COURSE DESCRIPTION CARD - SYLLABUS

Course name
OHS, organization and planning of the building [N1Bud1>BHPOiPB]

Course

Field of study
Civil Engineering

Year/Semester
4/7

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
part-time

Requirements
compulsory

Number of hours

Lecture
20

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
20

Number of credit points

4,00

Coordinators

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Lecturers

Prerequisites

Knowledge: Knowledge of building materials and types of building construction. Knowledge of construction technology (parallel subject in the programme). Knowledge of the basics of construction law and construction technology. Skills: Reading project documentation, including drawings and technical description. Understanding construction as a subject of the production process. Understanding of structures as an object subject to production processes. Social competences: Awareness of the responsibility of the structural engineer. To observe the implementation of the construction process. Competence to strive to expand knowledge of construction independently.

Course objective

Learning about the specifics of construction. The engineer as a production organiser. Organising effective and safe work and motivating. Types of construction processes and methods of organising them. Division of schedules and creation of an general schedule. The method of even work and harmonisation. Deterministic network models and critical path analysis. Planning processes over time taking into account the work of people and equipment. Occupational health and safety principles of construction works. Creating a health and safety plan. Designing a construction site development concept.

Course-related learning outcomes

Knowledge:
Is able to apply the principles of health and safety at work
Can estimate hazards of building operation, implement suitable safety rules and prepare work standardsas well as quality management procedures. -
The student is able to identify the works, that are occured at the stage of earthworks, foundation and assembly works, related to the realization of a selected building object. He is able too to select the composition of working teams of contruction process
The student is able to build an organizational network model, make a general schedule of works and conduct an analysis of the resources, which is necessary to achive a cnstruction process

Skills:
The student knows the basics of the theory of organization and motivation in relation to construction.
He knows the methods of organization and planning of construction process resulting from the adopted technology of realization, the type of facility, conditions of execution.
He knows the elements and rules of preparing a construction site development plan
Has an elementary knowledge of rules and provisions concerned with creating working conditions that do not endanger the life , health and environment of workers.-
Has the basic knowledge that is necessary to understand the determinants of non- technical engineering activity in a household and an industry

Social competences:
The student is able to cooperate with a technologist, cost estimator, investor, construction works contractors at the stage planning the realization of investment.
Can realise that is necessary to improve professional and personal competence; are redy to criticallyevaluate the knowledge and received content.
Understand the need to transfer to the society the knowledge about building engineering, transfer theknowledge in clear and easily comprehensible manner.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lectures: written colloquium with assessment on a ten-point scale. Project exercise: presentation and defence of a completed study for a given construction work in a building.

Programme content

Divided into lecture (theory and overview of methods) and project (working with a specific object). Basics of organisation and motivation in construction. Specificity of construction in comparison with other types of economy. Methods and ways of organising construction work. Health and safety of different types of construction work, including manual and mechanised. Determination of the duration of construction processes and their sequence. Types of schedules and their purpose, principles of preparation. Network methods in the organisation and planning of construction works and construction of specific facilities, including critical path analysis. Site development as part of the health and safety plan.

Course topics

The building object and the construction processes required to complete it. Scope of work to be carried out and a quantity estimate for the earthworks, erection and finishing of a hall building of mixed, mainly prefabricated construction. Analysis of labour input based on material input catalogues with selection of brigade composition and determination of time. Creation of a general construction schedule with logical

links and a staffing check chart. Site development plan with descriptive section of the Health and Safety Plan and indication of technical and organisational health and safety measures.

Teaching methods

Lecture combining presentations using an projector, sketches on a blackboard and the possibility of discussion with the audience (interactivity and stimulating questions). Project exercise - problem work with the possibility of teamwork.

Bibliography

Basic:
1. Bielski M. Podstawy teorii organizacji i zarządzania. C.H. Beck, Warszawa 2004.
2. Biernacki J., Cyunel B. Metody sieciowe w budownictwie. Arkady, Warszawa 1989.
3. Dyżewski A. Technologia i organizacja budowy. Arkady, Warszawa 1990.
4. Jaworski K.M. Podstawy organizacji budowy. Wydawnictwo Naukowe PWN, Warszawa 2004.
5. Lenkiewicz W., Organizacja i planowanie budowy. PWN, Warszawa 1985.
6. Michnowski Z., Podstawy organizacji zarządzania i technologii w budownictwie. Arkady, Warszawa1985.
7. Rowiński L. Organizacja produkcji budowlanej. Arkady, Warszawa 1982
8. Wieczorek Z., Budownictwo. Wymagania bezpieczeństwa pracy. PIP, Warszawa 2011.

Additional:
1. Biruk S., Jaworski K. M., Tokarski Z., Podstawy organizacji robót drogowych. PWN, Warszawa 2007.
2. Griffin R.W., Podstawy zarządzania organizacjami. PWN, Warszawa 1999.
3. Marcinkowski R., Krawczyńska-Piechna A., Projektowanie realizacji budowy. PWN, Warszawa 2019.
4. Nauka o pracy - bezpieczeństwo, higiena, ergonomia. CIOP, Warszawa 2022.
5. Pisarska E., Połoński M., Elementy organizacji robót inżynierskich. Wyd. SGGW, Warszawa 2000.
6. Stabryła J., Trzcieniecki A., Organizacja i zarządzanie: zarys problematyki. PWN, Warszawa 1986.
7. Świderska G., Plan BIOZ. Bezpieczeństwo pracy na budowie. Polcen, Warszawa 2015
8. Taczanowska T., Janowski P., Ergonomia w budownictwie. Wydawnictwo Uczelniane, Lublin 1998.

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,00
Classes requiring direct contact with the teacher	40	1,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	60	2,50