COURSE DESCRIPTION CARD - SYLLABUS

Course name
Precast constructions [S1Bud1>KP]

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
elective

Number of hours

Lecture
15

Laboratory classes
0

Other (e.g. online)
0

Tutorials
0

Projects/seminars
15

Number of credit points

2,00

Coordinators

prof. dr hab. inż. Józef Jasiczak
jozef.jasiczak@put.poznan.pl

Lecturers

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

Presentation of building structures in terms of their field or factory prefabrication.

Course-related learning outcomes

Knowledge:
KB_W13 have advanced knowledge of building materials and their properties, research methods, basic elements of design as well as performance and assembly technologies (including environment-friendly materials).

Skills:
KB_U21 are able to organise work at the construction site, applying the rules of technology and building engineering management.

Social competences:
KB_K01 are able to adapt to new and changing circumstances, can define priorities for performing tasks assigned by themselves and by other people, acting in the public interest and with regard to the purposes of sustainable development.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
The knowledge acquired during the lecture is verified at the 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%. Design exercise: report preparation, grade 3 - 5.

Programme content

Lecture: evolution of the technology of prefabrication of building elements, methods of industrial production of concrete and wooden prefabricates; prefabrication plants of the 70s XX and 21st century, design and calculation of forms for concrete prefabrication, production technologies of selected groups.Types of Precast Systems .Elements in Precast Concrete Building Systems. Types of Connections. Design exercise: for a given concrete element, develop a design of a steel form and a concrete concreting technology in field or factory conditions.

Course topics

none

Teaching methods

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

Bibliography

Basic
1.Bołtryk M., Lelusz M .: Technology of prefabricated structures. Bialystok 2004.
2.Bielawski J., Chrabczyński G., Hładyniuk W .: Designing forms for building prefabrication. WNT, Warsaw 1978.
3. Bielawski J., Cieszyński K., Hładyniuk W., Szymański E., Wojciechowski H .: Industrial production of prefabricated elements. Basic processes in the production of precast concrete elements. Warsaw 1987.
4.Nicał A .: Review of production methods for selected prefabricates for large-scale construction. Modern halls, 2/2019.
5. Adamczewski G., Woyciechowski P .: Prefabrication in the 21st century. Civil Engineer, 4/2015.
6.Józef Jasiczak, René-Xavier Gérard, Lech Wojtasik, Paweł Bryszak, Krzysztof Cichocki, Jarosław Kołodziej: Manufacturing elements for an innovative energy-saving prefabricated building system as part of the Plus Energy Prefab House project. Issue 2 (86) / 2019 BTA, Kraków, pp. 56-62.
7. Jasiczak J .: Modern construction materials and technologies - lectures for 2nd degree students of construction. PP web script. S.171. 2018
Additional
8. Housing systems W-70, Szczeciński, SBO, SBM-75, WUF-T, OWT-67, WWP Arkady, Warsaw 1974
9. Ścislewski Z., Suchan M., Safety of use. Technical problems of using large-panel buildings, Instruction ITB 381/2003

Breakdown of average student's workload

	Hours	ECTS
Total workload	55	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	25	1,00