

Course title: Special Foundations

Course Basic Information			
Academic Unit:	Faculty of Civil Engineering		
Course Name:	Special Foundations		
Level:	MSc		
Course Status:	Elective		
Year of Study:	Second (II), III th semester		
Number of Hours per Week:	2+1		
ECTS Credits:	3		
Time /Venue:	According to timetable		
Course Teacher:	Prof.asoc.Dr. Neritan Shkodrani		
Contact Details:	e-mail: neritan.shkodrani@uni-pr.edu		
Course Description			
Course Description	<i>Course Fondimet Special includes: pile foundations from different materials, the reason of the application of piles, types of piles and method of transferring loads to the ground, the calculation the bearing capacity of piles - analytical methods and from the field, the behavior of the isolated pile and group of piles from the action of horizontal force, settlement of the isolated piles and group of piles, excavation with screen, screen reinforcement techniques, caisson foundations and calculation, foundations on difficult soils.</i>		
Course Objectives:	<i>The reason of selecting deep Funding methods foundations. Knowing methods of deep foundations, determining the size of the foundations and basic techniques for the design of deep foundations and techniques of reinforcement of excavation pit.</i>		
Learning Outcomes:	<i>Upon completion of this course (module), students will be able to know the characteristics of deep foundation, know to make the determination of the size of the elements of foundation. Know the appropriate selection of the type of deep foundation, especially from load of the building, geotechnical profile of the terrain, engineering properties of sols, the position of the underground water level, bearing capacity of soils and settlement. To examine the stability of the foundation.</i>		
Student Workload (Consistent with the Learning Outcomes)			
Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Numerical part of exercises	1	15	15
Practical Work	2	1	2
Contact Hours with Teacher /Consultations during Office Hours	1	7	7
Field Work	2	2	4
Colloquium, Seminars	1	5	5
Homework	1	5	5
Self-study Time (in the Library or at Home)	2	2	2
Final Exam Preparation	2	1	2
Evaluations (Tests, Quiz, Final exam)	1	3	3

Projects, Presentations, etc.			
Total			75
Teaching Methodology:	<i>Lectures, exercises and elaborates, "In situ"</i>		
Evaluation Methods:	<i>In the assessment should be assigned the percentage of each estimate intermedier partial or final assessment. One of the ways the assessment would have been as follows:</i> <i>The first assessment: 25%</i> <i>Homework or other commitments 10%</i> <i>Regular attendance 10%</i> <i>Final Exam 55%</i> <i>Total 100%</i>		
Basic Literature:	Authorized lectures of Special Foundation, FCE, Pristine		
Additional Literature:	[1] Braja M.D: Principle of Foundation engineering, Sacramento, 2016. [2] Budhu. M.: Soil Mechanics and Foundation, University of Arizona, 2011. [3] Coduto. Donald P.: Foundation engineering: principle and practices, California State Polythecnic University, Pomona, 2001.		

Course Plan:	
Week	Title of the Lecture
Week 1:	Pile foundations, reason for electing of piles foundation. Wood piles, reinforced concrete piles, prestressing concrete piles, metal piles
Week 2:	Drilled piles. Characteristics of pile foundations
Week 3:	Bearing capacity of pile. Methods for determination of bearing capacity, Meyerhof's method, EC-7.
Week 4:	Bearing capacity of pile based on SPT, CPT, pile driving formula, pile load test.
Week 5:	Negative skin friction. Elastic settlement of piles. Consolidation settlement of group piles.
Week 6:	Behaviour of single pile and group of pile.
Week 7:	Construction of foundation above group of piles.
Week 8:	Determination of forces on piles.
Week 9:	Excavation with screen. Pile curtain,
Week 10:	Diaphragm wall. The working process of the diaphragm excavation pit.
Week 11:	Technique of reinforcement of excavation with screen. Selection the appropriate type of wall
Week 12:	Static calculation of wall
Week 13:	Drilled pier, construction and design of drilled pier.
Week 14:	Cassion foundations, design and calculation.
Week 15:	Foundation on difficult soils.
Academic Policies and Rules of Civility:	
<i>The teacher assigns the criteria for regular attendance in classes and rules of conduct, to maintain the peace in teaching, disconnected mobile phones, entrance in room with time, etc.)</i>	