COURSE DESCRIPTION CARD - SYLLABUS

Course name
Bridge construction II [S1Bud1>BM2]

Course

Field of study
Civil Engineering

Year/Semester
3/6

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
30

Laboratory classes
0

Other
0

Tutorials
15

Projects/seminars
30

Number of credit points

4,00

Coordinators

dr hab. inż. Wojciech Siekierski
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Lecturers

Prerequisites

steel structures, concrete structures, strength of materials, structural mechanics

Course objective

broadening the knowledge in the field of bridge construction and introducing the subject of underground structures

Course-related learning outcomes

KNOWLEDGE:
KB_W09 - Student knows the rules of constructing and analysing general, low-energy, passive, sustainable, industrial, road, bridge and railway buildings;
KB_W10 - Student has basic general knowledge of general infrastructure design and road and rail transport.
SKILLS:
KB_U06 - Student can prepare statements of strengths influencing the building units and perform static analysis of statically determinate and nondeterminate bar structures; can determinate natural frequency for simple bar structures;
KB_U07 - Student is able to correctly utilise numerical, analytical, simulation and experimental methods, in

order to identify and solve problems in the field of building engineering; to obtain and verify the results.
SOCIAL COMPETENCIES:
KB_K02 - Student takes responsibility for the accuracy and reliability of work results and their interpretation;
KB_K08 - Students are ready to critically evaluate the knowledge and received content and critically evaluate the results of their own work.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
lecture: written test; pass mark: 50% of points
exercises: test; pass mark: 50% of points
project: assessment of the correctness of the exercise performed

Programme content

Shaping of bridge structures.

Course topics

bridge construction materials, traffic design of bridges, superstructure design of slab bridges, beam bridges, frame bridges, arch bridges, buried flexible steel structures, issues of bridge construction technology

Teaching methods

lecture: multimedia presentation supported by the content provided on the blackboard
exercises: multimedia presentation supported by the content given on the blackboard and carrying out the tasks given by the teacher - practical exercises
project: carrying out a task given by the teacher

Bibliography

Basic
Madaj A., Wołowicki W., Podstawy projektowania budowli mostowych, WKŁ, Warszawa, 2007
Madaj A., Wołowicki W., Projektowanie mstów betobnowych, WKŁ, Warszawa, 2010
Ryżyński A., Wołowicki W., Skarżewski J., Karlikowski J., Mosty stalowe, WKŁ, Warszawa, 1985
Karlikowski J, Madaj A., Wołowicki W., Mosty zespolone stalowobetonowe, WKŁ, Warszawa, 2016
Additional
Karlikowski J., Sturzbecher K., Mosty stalowe – przewodnik od ćwiczeń projektowych, Wydawniictwo PP, Poznań, 1993
Karlikowski J., Sturzbecher K., Mosty belkowe i zespolone, Wydawniictwo PP, Poznań, 1998
Szczygieł J., Mosty z betonu zbrojonego i sprężonego, WKŁ, Warszawa, 1972

Breakdown of average student's workload

	Hours	ECTS
Total workload	107	4,00
Classes requiring direct contact with the teacher	77	3,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00