number of contact hours**	**34**					h
4.	**Number of ECTS credits for contact hours**	**1,36**					ECTS
5.	**Independent study hours**	**16**					h
6.	**Number of ECTS credits for independent study**	**0,64**					ECTS
7.	**Practical hours**	**17**					h
8.	**Number of ECTS credits for practical hours**	**0.68**					ECTS
9.	**Total workload**	**50**					h
10.	**ECTS credits for the course** *1 ECTS credit =25 student learning hours*	**2**					ECTS

READING LIST

1. EN 1992-1-1. Eurocode2: 2004. Design of concrete structures. Part 1. General rules and rules for buildings.
2. Lecture notes.
3. Materials provided by the teacher (designs and examples of teacher, scientific papers, scientific reports etc.)