STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Computer Methods**		Code **1010102111010120145**
Field of study **Civil Engineering Second-cycle Studies**	Profile of study (general academic, practical) **(brak)**	Year /Semester **1 / 1**
Elective path/specialty **Bridges and Underground Engineering**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **Second-cycle studies**	Form of study (full-time,part-time) **full-time**	
No. of hours Lecture: **30** Classes: **-** Laboratory: **30** Project/seminars: **-**		No. of credits **4**
Status of the course in the study program (Basic, major, other) **(brak)**	(university-wide, from another field) **(brak)**	
Education areas and fields of science and art **technical sciences**		ECTS distribution (number and %) **4 100%**

Responsible for subject / lecturer:

Wojciech Siekierski
email: Wojciech.Siekierski@put.poznan.pl
tel. 6475834
Budownictwa i Inżynierii Środowiska
ul. Piotrowo 5

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_W16]
2. Computational models of bridge spans and supports - [K_W16]
3. Method of verification computer analysis results - [K_W16]

Skills:

1. Creation of computational model of bridge - [K_U04]
2. Regarding erection methods in compuational model - [K_U04]
3. Compuer analysis on bridge structure - [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. Kmita J., Bień J., Machelski C.: Komputerowe wspomaganie projektowania mostów
Additional bibliography: 1. Madaj A., Wołowicki W.: Podstawy projektowania budowli mostowych

Result of average student's workload	
Activity	**Time (working hours)**

Student's workload		
Source of workload	**hours**	**ECTS**
Total workload	60	4
Contact hours	45	2
Practical activities	30	2