COURSE DESCRIPTION CARD - SYLLABUS

Course name

Budownictwo Mostowe III

Course

Field of study

Budownictwo

Year/Semester

4/7

Area of study (specialization)

Budownictwo drogowe, mostowe i kolejowe

Profile of study

general academic

Level of study

First-cycle studies

Course offered in

polish

Form of study

full-time

Requirements

elective

Number of hours

Lecture

30

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

30

Number of credit points

6

Lecturers

Responsible for the course/lecturer:

dr hab. inż. Arkadiusz Madaj, prof. uczelni

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tel. 61 647 5830

Wydział Inżynierii Lądowej i Transportu

ul. Piotrowo 5, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

Knowledge of structure statics, mechanics and strength of materials, rules of live load applying, internal forces determination, design of cross- and longitudinal section of steel and concrete bridges, load-bearing capacity determination

Course objective

Ability to design bridges supports and steel, concrete and composite bridges, including statistically indeterminate structures

Course-related learning outcomes

Knowledge

a) has the knowledge concerning design of concrete, steel and composite bridges, including statistically indeterminate structures

b) is able to design a bridge support

c) is able to design a span of concrete, steel and composite bridges, including statistically indeterminate structures

d) has knowledge concerning construction of bridges , especially steel-concrete composite structures

Skills

a) can design a bridge support and calculate forces acting on it

b) can design a statistically indeterminate steel, concrete and composite bridge

c) can calculate internal forces in a steel-concrete composite bridge

d) can design a span of a statistically indeterminate structure

Social competences

a) is ready to solve individually tasks concerning design

b) uses technical vocabulary properly

c) is able to use technical literature to broaden knowledge

d) is able to define a method to solve a technical design problem

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: written test, minimum grade 3,0

Project: done correctly and knowledge about its content

Programme content

Design and internal forces calculation in bridges supports, design of steel, concrete and composite bridges, including statistically indeterminate structures

Teaching methods

lecture: multimedia presentation

project: task according to the given topic

Bibliography

Basic

Madaj A., Karlikowski J., Wołowicki W., Mosty zespolone stalowo-betonowe, WKŁ, Warszawa, 2016

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Furtak K., Mosty zespolone. PWN. Warszawa – Kraków, 1999

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Additional

Cusens A.R., Pama R.P., Analiza statyczna pomostów. WKŁ, Warszawa, 1981

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Kmita J., Bień J., Machelski Cz., Komputerowe wspomaganie projektowania mostów. WKiŁ, Warszawa, 1989

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Furtak K., Śliwiński J., Materiały budowlane w mostownictwie. WKiŁ, Warszawa, 2004

Bródka J., Broniewicz M., Projektowanie konstrukcji stalowych wedłu Eurokodow, PWT, 2013

Łubiński M., Filipowicz A., Żółtowski W. Konstrukcje metalowe, Arkady, 2004

Breakdown of average student's workload

	Hours	ECTS
Total workload	120	6,0
Classes requiring direct contact with the teacher	60	3
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	60	3

[1] delete or add other activities as appropriate