COURSE DESCRIPTION CARD - SYLLABUS

Course name

Prefabrication methods

Course

Field of study
Civil Engineering
Area of study (specialization)
IPB
Level of study
Second-cycle studies
Form of study
full-time

Year/Semester
II/2
Profile of study
general academic
Course offered in
język polski
Requirements
compulsory

Number of hours

Lecture
15
Laboratory classes
Other (e.g. online)
Tutorials
Projects/seminars

Number of credit points

1

Lecturers

Responsible for the course/lecturer:
prof. dr hab.inż. Józef Jasiczak

Responsible for the course/lecturer:

Prerequisites

The student should have knowledge of building materials and concrete technology, general construction, concrete, metal and wooden structures, broadly understood construction technologies.

Course objective

The aim of the course is to show the latest achievements in the field of prefabrication of building elements and an overview of contemporary construction implementations at the construction site.

Course-related learning outcomes

Knowledge

KB_W05: knows in detail the currently used building materials and products, their properties and test methods, as well as the technologies of their production and assembly

Skills

KB_U17: can obtain information and integrate it, make its creative interpretation and evaluation, draw conclusions, formulate and justify opinions on technologically advanced materials and structures

Social competences

KB_K03: is ready to independently expand knowledge in the field of modern processes and technologies in construction

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The knowledge acquired during the lecture is verified on a final test at the end of the semester. The exam consists of three blocks of questions. Two are indicated by the examiner, one - to be chosen by the student. Passing threshold - 70%.

Programme content

Lecture: evolution of concrete prefabricated construction technology - 1959 - 2020, methods of industrial production of concrete, steel and wooden prefabricated elements; prefabrication plants of the 70s and 21st century, technologies of production of selected groups of products for housing, public utility, industrial, communication, problems of transport and assembly.

Teaching methods

Lecture: multimedia presentation + films from the implementation of selected objects.

Bibliography

Basic

1. Adamczewski G., Woyciechowski P.: Prefabrykacja w XXI wieku. Inżynier Budownictwa, 4/2015.

2.Józef Jasiczak, René-Xavier Gérard, Lech Wojtasik, Paweł Bryszak, Krzysztof Cichocki, Jarosław Kołodziej :Wytwarzanie elementów dla innowacyjnego systemu energooszczędnego budownictwa prefabrykowanego w ramach projektu Plus Energy Prefab House. Wydanie 2(86)/2019 .BTA, Kraków, s.56-62.

3. Jasiczak J.: Nowoczesne materiały i technologie budowlane - wykłady dla studentów II stopnia kierunku budownictwo. Skrypt internetowy PP. S.171. 2018

4. Pawłowski A.Z.: Budynki wysokie. Wydawnictwo Politechniki Warszawskij, 2013,s.288.

Additional

[1] Adamczewski Grzegorz, Piotr Woyciechowski. 2014. Prefabrykacja – jakość, trwałość, różnorodność. Stowarzyszenie Producentów Betonów.

[2] Blaiszik Benjamin J., S. L. B. Kramer, S. C. Olugebefola, J. S.Moore, N. R. Sottos, S. R. White. 2010. „Self-Healing Polymers and Composites". Ann. Rev. of Mat. Res., s. 179 – 211.

[3] Davidovits Joseph. 2011. Geopolymer Chemistry & Applications. 3rd edition, Institut Géopolymère, Saint-Quentin. France.

[4] Hansen C. J.,W.Wu, K. S. Toohey, at al. 2009. „Self-HealingMaterials with Interpenetrating Microvascular Networks". Advanced Materials, Weinham 21, s. 1 – 5.

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,0
Classes requiring direct contact with the teacher	15	0,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	10	0,5

[1] delete or add other activities as appropriate