GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00069415		
Field of study	Konstrukcje drewniane		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	4	Language of instruction	Polish
Semester of study	7	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	dr inż. Mateusz Sondej	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	0.0	0.0	15.0	0.0	25

E-learning hours included: 0.0

eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37292

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	25	5.0	70.0	100

Subject objectives

To teach a basic knowledge for designing simple timber structures.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U03] Design engineering objects and details, processes and engineering systems by applying appropriate standards and methods of design.	The student is able to design a timber roof.	[SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu
[K6_U07] Design and build engineering structures in a sustainable manner, with care for the natural environment and a minimum carbon footprint	The student is able to design a timber roof.	[SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu
[K6_K04] Engages in independent lifelong learning and individually follows the development of science and technology in the field of civil engineering.	The student independently acquires additional knowledge needed to complete the project.	[SK2] Ocena postępów pracy
[K6_W03] Demonstrate knowledge and understanding of the processes, established standards and design methods in the civil engineering subject area and of their limitations.	The student knows the principles of designing timber elements according to Eurocode 5.	[SW1] Ocena wiedzy faktograficznej
[K6_U04] Reads and prepares construction documentation (including drawings, graphic documentation in the CAD environment), efficiently uses maps as well as architectural, construction and geodetic drawings.	The student is able to create structural drawings of timber structures.	[SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu

<table>
<tr><td>Subject contents</td><td>Course content – lecture
Timber as a building material. Ecological aspects of timber use. Wood species, sawn timber production, sawn timber defects, timber assortment, sorting and strength classes. Wood-based materials. Wood protection against fire, biological corrosion, and insects. Fasteners in wooden structures. Joint design. Pitched roof trusses.
Course content – project
Structural calculations for steep roofs. Dimensioning of solid wood elements. Designing nail and screw connections. Preparation of structural drawings.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Completion of the General Structural course.</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></td><td>50.0%</td><td>50.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>1. Kotwica J.: Timber Structures in Traditional Construction. Warsaw: Arkady 2004. 2. Neuhaus H.: Timber Construction. Rzeszów: Polish Technical Publishing House 2004. 3. Nożyński W.: Examples of Calculation of Timber Building Structures. Warsaw: Wydawnictwa Szkolne i Pedagogiczne Spółka Akcyjna 1994. 4. Wajdzik Cz.: Roof Trusses. Wrocław: Wrocław Agricultural University Publishing House 2000. 5. Michalak H., Pyrak S., Single-family House Design and Calculation: Arkady 2005.</td></tr>
<tr><td>Supplementary literature</td><td>1. Collective work: Handbook for construction supervisors. Warsaw: Arkady 1985. 2. Collective work: Handbook for construction engineers and technicians, vol. V. Warsaw: Arkady 1986.</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>Is visual assessment used in timber strength classification?
List and draw the loads acting on the roof truss.
Draw the collar beam-rafter connection.
What forces occur in the connection sketch?
Estimate the numerical value of the design forces.
Does the tensile strength of timber depend on the height of the rectangular cross-section?
What is anisotropy?</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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