

Study Programme: CIVIL ENGINEERING			
Course Unit Title: BASIC OF FOUNDATION			
Course Unit Code: 035			
Name of Lecturer(s): PETAR SANTRAC̆			
Type and Level of Studies: Undergraduate academic studies			
Course Status (compulsory/elective): Compulsory			
Semester (winter/summer): Summer			
Language of instruction: Serbian			
Mode of course unit delivery (face-to-face/distance learning): face-to face			
Number of ECTS Allocated: 6			
Prerequisites: Soil Mechanics, Basic of Concrete Structures			
Course Aims: The aim of the course is to familiarize students with the design and construction of excavations, protection of deep foundation pits, groundwater lowering, design of retaining walls, shallow and deep foundations, repair and underpinning of the foundation, the use of computers in the building construction.			
Learning Outcomes: The realization of the planned objectives.			
Syllabus:			
<i>Theory</i>			
1 st week	Introduction, literature, legislation and basics for foundation design.		
2 nd week	Types of foundation; Analysis of the foundation loads; Machinery in foundation.		
3 rd week	Foundation pit; The protection of foundation pits.		
4 th week	Protection of foundation pits with sheet piling walls and diaphragm walls		
5 th week	Protection of foundation pits with cofferdams.		
6 th week	Retaining walls.		
7 th week	Calculation and design of reinforced concrete foundation.		
8 th week	Calculation and design of strip and spread reinforced concrete foundation.		
9 th week	Calculation and design of strip and spread reinforced concrete foundation.		
10 th week	Calculation and design of raft and mat reinforced concrete foundation.		
11 th week	Deep foundations on wells, coffins and caissons.		
12 th week	Deep foundations on piles; Type of piles (by materials, by bearing type, by building technology).		
13 th week	Calculation and design of foundations on piles and diaphragms walls.		
14 th week	Strengthening the foundation and foundation repairs.		
15 th week	Lowering of groundwater in the foundation pit.		
<i>Practice:</i> 15 Practical works			
Required Reading:			
1. B. Ilić: Foundation I, "Faculty of Civil Engineering Subotica", Subotica, 1998.			
2. S. Stevanović: Foundation I, "Naučna knjiga", Belgrade, 1989.			
3. E. Nonweiler: Soil mechanics and foundation construction, "Školska knjiga", Zagreb, 1990.			
4. Group of authors: Complicate foundation, "Naučna knjiga", Belgrade, 1980.			
5. K. Sechy: Errors in building construction, "Građevinska knjiga ", Belgrade, 1975.			
Weekly Contact Hours: 5		Lectures: 3	Practical work: 3
Teaching Methods: Lectures, exercises, seminars, consultations			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam or Colloquia(s)	25
Practical work	15	oral exam	55
Preliminary exam(s)		
Seminar(s)			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			