STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Computer Methods in Bridge Engineering		**1010102121010121989**
Field of study	Profile of study (general academic, practical)	Year /Semester
Civil Engineering Second-cycle Studies	**(brak)**	**1 / 2**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Bridges and Underground Engineering	**Polish**	**obligatory**
Cycle of study:	Form of study (full-time,part-time)	
Second-cycle studies	**full-time**	
No. of hours		No. of credits
Lecture: **1** Classes: **-** Laboratory: **2** Project/seminars: **-**		**2**
Status of the course in the study program (Basic, major, other)	(university-wide, from another field)	
(brak)	**(brak)**	
Education areas and fields of science and art		ECTS distribution (number and %)
technical sciences		**2 100%**
Technical sciences		**2 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Strength of materials, structural mechanics, concrete bridges, steel bridges
2	**Skills**	Basics of structural design, conceptual design of concrete and steel bridges
3	**Social competencies**	Responsilbilty

Assumptions and objectives of the course:

Acquiring knowledge on computer aided bridge design

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Theoretical basics of computer aided anlysis of bridges - [K_W14, KW16]
2. Computational models of bridge spans and supports - [K_W14, KW16]
3. Method of verification computer analysis results - [K_W14, KW16]

Skills:

1. Creation of computational model of bridge - [K_U03, K_U04]
2. Regarding erection methods in compuational model - [K_U03, K_U04]
3. Compuer analysis on bridge structure - [K_U03, K_U04]

Social competencies:

1. Self-reliance - [K_K01]
2. Honesty - [K_K02]

Assessment methods of study outcomes

Written test
Discussion on complete design excercises

Course description		
Idea if finite element method Computational models of bridge spans and supports		
Basic bibliography: 1. Madaj A., Wołowicki W.: Podsatwy projektowania budowli mostowych, WKŁ, 2007 2. Kmita J., Bień J., Machelski C.: Komputerowe wspomaganie projektowania mostów, WKiŁ, 1989		
Additional bibliography:		
Result of average student's workload		
Activity		**Time (working hours)**
Student's workload		
Source of workload	**hours**	**ECTS**
Total workload	60	2
Contact hours	45	1
Practical activities	30	1