

。 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Civil Engineering February 2025 second-cycle studies		Academic	10.0% of									
February 2025 second-cycle studies		Academic	voor of			Civil Engineering						
second-cycle studies	February 2025		Academic year of realisation of subject			2025/2026						
second-cycle studies		Subject group										
Full-time studies		Mode of delivery			at the university							
1		Language of instruction			Polish							
2		ECTS credits			3.0							
general academic profile		Assessment form			assessment							
Department of Geotechnics, Geology and Marine Civil Engineering -> Faculty of Civil and Environmental Engineering -> Wydziały Politechniki Gdańskiej												
Subject supervisor		dr inż. Jakub Konkol										
Teachers												
Lesson type	Lecture	Tutorial	Laboratory	Project	Project Se		SUM					
Number of study hours	30.0	15.0	0.0	0.0	0.0 45		45					
E-learning hours included: 0.0												
Learning activity	Participation in classes includ plan	n didactic ed in study	didactic Participation in Self-study d in study consultation hours		udy	SUM						
Number of study hours	45		0.0		0.0		45					
Knowledge about types of deep excavation shoring systems and excavation shoring design. Understanding of geotechnical and environmental loads that acts on the excavation shoring.												
Course outcome Subject outcome Method of verification					fication							
 (2) Soldier pile wall (3) Secant pile wall (4) Sheet pile wall (5) Diaphragm wall (6) Ground anchors (7) Soil nailed walls (8) Selected seepage effects (9) Deep excavation - adjacent building interaction (10) The use of excavation shoring as permanent construction (walls of buildings) (11) Ecological aspects of deep excavations construction (12) Finite Element Method for deep excavations design (13) - (15) Excavation case study and Einite Element Method design example 												
Basic knowlege about (1) soil mechanics, (2) foundation engineering, (3) concrete structures, (4) steel structures, (5) modelling of engineering structures, (6) Strength of materials and (7) structural mechanics.												
Subject passing	g criteria	Pass	ing threshold		Perc	centage of the	e final grade					
		50.0%			50.0%							
		50.0%		50.0%								
Basic literature		 Siemińska-Lewandowska, A. (2010). <i>Głębokie wykopy:</i> projektowanie i wykonawstwo. Wydawnictwa Komunikacji i Łączności. Ou, C. Y. (2014). <i>Deep excavation: Theory and practice</i>. CRC Press. Deutsche Gesellschaft für Geotechnik. (2013). <i>Recommendations</i> on <i>Excavations</i>. Wiley. Gaba, A., Hardy, S., Doughty, L., Powrie, W., & Selemetas, D. (2017). <i>Guidance on embedded retaining wall design</i>. London, UK: Ciria. 										
Supplementary literative services addresservices ad	ure	 Ng, C. W., Simons, N., & Menzies, B. (2004). A Short Course in Soil- Structure Engineering of Deep Foundations, Excavations and Tunnels. Thomas Telford, London. Puller, M. (2015). Deep Excavation. A practical manual. ICE Publishing. Endicott, J. (2020). Deep Excavations in Soil. CRC Press. 										
	Second-cycle studies Full-time studies I General academic pro Department of Geotec Engineering -> Wydzi Subject supervisor Teachers Lesson type Number of study hours E-learning hours inclu Learning activity Number of study hours Knowledge about type of geotechnical and e Course outc (1) Introduction and b (2) Soldier pile wall (3) Secant pile wall (4) Sheet pile wall (5) Diaphragm wall (6) Ground anchors (7) Soil nailed walls (8) Selected seepage (9) Deep excavation (10) The use of excavation (11) Ecological aspeet (12) Finite Element N (13) - (15) Excavation Basic knowlege about structures, (5) modelli Subject passing Easic literature eResources addresse	Second-cycle studies Full-time studies 1 2 general academic profile Department of Geotechnics, Geolog Engineering -> Wydziały Politechniki Subject supervisor Teachers Lesson type Lecture Number of study 30.0 hours Participation in classes included: 0.0 Learning activity Participation in Participation in classes includ plan Number of study 45 Knowledge about types of deep excorting geotechnical and environmental log Course outcome (1) Introduction and basics of deep excorting geotechnical and environmental log Course outcome (1) Introduction and basics of deep excorting geotechnical and environmental log (1) Introduction and basics of deep excorting activity Selected seepage effects (9) Deep excavation - adjacent build (10) The use of excavation shoring (11) Ecological aspects of deep excorting (12) Finite Element Method for deep excorting (13) - (15) Excavation case study ar Basic knowlege about (1) soil mechastructures, (5) modelling of engineer Subject passing criteria	Second-cycle studies Subject grows Full-time studies Mode of detect 1 Language - 2 ECTS cred general academic profile Assessmer Department of Geotechnics, Geology and Marine - Engineering -> Wydziały Politechniki Gdańskiej Subject supervisor dr inż. Jakub Teachers - Lesson type Lecture Tutorial Number of study 30.0 15.0 hours - - E-learning hours included: 0.0 - - Learning activity Participation in didactic classes included in study plan - Number of study hours 45 - Knowledge about types of deep excavation shoring of geotechnical and environmental loads that acts of Course outcome Subject (1) Introduction and basics of deep excavation shoring (2) Soldier pile wall - - (3) Secant pile wall - - - (4) Sheet pile wall - - - (5) Diaphragm wall - - - - (6) Ground anchors <td>Second-cycle studies Subject group Full-time studies Mode of delivery 1 Language of instruction 2 ECTS credits general academic profile Assessment form Department of Geotechnics, Geology and Marine Civil Engineerir Engineering -> Wydziały Politechniki Gdańskiej Subject supervisor Ganders Image: Construction of the construction</td> <td>Subject group Full-time studies Mode of delivery 1 Language of instruction 2 ECTS credits general academic profile Assessment form Department of Geotechnics, Geology and Marine Civil Engineering -> Fa Engineering -> Wydziały Politechniki Gdańskiej Subject supervisor dr in2. Jakub Konkol Teachers </td> <td>Subject group Full-time studies Mode of delivery at the u 1 Language of instruction Polish 2 ECTS credits 3.0 general academic profile Assessment form assess Department of Geotechnics. Geology and Marine Civil Engineering -> Faculty of Engineering -> Wydziały Politechniki Gdańskiej Subject supervisor dr in2. 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Example issues/ example questions/ tasks being completed	 Determination of the earth pressures on a rigid excavation shoring. Determination of the earth pressure acting on excavation shoring from adjacent building Define "sand boiling" conditions Design a cap for secant pile wall / diaphragm wall Determination the ground anchors length.
Work placement	Not applicable

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