



Subject card

Subject name and code	Construction Project III, PG_00052647						
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			3.0		
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 mgr inż. Tomasz Zybala					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	45.0	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		24.0		75
Subject objectives	The aim of the course is to design the main structural members of the building and to prepare technical drawings. Moreover, the execution of details of the architectural object.						
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 is able to select the profiles of the main load-bearing structural member of the structure and propose their connections based on the basics of designing steel structures and their connections.			[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects		
	[K6_U02] is able to design an architectural object or a simple urban complex that meets the aesthetic and technical requirements	Student is able to collect the loads acting on the structure and on this basis adopt the main load-bearing structural system of the building based on the aesthetic and technical requirements.			[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU5] Assessment of ability to present the results of task		

Subject contents	<p>1. Collection of loads acting on structures (characteristic and design values).</p> <p>2. Determination of load combinations.</p> <p>3. Verification of the Ultimate Limit State for the following steel elements:</p> <ul style="list-style-type: none"> - subjected to bending (girder, beam), - subjected to compression (column). <p>4. Serviceability Limit State for the following steel elements:</p> <ul style="list-style-type: none"> - subjected to bending (girder, beam), - subjected to compression (column). <p>5. Preparation of a construction drawing.</p> <p>6. Preparation of details of the foundation, wall, floor and roof.</p>											
Prerequisites and co-requisites	<p>Before starting the course, student should complete the following subjects:</p> <ul style="list-style-type: none"> - General Mechanics, - General Building Technolgy. <p>Student should know the basics of structural mechanics and be able to distinguish different types of structural members. Moreover he can adopt the structural system of the building.</p>											
Assessment methods and criteria	<table border="1" data-bbox="453 1218 1485 1319"> <thead> <tr> <th data-bbox="453 1218 794 1249">Subject passing criteria</th> <th data-bbox="794 1218 1139 1249">Passing threshold</th> <th data-bbox="1139 1218 1485 1249">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="453 1249 794 1281">Technical drawings</td> <td data-bbox="794 1249 1139 1281">60.0%</td> <td data-bbox="1139 1249 1485 1281">50.0%</td> </tr> <tr> <td data-bbox="453 1281 794 1319">design project</td> <td data-bbox="794 1281 1139 1319">60.0%</td> <td data-bbox="1139 1281 1485 1319">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Technical drawings	60.0%	50.0%	design project	60.0%	50.0%
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Recommended reading	Basic literature	<p>1. PN - EN 1991 - 1 - 3:2003 Eurokod 1. Oddziaływania na konstrukcję. Część 1 - 3: Oddziaływania ogólne - Obciążenie śniegiem.</p> <p>2. PN - EN 1991 - 1 - 4:2008 Eurokod 1. Oddziaływania na konstrukcję. Część 1 - 4: Oddziaływania ogólne - Oddziaływania wiatru.</p> <p>3. PN - EN 1990 - 1 Eurokod - Podstawy projektowania konstrukcji.</p> <p>4. PN-EN 1993-1-1 Eurocode 3: Design of steel structures. Part 1-1: General rules and rules for buildings</p> <p>5. Praca zbiorowa: Budownictwo ogólne. Tom 5, Arkady, Warszawa 2010 2. Łubiński M., Filipowicz A., Żółtowski W.: Konstrukcje stalowe. Część 1. Arkady, Warszawa 2000.</p> <p>6. Rykaluk K.: Konstrukcje stalowe. Dolnośląskie Wydawnictwo Pedagogiczne, Wrocław 2001.</p> <p>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.</p> <p>8. PN-EN 1993-1-8 Eurocode 3: Design of steel structures. Part 1-8: Design of joints.</p>
	Supplementary literature	<p>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.</p> <p>2. Goczek J., Supel Ł., Gajdzicki M.: Przykłady obliczeń konstrukcji stalowych, Wydawnictwo PŁ, Łódź 2010</p>
	eResources addresses	<p>Adresy na platformie eNauczanie:</p> <p>Construction Project III (BSc 2022/2023) - Moodle ID: 26553 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26553</p>
Example issues/ example questions/ tasks being completed	<p>1. Based on the given values of internal forces, determine the cross-section of the beam subjected to bending.</p> <p>2. Find the design and characteristic value of the loads acting on the floor beam.</p> <p>3. List the main structural elements of the roofing system supported on steel beams.</p> <p>4. Draw, in cross-section, the layout of the roof layers of the insulated steel hall.</p>	
Work placement	Not applicable	