STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Compliance Structures**		Code **1010102111010121987**
Field of study **Civil Engineering Second-cycle Studies**	Profile of study (general academic, practical) **general academic**	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: **1** Classes: **-** Laboratory: **-** Project/seminars: **1**		No. of credits **2**
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 %) **2 100%** **2 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	The basics of ground mechanics and foundations. The statics of layer constructions. Information?s about the strength of materials and steel constructions. The loads of bridges.
2	**Skills**	Calculation of action on the construction. Knowledge of rules of calculating the forces acting on the construction buried in the ground. The calculation of geometrical characteristics of the construction.
3	**Social competencies**	The awareness of constant gaining knowledge. The ability to form ideas and communicate among the group. The proper use of polish language.

Assumptions and objectives of the course:

-Getting to know the rules of soil-steel composite structures. Gaining skills to form them, design and determine durability.

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

Knowledge:

1. The term ?soil-steel structure? and its characteristic features - [K_W02]
2. The classification of soil-steel structures and methods of production - [K_W07]
3. Methods of design of soil-steel structures - [K_W03]

Skills:

1. To choose the construction type depending on its function and loadings, determine the geometry - [K_U02]
2. To carry out the calculations of the chosen type of the structure - [K_U04]
3. To determine the technological requirements during the realization - [K_U12]

Social competencies:

1. The awareness of constant gaining knowledge. - [K_K06]
2. The communication among the group in terms of communicational engineering. - [K_K01]
3. The ability to justify the chosen construction al solutions. - [K_K09]

Assessment methods of study outcomes

-A written test.

Course description
-The history of soil-steel constructions and its general characteristics. Cross-section types and restrictions in use. The durability of soil-steel structures and anticorrosive protection. The technology of production of soil-steel structures. The loads of soil-steel structures and methods of calculation of forces acting on the construction. Carrying capacity criteria. Methods of design of soil-steel composite structures.

Basic bibliography:

1. . L.Janusz., A.Madaj. Obiekty inżynierskie z blach falistych, WKŁ, Warszawa

Additional bibliography:

1. J.Jeż: Grunoznawstwo budowlane. Wyd. PP, Poznań, 2005
2. Z. Wiłun: Zarys geotechniki, WKŁ, Warszawa 2000
3. Zalecenia projektowe i technologiczne dla konstrukcji inżynierskich z blach falistych, IBDiM, Żmigród, 2004

Result of average student's workload

Activity	**Time (working hours)**

Student's workload

Source of workload	**hours**	**ECTS**
Total workload	56	2
Contact hours	30	1
Practical activities	15	1