STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Engineering objects**		Code **1010102131010126037**
Field of study **Civil Engineering Second-cycle Studies**	Profile of study (general academic, practical) **general academic**	Year /Semester **2 / 3**
Elective path/specialty **Railways**	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: **15** Classes: **-** Laboratory: **-** Project/seminars: **-**		No. of credits **1**
Status of the course in the study program (Basic, major, other) **other**	(university-wide, from another field) **university-wide**	
Education areas and fields of science and art **technical sciences** **Technical sciences**		ECTS distribution (number and %) **1 100%** **1 100%**

Responsible for subject / lecturer:

Wojciech Siekierski
email: Wojciech.Siekierski@put.poznan.pl
tel. 0-61 6653413
Wydział Budownictwa i Inżynierii Środowiska
ul. Piotrowo 5, Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Strength of materials, structural mechanics, concrete strictures, steel structures
2	**Skills**	Basic static-strength calculations
3	**Social competencies**	Honesty, responsibility

Assumptions and objectives of the course:

Acquiring the knowledge on shaping, calculation, and erection of slab and beam bridges

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

Knowledge:

1. Shaping of reinforced concrete slab and beam bridges - [K_W02]
2. Shaping of steel beam bridges - [K_W02]
3. Shaping of pedestrian tunnels - [K_W02]

Skills:

1. Static analysis and design of concrete slab and beam bridges - [K_U01, K_U03, K_U04]
2. Static analysis and design of steel beam bridges - [K_U01, K_U03, K_U04]
3. Static analysis and design of pedestrian tunnels - [K_U01, K_U03, K_U04]

Social competencies:

1. Honesty - [K_U01]
2. Self-reliance - [K_U02]

Assessment methods of study outcomes

Written colloquium..

Course description

Static-strength calculation of slab and beam bridges, design of reinforced-concrete and steel bridge beams. Slab and bridges: shaping, computations, construction, erection. Tunnels: shaping, design, calculations, erection.
Basic bibliography: 1. A. Madaj, W. Wołowicki Projektowanie mostów betonowych WKŁ Warszawa 2010 2. A. Ryżyński Mosty stalowe WKŁ 1985 3. K. Furtak, M. Kędracki Podstawy budowy tuneli Wyd. PK Kraków 2004
Additional bibliography:

Result of average student's workload

Activity	Time (working hours)

Student's workload

Source of workload	hours	ECTS
Total workload	25	1
Contact hours	15	1
Practical activities	0	0