



Subject card

Subject name and code	Building Structures and Technologies for Architects, PG_00067336						
Field of study	Architecture						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2026/2027		
Education level	second-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	1	Language of instruction			English		
Semester of study	1	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 hab. inż. arch. Rafał Janowicz				
	Teachers		dr inż. Patryk Deniziak dr inż. Farzin Kazemi				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	15.0	0.0	0.0	0.0	35
	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	35		4.0		11.0	50
Subject objectives	Overview of various building structures and technologies along with structural design procedures of structural members.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W05] knows and understands issues related to architecture and urban planning in the context of the multi-discipline nature of architectural and urban design as well as the need to cooperate with other specialists; legal provisions and procedures necessary for the implementation of building designs and the integration of buildings with the overall planning project		learning and understanding the issues related to structural systems in the context of the multi-disciplinary nature of architectural design and the need for cooperation with designers		[SW2] Assessment of knowledge contained in presentation		
	[K7_W01] knows and understands construction, building and engineering issues related to building design; principles, solutions, constructions and building materials used in performing complex engineering tasks in the field of architectural and urban design		Knows and understands advanced construction and structure issues, including key, complex issues in architectural, urban, and planning design; knows solutions to structural problems related to building and structure design; and fundamental structural solutions regarding the applicability of specific building materials used in complex construction projects.		[SW2] Assessment of knowledge contained in presentation		

Subject contents	<p>Course content – lecture</p> <ol style="list-style-type: none"> 1. Building foundations in difficult ground conditions: pile foundations. 2. Building foundations in difficult ground conditions: foundation grids, foundation wells, retaining wall structures. 3. Long-span monolithic reinforced concrete floors. 4. Long-span precast reinforced concrete floors. 5. Monolithic-precast reinforced concrete floors. 6. Long-span steel floors. 7. Long-span steel structures. 8. Composite floors. 9. Steel, reinforced concrete, and wooden frameworks. 10. Shells. 11. Spatial truss structures. 12. Modern wooden structures: load-bearing and partition walls. 13. Modern wooden structures: wooden ceilings. 14. Modern wooden structures: roof trusses. 15. Modern wooden structures around the world, selected objects. <hr/> <p>Course content – exercises</p> <p>Assessment of the tutorials (two tasks supplementing the theory from the lectures):</p> <p>a) One drawing showing a building structure diagram or a structural detail, as assigned by the instructor, along with the main dimensions. - A3 format, - scale 1:10 / 20 / 25, - the drawing includes a description of: load-bearing elements + finishing layers,</p> <p>b) Multimedia presentation: - on any building structure (large span), - from Poland or abroad, - contemporary or historical, - prepared in teams of two or three, - time limit for presentation: 10 minutes.</p> <p>Multimedia presentation plan: 1. Title (name of the structure), authors, field of study, semester. 2. Location of the structure. 3. Designers. 4. Function of the structure.</p>											
Prerequisites and co-requisites												
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Subject passing criteria</th> <th style="width: 30%;">Passing threshold</th> <th style="width: 30%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">60.0%</td> <td style="text-align: center;">50.0%</td> </tr> <tr> <td></td> <td style="text-align: center;">60.0%</td> <td style="text-align: center;">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade		60.0%	50.0%		60.0%	50.0%
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Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Edward Allen, Joseph Iano, <i>Fundamentals of Building Construction: Materials and Methods</i>, John Wiley&Sons Inc. 2. Andrea Deplazes, <i>Constructing Architecture: Materials, Processes, Structures: a Handbook</i>, Birkhäuser -- Publishers for Architecture. 										
	Supplementary literature	Andrew Watts, <i>Modern Construction Handbook</i> , Birkhäuser -- Publishers for Architecture.										
	eResources addresses											
Example issues/ example questions/ tasks being completed												
Practical activities within the subject	Not applicable											

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