

# CONSTRUCTION WORK TECHNOLOGY I

Subject code: **04.2-WILŚ- BUD- TRB1- IB24**

Subject type: obligatory

Language of instruction: Polish

Responsible for the subject: Unit currently conducting lectures

Providing education: Department of Construction Technology  
Geodesy and Geology

Type of class	Number of classes per semester	Number of classes per week	Semester	Type of credit test	ECTS points
<b>Full time studies</b>					3
Lecture	15	1	V	credit with a grade	
Project	30	2		credit with a grade	
<b>Part time studies</b>					
Lecture	9	1	V	credit with a grade	
Project	18	2		credit with a grade	

## SUBJECT OBJECTIVE:

Learning about the technology of construction work and construction work planning

## INITIAL REQUIREMENTS:

Basics of general construction. Basics of geotechnology. Basics of building materials.

## SUBJECT SCOPE:

Lecture

Mechanization and automation of processes in construction. Basic concepts. Comprehensive mechanization. Automation of construction processes

Technology and organization of transport and loading and unloading. Horizontal transport.

Vertical transport. Handling equipment and machines. Containerization.

Technology and organization of earthwork. Soil categories. Calculating the volume of earthwork.

Building embankments and excavation work. Securing slopes. Earthmoving machinery and calculation of its efficiency. Soil compaction. Hydromechanization of earthwork.

Technology and organization of concrete work: Machines and equipment for the production of concrete mix. Transportation of concrete mix. Compaction of concrete mix. Technology of reinforcement work. Transportation of concrete mix. Compaction of concrete mix. Woodwork and scaffolding of concrete structures. Masonry technology. Scaffolding. Mortar transport. Organization of masonry work.

Prefabrication. Principles of prefabrication. Prefabrication of concrete, steel and wooden structures. Prefabrication systems.

Project exercises: A project of technology and organization of earthwork. Design of a system for woodwork on a wall and a concrete ceiling.

Project:

Design of a system for shuttering a wall and a concrete ceiling. A project of a system for scaffolding the wall of a building.

## EDUCATIONAL METHODS:

Conventional lecture, project exercises

## EDUCATION RESULTS:

Results after completion of the course	Symbol	Verification methods	Type of class
<b>Knowledge</b>			
The student has basic knowledge of technology and organization of earthwork and assembly work	K_W16	Test with points	L
<b>Abilities</b>			
The student can plan the technology for and organization of earthwork and assembly work.	K_U03	Credits for projects	P
The student can choose the right technology for the above-mentioned tasks	K_U16		
<b>Social skills</b>			
The student can think and act in an entrepreneurial way, search for information needed to solve tasks on the Internet and in literature	K_K04	conversation during lectures initiated by the teacher; checking competences during the introduction to classes	L, P

## REQUIREMENTS TO OBTAIN A CREDIT:

Lecture – a positive grade for the test

Project – a positive grade for project exercises.

Final grade for the subject: 50% for the lectures + 50% for the exercises

## STUDENT WORK:

Interaction with the teacher	15l + 30c +5 consultations	50 h.
Student's individual work		35 h,
Total		85 h
ECTS for the subject	85/30	3ECTS

## BASIC LITERATURE:

1. Rowiński L.: Technologia i organizacja procesów inżynierskich budownictwa miejskiego-część I, tom III, Wydawnictwo Politechniki Śląskiej, Gliwice, 1994
2. Michnowski Z. I zespół.: Podstawy organizacji zarządzania i technologii w budownictwie, Arkady, Warsaw, 1985
3. Jaworski K.M.: Metodologia projektowania realizacji budowy, PWN, Warsaw, 1989
4. Abramowicz M.: Roboty betonowe na placu budowy, Arkady, Warsaw, 1992
5. Rowiński L.: Organizacja procesów budowlanych PWN, Warsaw, 1982
6. Martinek W., Nowak P., Wojciechowski P.: Technologia robót budowlanych, Oficyna Wydawnicza Politechniki Warszawskiej, Warsaw 2010

7. Martinek W., Książek M., Jackiewicz-Rek W.: Technologia robót budowlanych – ćwiczenia projektowe, Oficyna Wydawnicza Politechniki Warszawskiej, Warsaw 2007

### **ADDITIONAL LITERATURE:**

1. Praca zbiorowa pod red. J. Panasa.: Poradnik majstra budowlanego, Arkady, Warsaw, 2005
2. Rowiński L., Kobiela M., Skarzyński A.: Technologia monolitycznego budownictwa betonowego, PWN, Warsaw, 1980

### **SYLLABUS PREPARED BY:**

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