Title of Course	Special Foundation Work		
Semester	Autumn/Spring		
Teaching Hours per Course:	Total	- Lectures:	- Tutorials:
	30h	30h	-
ECTS Credits	1,5 ECTS		
The content of education			
Aims of Course	The aim of the lecture is to acquaint students with modern foundations technics, ways of foundations on the areas that are covered with water, foundations for chosen special buildings, securing deep excavation's walls, used i.e. for compact building with expanded underground level.		
Program	W1 - The overview of the norms on specialist geotechnical works. W2 – the characteristics of retaining structures. Massive retaining walls (slab-angle, rib, with unweight plates), grounded walls (sheet pile walls and diaphragm walls) and walls with complex structure. Other methods of deep excavation's lining: palisade made of piles, retaining structures from DSM pillar, structures from reinforced ground. General rules of retaining walls design. W3 – Ground's anchors. Technology of execution and rules of design. W4 – Modern piles technics. Ways to increase bearing capacity of piles. W5 – Designing foundations on piles with complex loads system. Methods of appointing forces in piles. Methods of evaluating bearing capacity of piles. Methods of calculating the settlement of single piles and those working in groups . W6 – Diaphragm walls. Building methods of underground levels in diaphragm walls. Static walls schemes. Requirements for tightness of diaphragm walls. W7 - Foundations wells. Design rules for foundations wells as foundation as well as underground building. W8 – Foundations of tall buildings – special foundations slab-piles, general rules of design W9 – foundations of chosen special buildings such as wind power station, power poles. LNG tanks siting. W10 – foundation works and foundations on the areas covered with water (i.e. cofferdams, artificial islands) W11 – Making foundations from prepared floating boxes. Submerged tunnels. W12 – Making foundations with underwater concrete method.		
Conditions of completion	The conditions to pass the subject is to pass 2 tests (one - in the middle, and 2nd in the end of semester) consisting of materials shown during the lectures. Apart from lectures the students can consult with the teachers during the consult hours in previously agreed terms.		
Teacher	Stanisława Garwacka-Piórkowska, PhD. Małgorzata Brych-Dobrowolska MSc.		