GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Bulilding structures and technologies II, PG_00052645		
Field of study	Architecture		
Date of commencement of studies	October 2020	Academic year of realisation of subject	2022/2023
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	English
Semester of study	5	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Building Engineering -> Faculty of Civil and Environmental Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Natalia Lasowicz	
	Teachers	dr inż. Natalia Lasowicz dr inż. Tomasz Falborski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

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	15	1.0	9.0	25

Subject objectives

The aim of the subject is to present basic principles of building design concerning different construction solutions, types of building materials necessary to solve simple engineering tasks in the field of architectural and urban design.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W01] knows and understands construction problems, building and engineering issues related to building design; principles, solutions, constructions and building materials used in simple engineering tasks in the field of architectural and urban design	Student knows how to solve simple engineering problems in the field of architectural and urban design. He knows the basics of building design, building materials and knows how to solve construction and building problems when designing buildings.	[SW2] Assessment of knowledge contained in presentation
[K6_U02] is able to design an architectural object or a simple urban complex that meets the aesthetic and technical requirements	Student knows how to obtain main structural elements of the building structure in terms of technical and aesthetic conditions.	[SU3] Assessment of ability to use knowledge gained from the subject [SU5] Assessment of ability to present the results of task

Subject contents	1.Types of loads acting on structures (characteristic and design values). 2. Combination of loads. 3. Ultimate Limit States of steel elements. 4. Serviceability Limit State for steel elements. 5. Beams. 6. Columns. 7. Trusses. 8. Structural systems. 9. Types of connections in steel structures.
Prerequisites and co-requisites	Before starting the Subject, Student should complete the following subjects: - General Mechanics, - General Building Technology. Student should know basics informations about structural mechanics and be able to distinguish different types of structural elements.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
test (30 minutes)	60.0%	100.0%

Recommended reading

Basic literature

1. PN - EN 1991 - 1 - 3:2003 Eurokod 1. Oddziaływania na konstrukcję. Część 1 - 3: Oddziaływania ogólne - Obciążenie śniegiem.

2. PN - EN 1991 - 1 - 4:2008 Eurokod 1. Oddziaływania na konstrukcje. Część 1 - 4:Oddziaływania ogólne - Oddziaływania wiatru.

3. PN - EN 1990 - 1 Eurokod - Podstawy projektowania konstrukcji.

4. PN-EN 1993-1-1 Eurocode 3: Design of steel structures. Part 1-1: General rules and rules for buildings

5. Praca zbiorowa: Budownictwo ogólne. Tom 5, Arkady, Warszawa 2010 2.Łubiński M., Filipowicz A., Żółtowski W.: Konstrukcje metalowe. Część 1. Arkady, Warszawa 2000.

6.Rykaluk K.: Konstrukcje stalowe. Dolnośląskie Wydawnictwo Pedagogiczne, Wrocław 2001.

7. Praca zbiorowa pod red. A. Kozłowskiego: Konstrukcje stalowe. Przykłady obliczeń według PN-EN 1993-1. Część pierwsza. Wybrane elementy i połączenia, Oficyna Wydawnicza PRz, Rzeszów 2009 6.

8. PN-EN 1993-1-8 Eurocode 3: Design of steel structures. Part 1-8: Design of joints.

	Supplementary literature	1. Praca zbiorowa pod red. A. Kozłowskiego: Konstrukcje stalowe. Przykłady obliczeń według PN-EN 1993-1. Część druga. Stropy i pomosty, Oficyna Wydawnicza PRz, Rzeszów 2011. 2. Goczek J., Supeł Ł., Gajdzicki M.:Przykłady obliczeń konstrukcji stalowych, Wydawnictwo PŁ, Łódź 2010
	eResources addresses	Adresy na platformie eNauczanie: Building Structures and Technologies (BSc 2022/2023) - Moodle ID: 26552 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26552
Example issues/ example questions/ tasks being completed	1.Types of loads acting on the structure. 2. Types of structural elements. 3. What load values (characteristic or design) do we take into account when checking SLS? 4. List several types of steel beams. 5. What are the advantages of steel structures?	
Work placement	Not applicable	