GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Fundamentals of buildings, PG_00058789		
Field of study	Environmental Engineering		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2026/2027
Education level	first-cycle studies	Subject group	Optional subject group
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	3	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Engineering Structures -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Maciej Niedostatkiewicz	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	15.0	0.0	45

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	45	6.0	50.0	101

Subject objectives

The objective of the course "Fundamentals of Construction" is to introduce students to key concepts related to general construction, including structural behavior, loads, individual structural elements, and building materials. Furthermore, the course addresses design and construction errors, as well as the entire construction process. During practical sessions, students learn technical drawing (both creating and interpreting technical drawings).

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U01] has the ability to self-education, can obtain information from literature, databases and other sources, uses information technology, Internet resources; can integrate the obtained information, make their interpretation, as well as draw conclusions and formulate and justify opinions	324 Students should acquire the ability to engage in self-directed learning; they should be able to obtain information from literature, databases, and other sources, and make use of information technologies and online resources. Furthermore, they should be capable of integrating the information acquired, interpreting it, drawing conclusions, and formulating and substantiating opinions.	[SU3] Assessment of ability to use knowledge gained from the subject
[K6_U06] knows and applies the basic provisions of construction law, water law and environmental law	The student knows and applies the basic regulations of construction law, water law, and environmental protection law.	[SU3] Assessment of ability to use knowledge gained from the subject
[K6_W08] has elementary knowledge of construction: including building materials, their strength, construction mechanics and building physics, moisture migration in buildings, heat transfer through building partitions	The student possesses fundamental knowledge in the field of construction, including building materials and their strength, structural mechanics, building physics, moisture migration in buildings, and heat transfer through building envelopes.	[SW3] Assessment of knowledge contained in written work and projects

<table>
<tr><td>Subject contents</td><td>Course content – lecture
The lectures are divided into thematic sections: introduction, construction process, building law, loads acting on a structure, walls, floor slabs, roofs, lintels, insulation, and construction materials.

Course content – project
The project involves the creation of 4 technical drawings (basement plan, ground floor plan, typical floor plan, and vertical cross-section).</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>midterm exam based on lectures</td><td>50.0%</td><td>30.0%</td></tr>
<tr><td>stage of advancement</td><td>50.0%</td><td>35.0%</td></tr>
<tr><td>completed project</td><td>50.0%</td><td>35.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>General Construction – Żenczykowski
Structures of Single-Family Homes and Small Buildings – Pyrak, Lenkiewicz
General Construction – Pawłowski
General Construction – Jędrzejewski
Construction Foreman’s Handbook
Construction Site Manager’s Handbook
Handbook for Construction Engineers and Technicians
Outline of General Construction – Podawca
Building Physics – Płoński, Pogorzelski
General Construction: Dimensioning – Pawłowski
Masonry Buildings: Materials and Structures – Pierzchlewicz, Jarmontowicz
Designing Masonry Structures and Floor Systems in Traditional Construction – Peła, Malinowski
Building Structures: A Handbook – Pyrak
Designing Concrete Structures – Pyrak
Reinforced Concrete Structures – Kobiak, Stachurski
Concrete Structures – Gabiec
Designing Reinforced Concrete Structures – Starosolski
Timber Structures – Michniewicz
Structures Made of Timber and Wood-Based Materials – Dziarnowski</td></tr>
<tr><td>Supplementary literature</td><td>General Construction. A Catalogue of Structural and Material Solutions – Niedostatkiewicz, Majewski, Skuza, Bobiński</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>- structural drawings of the building
- calculations for structural elements
- answers to questions related to the lectures (a few words each)</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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