

<b>Study Programme: WATER MANAGEMENT</b>			
<b>Course Unit Title: LAND SURVEY</b>			
<b>Course Unit Code: 19.URV015</b>			
<b>Name of Lecturer(s): Ass. Prof. Pavel Benka, PhD</b>			
<b>Type and Level of Studies: UNDERGRADUATE ACADEMIC STUDIES</b>			
<b>Course Status (compulsory/elective): Compulsory</b>			
<b>Semester (winter/summer): Summer</b>			
<b>Language of instruction: Serbian</b>			
<b>Mode of course unit delivery (face-to-face/distance learning): face-to-face</b>			
<b>Number of ECTS Allocated: 6</b>			
<b>Prerequisites: No</b>			
<b>Course Aims:</b> Introduction to survey techniques, production of topographic maps, measurements on maps, setting out to facilities. Introduction to the land cadastre and to the land consolidation.			
<b>Learning Outcomes:</b> Students apply their knowledge in the further process of education as well as in future professional work and engineering problem solving.			
<b>Syllabus:</b>			
<i>Theory:</i> Basic concepts on the production and use of maps. Accessories and survey techniques: survey in orthogonal coordinates, survey by bearing and distance, photogrammetric survey, GPS survey. Detailed leveling. Production maps: classical method, digital form. The vertical presentation of the terrain, contour line interpolation, vertical terrain representation in digital form. Making longitudinal and transverse profiles. Fundamentals of GIS. Methods for calculating the surface area and volume, dividing plots to given areas. Setting out of facilities. Introduction to the land cadastre. Fundamentals of planning land territory and land consolidation: expropriation, redistribution of land.			
<i>Practice:</i> Field recording by polar and orthogonal method, computational processing of recording data. Mapping of the recorded terrain, making a height representation of the terrain on the plan. Recording of longitudinal and transverse profiles with detailed leveling, production of longitudinal and transverse profiles. Area calculation, volume calculation. Division of the plot according to the given areas. Project transfer to the field.			
<b>Required Reading:</b>			
Russel C. Brinker, <i>The Surveying Handbook</i> , Springer Science & Business Media, 1995			
<b>Weekly Contact Hours: 60</b>	<b>Lectures: 30</b>	<b>Practical work: 30</b>	
<b>Teaching Methods:</b> Lectures, Practical classes, Consultations			
<b>Knowledge Assessment (maximum of 100 points):</b>			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Lecture attendance	5	written exam	30
Test 1	15	oral exam	20
Test 2	15	.....	
Elaborate preparation	15		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			