GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00066729		
Field of study	Civil Engineering		
Date of commencement of studies	February 2025	Academic year of realisation of subject	2025/2026
Education level	second-cycle studies	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	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Building Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marcin Szczepański	
	Teachers		

Lesson types

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

Subject objectives

The aim of the Modern Timber Construction course is to familiarize students with the idea of modern timber construction from its historical roots to the latest technologies of prefabrication and digital design. The course combines theoretical knowledge with practical experience through participation in the Timber Construction Days conference, industry workshops, numerical modeling and design work. Particular emphasis is placed on the aspects of sustainable development, energy efficiency, digitalization and interdisciplinary cooperation in the investment process.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U15] has advanced skills in civil engineering within offered specialization/profile	The student is able to design and implement a technological and digital analysis of a selected issue in the field of wooden construction using specialized engineering tools (e.g. RFEM).	[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
[K7_W15] has deep and adequate knowlege of civil engineering, within offered specialization and profile	The student has in-depth knowledge of modern wooden construction technologies, including prefabrication, digitalization of construction processes and energy efficiency of buildings.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge

Subject contents

Course content – lecture

1. The history of wooden construction and the development of the idea of prefabrication
2. Modern technologies used in wooden construction: prefabrication, digitalization, energy efficiency.
3. Participation in the Wooden Construction Days conference: industry and scientific lectures, workshops, debates (including digitalization and AI in construction).
4. Numerical modeling of wooden structures in RFEM
5. Group project based on case studies or digital modeling of structures in engineering software - presentation of results or visit to a prefabrication factory

Prerequisites and co-requisites

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>project / raport</td><td>60.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>1. M. Szczepański, A. Ossowski, Analiza kosztów i czasu budowy domu jednorodzinnego w technologii drewna CLT, Materiały Budowlane, 2021.
2. A. Gosselin, P. Blanchet, Prefabricated housing: industrialized timber construction, Springer, 2017.
3. R. Sandak et al., Wood-based construction: an overview of current state and future trends, Sustainable Materials and Technologies, 2020.
4. Materiały z konferencji Dni Budownictwa Drewnianego prelekcje i warsztaty (materiały wewnętrzne PG).</td></tr>
<tr><td>Supplementary literature</td><td>-</td></tr>
<tr><td>eResources addresses</td><td>Basic
https://discord.gg/b6zVTj3G - DISCORD DEDICATED SERVER</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">-</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="2">Not applicable</td></tr>
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